

Chapter 2

Findings and Policy Options



Competitive leasing of Federal coal resumed in 1979 **following an 8-year moratorium, several lawsuits, and congressional approval of legislation to ensure that leasing decisions would be based on comprehensive planning and environmental impact assessment, that leases** would be developed in a timely manner, and that the public would receive a fair return on publicly owned lands. Consensus among all parties interested in leasing was reached in 1979 on a set of regulations and policies to carry out that legislative mandate, and the first round of lease sales was held in 1981 (see table 1 in ch. 1).

Changes made in 1982 and 1983 to the regulations and to other Department of the Interior (DOI) policies and actions implementing the leasing program weakened that consensus. Alterations in the method of determining regional leasing levels increased the number of tracts to be offered for lease beyond what the Bureau of Land Management (BLM) could review for environmental compatibility in the time allotted, and, as a result, BLM was unable in many cases to perform adequate pre-sale planning and environmental assessment. At the same time, critics contended that the high leasing levels and irregularities in tract valuation prevented the government from receiving fair market value for the coal.

In response to these allegations, in mid-1983 Congress ordered DOI to appoint a Commission to study issues related to fair market value. Shortly thereafter, the Senate and House Appropriations Committees asked the Congressional Office of Technology Assessment (OTA) to evaluate the environmental aspects of the leasing program. In particular, OTA was asked:

1. **Is the Federal coal leasing program adequate to ensure the development of leases in an environmentally compatible manner?***

*The phrase "environmentally compatible" was in the Conference Committee Report on the DOI Appropriations Bill, which mandated this assessment. OTA has interpreted this phrase to mean "in a manner compatible with current environmental laws and regulations" (other than those directly related to the leasing program; see ch. 1).

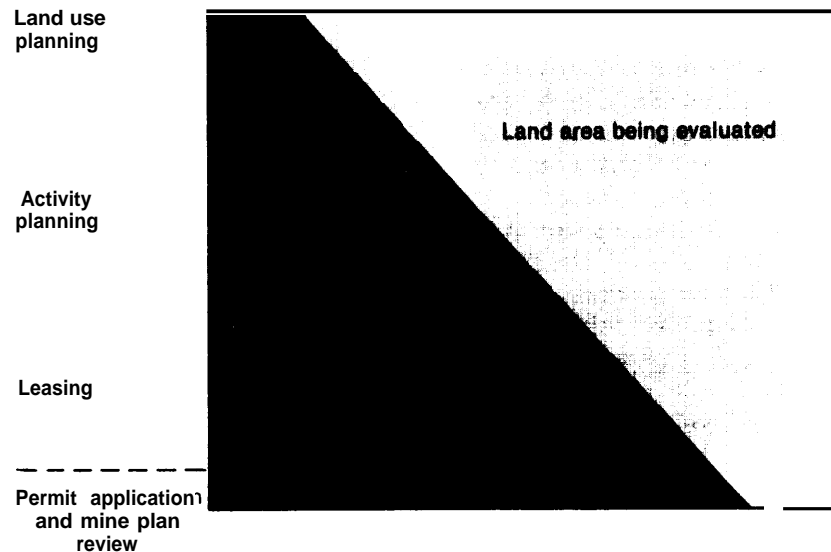
2. Are pre-sale data and research about recently leased tracts adequate to base a decision on whether those tracts can be developed in an environmentally compatible manner?
3. Are there characteristics of some of the recently leased tracts that would make development difficult under current environmental laws and regulations?
4. When all characteristics are considered, are cumulative environmental effects cause for concern?
5. What are technical and policy options for mitigating environmental concerns?

This chapter presents OTA's responses to these questions. Detailed documentation of the issues and findings summarized below may be found in chapter 4.

1. Is the Federal coal leasing program adequate to ensure the development of coal leases in an environmentally compatible manner?

A Federal coal leasing program (described in ch. 3) was instituted in the late 1970's following an 8-year moratorium on leasing that had been imposed in response to economic and environmental concerns. Elements of that program that address the latter include requirements for comprehensive land use planning, site-specific analysis of potential lease tracts, and regional environmental impact assessment before a lease offering. These requirements are implemented through a tiered system of data collection and analyses, in which the level of detail increases and the amount of land under consideration decreases as land moves closer to actual development (see fig. 2). As described in chapter 3, this tiered system begins with land use planning, when **all** potential resource uses on Federal lands and opportunities for development of particular resources are identified; proceeds through planning for a specific activity (e.g., a coal lease sale), including preparation of an environmental impact statement (EIS); and culminates after leasing **in review of an application** for a surface mining permit, which includes a detailed tract-specific mining and reclamation plan (see fig. 7 in ch. 3).

Figure 2.—Tiered Structure Concept of Data and Analysis



SOURCE: Office of Technology Assessment.

Although the majority of environmental impacts result from actual mine development, the environmental implications of land use planning and leasing decisions also are important in terms of the priority assigned to coal management relative to other potential resource uses (e.g., grazing, timber, watershed, recreation, wildlife, other fuel or mineral development), and the degree to which tracts with a high potential for environmental damage are screened out prior to the lease sale.

OTA found that, in *principle*, the statutory framework and the tiered system concept developed to implement that framework are capable of assuring adequate environmental protection during the development of Federal coal leases. The framework is the result of at least 5 years of extensive debate and negotiations among the various parties interested in the development of an economically and environmentally sound Federal coal management program (e.g., DOI, Forest Service, Fish and Wildlife Service, coal companies and their consumers, environmental and public interest groups, State governments, and Congress). While each of those groups has a "wish list" of the elements of a statutory framework that would be perfect from their perspective, there is consensus among them that the existing legislative mandates are, in theory,

workable and adequate to ensure environmentally compatible development of Federal coal leases.

However, in *practice*, implementation of that framework has fallen short. OTA found that some aspects of the 1982 rule changes significantly increased the probability (i.e., risk) that environmentally sensitive tracts would be leased and eventually mined, and weakened public confidence in the environmental soundness of the Federal coal leasing program. These changes included a substantial increase in leasing levels; the elimination of most regulatory guidelines and standards for data adequacy; the elimination of regulatory authority to drop tracts (prior to the EIS) from further consideration for leasing when a threshold level of cumulative impacts is reached; the elimination of several opportunities for public participation, including public comment on proposed leasing levels and on application of the unsuitability criteria; and the elimination of the December 1984 deadline for completion of comprehensive land use plans pursuant to the Federal Coal Leasing Amendments Act (FCLAA) and the Federal Land Policy and Management Act (FLPMA).

A second question about the adequacy of BLM's implementation of the environmental pro-

tection aspects of the Federal coal management program is whether BLM field activities are consistent with the legal framework. **OTA found that time, staff, and budget constraints have prevented BLM field personnel from satisfying the full intent of the statutory mandate.** This was evidenced when decisions required to be made during land use planning were deferred to activity planning or to review of the surface mining permit application. In effect, deferral of decisions assumes that an area eventually will be found acceptable for mining. As a result, decision deferral has led to overuse of individual lease stipulations to address uncertainties in mitigation requirements, and has detracted from the consistency and predictability of the leasing process. While BLM needs some flexibility to adapt to changing conditions, all participants in leasing need a program that is implemented in a stable and consistent manner.

When BLM was not able to comply fully with regulatory requirements, the primary cause was time constraints resulting from high leasing rates—the combination of inflexible lease sale schedules and a substantial increase in the number of tracts to be evaluated for each sale. This problem could be alleviated with increased budget and staff allocations to land use planning and activity planning. However, this option is inconsistent with current budget policy and does not address the burden high leasing rates place on other participants in the coal leasing program. Alternatively, **the leasing rate could be lowered to accommodate existing staff and budget resources, and important concerns ranked in planning and environmental assessment and resources allocated to those concerns on a priority basis, to facilitate higher quality and more consistent planning efforts by all participants in leasing.**

A comprehensive land use policy for Federal lands also would help close the gap between theory and practice in the coal leasing program. While the elements of such a policy are in place in the basic legislation, additional guidance is needed on the relative importance to be placed on various uses of, and resource values on, Federal lands. **DOI's ongoing reevaluation of its own priorities for allocating resources** would aid in the

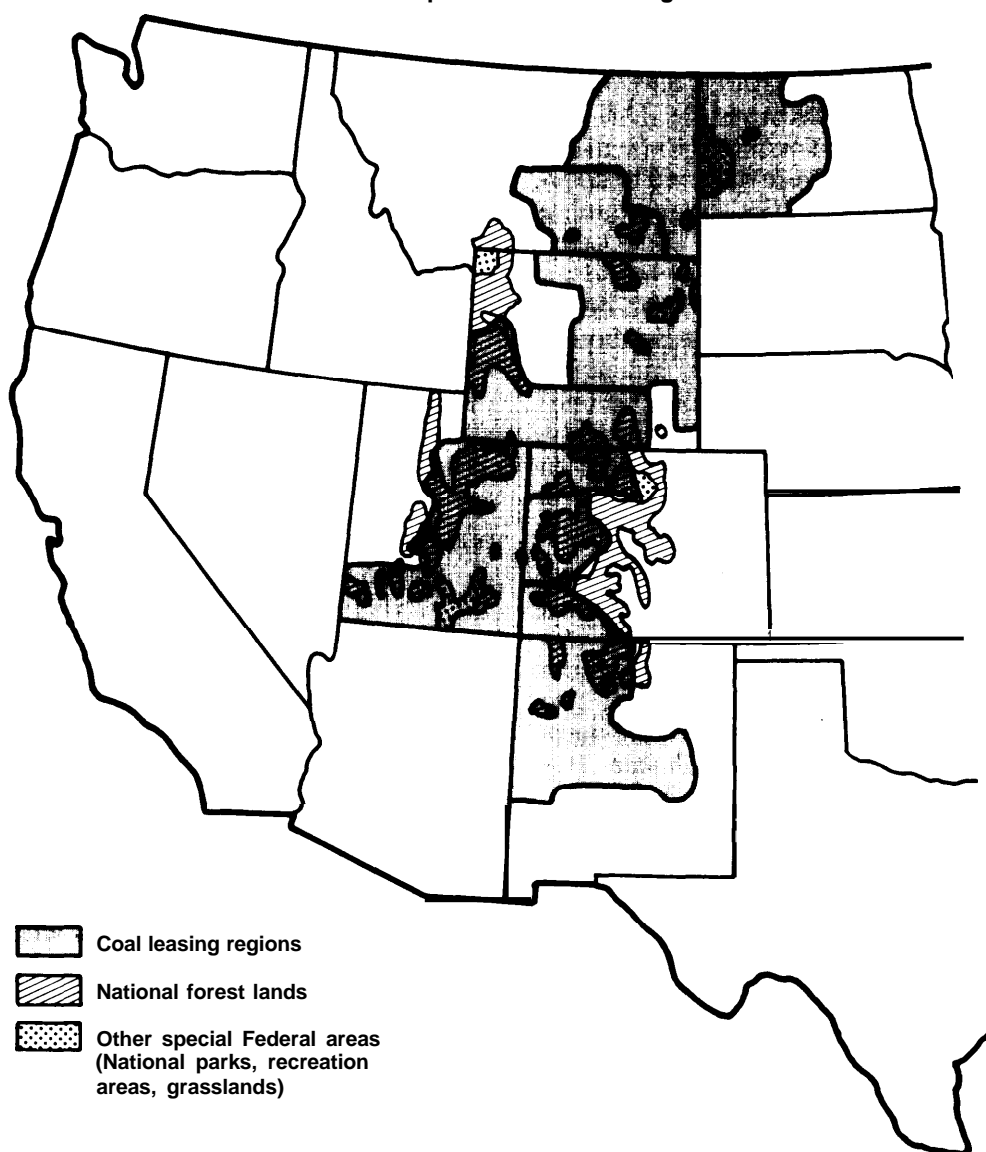
development of such a policy, and the early completion of this effort should be encouraged. **Congressional guidance on land use policy consistent with FCLAA, FLPMA, and the National Forest Management Act, and on the allocation of BLM resources to data collection and analysis at different stages of the leasing process, could be offered through the authorization and appropriation process.** Additional coordination also is needed among the various Federal surface management agencies (e.g., BLM, Forest Service, Bureau of Indian Affairs). For example, potential leasing areas within National Forests are not yet covered by Forest Land and Resource Management plans (currently scheduled for completion and approval by September 1985), preventing consistency between BLM and Forest Service planning decisions (see fig. 3).

2. Are pre-sale data and research about recently leased tracts adequate to base a decision on whether those tracts can be developed in an environmentally compatible manner?

Determination of the adequacy of pre-sale data and analyses is difficult for three reasons. First, **the current program regulations provide insufficient guidance or standards for determining when data and analyses are to be deemed adequate.** As a result, each participant in the leasing process applies his own standards of adequacy, which vary widely. Second, **existing analyses of data adequacy often focus on whether a decision is supported by the data and research, not whether the supporting analysis is of high quality in its own right.** Third, **judging the adequacy of data raises the question of at what stage in the coal management program particular decisions should be made.** The industry would prefer to see most environmental questions resolved at the mine plan stage, while others want most such questions—especially final application of the unsuitability criteria*—answered before a tract is leased. As noted previously, OTA found that the tiered system concept of evaluating environmental impacts could provide a workable balance among these concerns **if it were implemented in a manner consistent with the legislative mandate.**

*Except for the alluvial valley floor criterion, which can be deferred to permitting,

Figure 3.—Approximate Overlap Between Coal Leasing Regions and National Forests and Other Special Federal Management Areas



SOURCE: Office of Technology Assessment

The only detailed regulatory guidelines or standards in the program regulations by which to judge the adequacy of data apply to the unsuitability criteria. In general, that standard requires the use of "the best available data that can be obtained **given the time and resources available to prepare the plan,**" plus an indication of the adequacy and reliability of the data involved, and, if the criteria cannot be applied due to in-

adequate or unreliable data, a discussion of the reasons therefor, and an assessment of when "the data needed to make an assessment with reasonable certainty would be generated" (43 CFR 3461 .3-1 (b)(I); emphasis added). Furthermore, this standard specifies that no lease tract may be analyzed in a final regional lease sale EIS without "significant data material to the application to the tract of each [unsuitability] criterion, "

but it also allows the inclusion of tracts when data are lacking for the application of the criteria for only a portion of the tract, and if BLM determines that lease stipulations or permit conditions could “avoid any problems which may result from subsequent application of the criterion or exception” (43 CFR 3461 .3-1 (b)(2)).

It is OTA’s view that this standard is too vague to provide meaningful guidance to BLM personnel on the level of data and analyses needed to support application of the unsuitability criteria and thus cannot be applied effectively to other decisions in the leasing process. Furthermore, this standard may actually be counterproductive in that it excuses the primary cause of BLM’s inability to comply fully with the statutory and regulatory requirements—insufficient time and resources—and explicitly allows deferral of unsuitability decisions on portions of tracts to the Secretarial decision and beyond and therefore could promote the overuse of lease stipulations and permit conditions.

As a result, OTA proposes that BLM’s data and analyses be considered “adequate” if they: 1) promoted a reasonable consensus among the participants in the leasing process (i.e., did not result **in substantial controversy over insufficient data**); 2) **did not necessitate decisions to accommodate gaps** in data and analysis (e.g., deferral of decisions beyond the time when they were required to be made, or lease stipulations requiring the collection of data that should have been available for the evaluation of a tract’s acceptability for leasing); and 3) supported the decision made.

Based on this definition, it is OTA’s judgment that, in many cases, BLM’s pre-sale data and analyses have been inadequate to base a decision on whether recently leased tracts (and those proposed to be offered in future lease sales) can be developed in an environmentally compatible manner. In literally all coal leasing regions criticisms about insufficient data upon which to base decisions about unsuitability criteria or multiple-use tradeoffs have been documented (see ch. 4). Because the supporting data and analyses were inadequate, decisions about tracts’ acceptability for leasing that should have been

made during land use planning were deferred to activity planning, the Secretarial decision, or mine plan review.

Because the tiered structure of the environmental decisionmaking process is inherently dependent on a succession of increasingly detailed data and planning bases, the quality of decisions made at one tier suffers if data were not available in sufficient detail to support the required decision at the next lower tier. This concern extends to decisions that are deferred to the mine plan stage, in part because decisions at that stage are intended to accommodate coal development, rather than exclude areas from mining. While recognizing the importance of ensuring environmental protection at the mine permit review stage and during mine development and reclamation, OTA was unable to evaluate those aspects of the Federal coal management program within the confines of this assessment.

Although the data base and analyses were adequate for some decisions by the time the final EIS for a regional lease sale was completed, deferral of data collection and analysis to activity planning means the data were not available early on to be incorporated in comprehensive land use planning and the identification of opportunities for the development of coal resources, or in RCT tract rankings. Moreover, **reliance on tract-specific data and analyses for some areas raises problems because the lack of data at an equivalent level of detail for an entire leasing region means that data and analyses may not provide a perspective on the regional importance of resource values.**

The quality of data and research vary widely among regions, among tracts within a region, and between sales within a region. Regional differences can be attributed in part to the level of coal development activity in the past, and therefore the availability of data on the impacts of mining, and in part to the degree to which future coal development was anticipated in early planning documents. For example, the San Juan River Region, which generally is considered to have had the most problems with data adequacy, did not anticipate a high level of leasing activity and consequently was faced with a massive data collec-

tion and analysis effort given the high regional leasing level. Differences in the quality of data among tracts within a region often can be traced to the availability of data from sources other than BLM (e.g., an operating mine adjacent to a proposed lease tract), or to the difficulty of data collection and planning when BLM does not manage the surface. Finally, better information typically is available for subsequent lease sales than the first round sale because of the greater amount of time available for data collection and analysis and the ability to build on planning and assessments conducted in support of the earlier sale.

The primary cause of the inadequacy of data and analyses was high leasing rates—the ratio of leasing levels and lease sale schedules. High leasing rates increased the number of tracts that had to be evaluated during land use and activity planning without giving field personnel additional time in which to complete those evaluations. Consequently, some land use planning decisions either had to be deferred or made on the basis of available data. In other instances, additional time was taken to complete land use planning, which resulted in less time for activity planning—primarily site-specific analyses—which detracted from the adequacy of data and analysis at that stage. High leasing rates also strained the resources of other participants in the leasing process. For example, the Forest Service was unable to complete its required planning in time to meet BLM's sale schedule in the Uinta Region. It should be noted, however, that **even with perfect data and analyses, high leasing rates—in and of themselves—increase the probability that environmentally sensitive tracts will be leased because high leasing levels mean that a greater number of tracts must be offered for lease.**

Other policies that have contributed to data inadequacy are: **continued reliance on pre-FLPMA Management Framework Plans (and Forest Service land use or unit plans) that have been updated or amended to reflect leasing activity, rather than giving priority to the preparation of comprehensive new areal planning documents (Resource Management Plans); reduced budget allocations for new resource inventories, which forces BLM field personnel to rely on data**

available to them, which may be out of date; a failure to consistently seek out and consider data available from sources other than BLM (e.g., mine plans and operating mines, other Federal and State agencies); and personnel rotations within BLM that constrained the development of an institutional memory. The last point—continuity among qualified, experienced personnel—is especially critical to the consistency of data and analyses over time, and to the maintenance of an adequate understanding of the coal regions and the potential impacts of mineral development in those regions. The effects of the **policies listed above are compounded by factors such as the lack of ways to make use of industry data and to include industry resources** more during the planning stages; and the difficulty of access for data collection when the Federal Government does not own the surface.

3. **Are there characteristics of some of the recently leased tracts that would make development difficult under current environmental laws and regulations?**

Virtually all lease tracts have characteristics that might be considered by some to be incompatible with coal mining, ranging from present land uses, such as agriculture or timber management, that would be disrupted by mining, to environmental values that might be lost for at least several years due to mining (e.g., wildlife habitat; see tables 2 and 3). The tiered decisionmaking process for coal leasing is intended to screen out lands before a lease offering where it is clear that impact mitigation would not be possible, or where mining would interfere with other important resource values. However, the inadequacy of data and analyses discussed previously prevented effective implementation of the tiered structure concept. As a consequence, less **was known prior to leasing about the sensitivity or regional value of the environmental resources on these tracts than was desirable.** Moreover, the environmental screens have not always been interpreted as strictly or applied as consistently as intended in the 1979 program, in part because of the 1982 regulatory and policy changes, and in part due to insufficient data and analysis.

As a result of these and other factors, **environmentally sensitive tracts have been “carried for-**

Table 2.—Environmental Resources of Coal-Producing Regions

	Air quality	Water quantity and quality	Vegetation	Wildlife	Agriculture and land use	Carrying capacity livestock ^b
Fort Union	Uniformly very good	Annual runoff: 1"/yr. Surface water availability limited except in major streams. Groundwater available in small quantities except in alluvial valleys where more abundant. Major streams: Missouri, Yellowstone, Knife.	Eastern: Wheat-grass, needlegrass. Western: Gramma, needlegrass, wheat-grass.	Varied wildlife: 87 species birds, 70 species mammals, 200 species fish, 20 species reptiles and amphibians. Federally protected species: 4 birds, 3 mammals.	Cropland constitutes 75% of N. E., 5% southern area. Elsewhere, Cropland: 37%/0 Range: 540/0 Principal crops: wheat and grain.	8.2 acres/A.U.M.
Powder River	Overall quality: generally good. Variations around populated areas, i.e., Colstrip, Mont. is a nonattainment area for TSP.	Annual surface water run-off: less than 0.5". Surface water limited except along major streams. Quality: variable. Groundwater availability and quality: variable. Major streams: Yellowstone, Big Horn, Powder, Tongue, Belle Fourche, and Musselshell.	Wyoming: Prairie shortgrass, grassland sagebrush. Montana: grassland sagebrush, and ponderosa pine.	Similar to Fort Union. Federally protected species: 3 birds, 1 mammal.	Grazing and ranching. Cropland: 50/0 Range: 88%/0	15.5 acres/A.U.M.
Green River-Ham's Fork	Overall quality very good, however, Craig, Colo. and parts of Sweetwater, Colo., and Wyoming are non-attainment for TSP.	Annual runoff: Western half: 10-30" Eastern half: .1-2" Quality good in mountains and poor in basins. Major streams: Green, Yampa, Sweetwaters, Shoshone, Greybull.	Cold desert biome: sagebrush. Salt brush biome: greasewood, mountain shrub, evergreen forests, broadleaf forests.	53 mammal species. Large numbers of big game animals. Varied game and non-game fish species. Wild horse herds. Federally protected species: 1 fish, 3 birds, 2 mammals.	Cattle and sheep ranching, limited farming. Cropland: 4% Range: 70%/0 Forests: 27%/0	9.3 acres/A.U.M.
Uinta-Southwestern Utah	Rural air quality: very good. Urban areas: occasional problems during temperature inversions.	Annual runoff: 0.1-.5 "/yr. Good water quality. Region contains numerous tributaries to the Colorado River: Green, White, Duchesne, Price, Dirty Devil, Paria, Escalante, & Virgin Rivers.	Vegetation varies with climate. Cold desert biome: salt brush and greasewood. Mountain Forest biome: pine, fir, spruce, and sagebrush.	Varied habitat supports many diverse species: 90 species mammals, 270 species birds, 26 species reptiles, 9 species amphibians. Federally protected species: 3 fish, 3 birds, 2 mammals.	Desert shrubland and open woodland grazing. Crops: 3% Range: 62%/0 Forests: 33%/0	8.3 acres/A.U.M.
San Juan River	Overall quality generally good except around industrial areas. High SO ₂ levels near powerplants.	Annual runoff: 0.1-0.5"/yr. Major streams: San Juan, Colorado, and Little Colorado. San Juan River is the only perennial stream in Federal lease block area, and grasslands. Ground waters are generally good, but levels are dropping.	Generally sparse vegetation. Lower elevations: grassland shrub and grasslands. Upper elevations: Pinyon, juniper and coniferous forests.	Habitat supports: 100 species mammals, 116 species birds, 28 species amphibians. Several are unique to region. Federally protected species: 1 fish, 4 birds, 1 mammal.	Cattle and sheep ranching. Range: 50%/0 Forests: 450/0 Limited crops: corn, hay, wheat, cotton, and sugar-beets.	22 acres/A.U.M.

^aPercentages are of total land area. Only major land uses are listed.

^bRefers to the ability of the land to support livestock. A.U.M. stands for animal unit month, which refers to the grazing requirements of an "averaged" livestock animal for 1 month.

SOURCE: U.S. Bureau of Land Management, *Final Environmental Statement, Federal Coal Management Program, 1979*.

Table 3.—Archaeological and Cultural Resources of the Western Coal Regions

Region	Archeological resources	Major Federal parklands and forests resources
Fort Union	Much of the region has some identified archaeological value. A few areas have large sites and/or high site density. There is a high probability of disturbance to sites in Custer Co., Mont., and in Mercer, Williams, and Oliver Co's., N. Dak.	<ul style="list-style-type: none"> • Little Missouri National Grassland • Theodore Roosevelt National Memorial Park • Custer National Forest
Powder River	There is a high probability of disturbance to sites in Rosebud, Bighorn and Powder River Co's., Mont, and in Johnson and Campbell Co's., Wyo. Remainder of region considered to have some archaeological value.	<ul style="list-style-type: none"> • Devils Tower National Monument • 65 Sites eligible for, or currently enrolled on the National Register of Historic sites. • Thunder Basin National Grassland • Custer National Forest
Green River-Hams Fork	The region has some identified archaeological value. Many areas have not been surveyed.	<ul style="list-style-type: none"> • Flaming Gorge National Recreation Area • Dinosaur National Monument
Uinta-Southwestern Utah	There is a high probability of disturbance to Fremont and Anasazi sites in Emery, Kane and Garfield Co's., in Utah. Remainder of region considered to have some archaeological value.	<ul style="list-style-type: none"> • Capital Reef, Arches, Canyonlands, Zion, and Bryce Canyon National Parks • Cedar Breaks National Monument • Black Canyon of the Gunnison, and Colorado National Monuments
San Juan River	This region has been identified as having both great archeological and historical value. There is a high probability of disturbance to sites in the Chaco Canyon National Monument area.	<ul style="list-style-type: none"> • Mesa Verde National Park • 6 National Monuments

^aBased on a survey performed by the National Academy of Sciences of 69 strippable coal areas in the West. Tables A.1, A.3, *Rehabilitation Potential of Western Coal Lands*, NAS, 1974.

SOURCE: Office of Technology Assessment.

ward” from land use planning to activity planning and the Secretarial decision on a lease sale, and final decisions on tract acceptability have been deferred to permit application review (e.g., tracts containing municipal watershed). These decision deferrals, coupled with the factors noted above, increased the probability (i.e., risk) either that adverse environmental impacts will occur if a recently leased tract is developed, or that such tracts will be costly or difficult to develop and reclaim. None of the recently leased new production tracts has been through the permit application review process, and thus no determinations about the technical and economic feasibility of mining and reclamation on those tracts have been made by permitting agencies. However, such determinations will be made eventually, and if a tract or a portion of a tract cannot

be developed in a manner compatible with current environmental laws and regulations, then the Surface Mining Control and Reclamation Act of 1977 (SMCRA) does not allow a permit to be issued for that area.

While unable to determine whether the leased tracts are technically and economically reclaimable under SMCRA, OTA found no “fatal flaws” that would absolutely preclude mining on tracts that have been leased since 1979. In some cases, however, BLM carried tracts with what might be considered fatal flaws all the way through pre-lease planning and analysis, and scheduled them to be offered for lease, but withdrew them (often for reasons unrelated to the leasing process) at the last minute. For example, the Garrison tract in Fort Union contains two missile silos and

several miles of control cable, which the Air Force considers to be a fatal flaw, but the tract was carried forward at the request of industry pending completion of an Air Force study on the buffer zones needed to protect defense installations from surface mining. The tract was dropped in the Secretarial Issue Document at the request of the Secretary of the Air Force because the study was not complete. Tracts that are dropped still are not necessarily considered absolutely unsuitable for mining; they may merely be removed from further consideration for leasing until additional research on mitigation and reclamation allows a final decision to be made.

However, differences in professional judgment do exist on both the relative importance of environmental resource values and the ability to mitigate environmental impacts on some tracts that were offered and/or leased or are under evaluation for leasing. For example, in the San Juan River leasing region, the paleontological community cannot agree on whether fossil deposits should be protected outright, or whether impacts can be mitigated and the scientific value of the fossils preserved through appropriate excavation techniques. In the powder River Region, debate over the technical and economic feasibility of reclamation on several tracts led to the Tongue River Unsuitability Petition, which was denied because sufficient data will not be available to evaluate reclaimability until mining and reclamation plans are prepared by lessees.

A major source of the disagreement about the relative environmental sensitivity of recently leased tracts lies in the disagreement about the types of impacts that can be mitigated and the ability to reclaim surface mined land. Critics of the environmental safeguards in the leasing program argue that the **success** of reclamation on surface mined lands has yet to be demonstrated conclusively, and that the coal industry is overly optimistic about the prospects for successful reclamation. Therefore, they contend that where evaluation of a tract prior to leasing raises questions about its reclaimability, that tract should be withdrawn from leasing until additional reclamation experience is accumulated. Others argue that experience to date demonstrates there is almost no land that cannot be reclaimed **technically**, and

very few (if any) types of impacts that cannot be mitigated, and the only question is whether mitigation and/or reclamation are **economically** feasible. * They see that as a business decision which should not be made for the lessee by a government agency or other group.

Due to the extremely detailed analyses that are necessary to evaluate reclaimability, OTA believes that only estimates of reclamation potential can be made before leasing. These estimates are incorporated in the Regional Coal Team's tract rankings, but are not necessarily a deciding factor since tracts given a "low" or "moderate" reclamation potential ranking have been carried forward for leasing. Furthermore, OTA found that debate among experts about the ability to mitigate particular types of impacts (e.g., hydrology, archaeological and paleontological resources, critical wildlife habitat) leads to disagreement about how strictly the environmental screens should be interpreted.

Such differences in professional judgment further confuse the public about the adequacy of environmental safeguards in the leasing program. Possible means of resolving these differences and improving public confidence in the environmental soundness of leasing decisions could include more stringent standards for screening tracts before leasing, which should result in offering fewer tracts about which there is substantial controversy. Continued research on impact mitigation, mining, and reclamation techniques, and dissemination of the results to interested parties also would help.

4. When all characteristics are considered, are cumulative environmental effects cause for concern?

There are three aspects to cumulative impacts: 1) when the total impacts on a particular tract are greater than indicated by the mere sum of individual impacts; 2) the total regional impact of mining on all leased tracts; and 3) the combined

*It should be noted that a tract has never failed to be permitted due to inability to demonstrate the technical or economic feasibility of reclamation, although permit application review has resulted in portions of tracts being closed to mining to mitigate particular types of impacts (e.g., buffer zones for wildlife habitat). As a result, deferral of unsuitability determinations to the permitting stage increases the risk that an environmentally sensitive tract will be mined.

impacts of mining on several tracts located in the same area. The first aspect cannot be evaluated until the tracts have been included in a mine plan and permit application. **OTA finds the second aspect is a matter of concern because the high leasing rates increased the number of tracts to be evaluated in pre-sale planning (including the EIS) without increasing the resources available to perform such planning** (discussed earlier).

OTA finds that the third aspect of cumulative impacts—the effects of several mines operating within the same area—also is cause for concern because the current regulations do not explicitly incorporate the assessment of such impacts early in the leasing decisionmaking process. The 1979 regulations incorporated a “threshold” concept during land use planning and tract ranking for determining when potential cumulative impacts were severe enough to warrant dropping tracts from further consideration for leasing or imposing mitigation requirements. Under the 1982 program, cumulative impacts still must be assessed in the regional lease sale EIS, which is prepared at the end of activity planning, in order to satisfy the requirements of the National Environmental Policy Act. However, explicit regulatory authority to impose mitigation requirements or drop tracts prior to the EIS when a threshold level of cumulative impacts is projected was eliminated in the 1982 rule changes. According to DOI, that authority was dropped because the threshold concept was not well understood and was never used. An additional concern here is a lack of agreement between BLM and other Federal surface management agencies (e.g., Forest Service) and State and local governments on the **significance** of projected cumulative impacts.

Most of the recently leased tracts were analyzed under the 1979 rules, which **did** include a threshold concept for screening out areas with a potential for significant cumulative impacts. Because that concept had never been applied, it is unclear whether the 1982 lease program will change the treatment of cumulative impacts.

OTA’s view is that there is a potential for significant cumulative impacts if a number of mines were developed within an area. Drainage basin studies of lease areas prepared for BLM in

support of pre-sale planning and environmental assessment raise concerns about cumulative hydrologic impacts in the Powder River, Green River-Hams Fork, and Uinta-Southwestern Utah regions (see fig. 4). Similarly, the San Juan second draft EIS indicates that development of the preferred leasing alternative could violate air quality standards, while an air quality study underway in Powder River suggests that surface mining will have adverse cumulative impacts on visibility and particulate concentrations. *

The design of mitigation measures for cumulative impacts typically is left to the permitting agency because detailed data on factors such as hydrology are not available until mine plan review. Yet that review is tract specific and may not capture cumulative effects from multiple mine development in an area. Furthermore, as noted previously, decisions at the permitting stage are more likely to result in mitigation requirements than the exclusion of areas from mining.

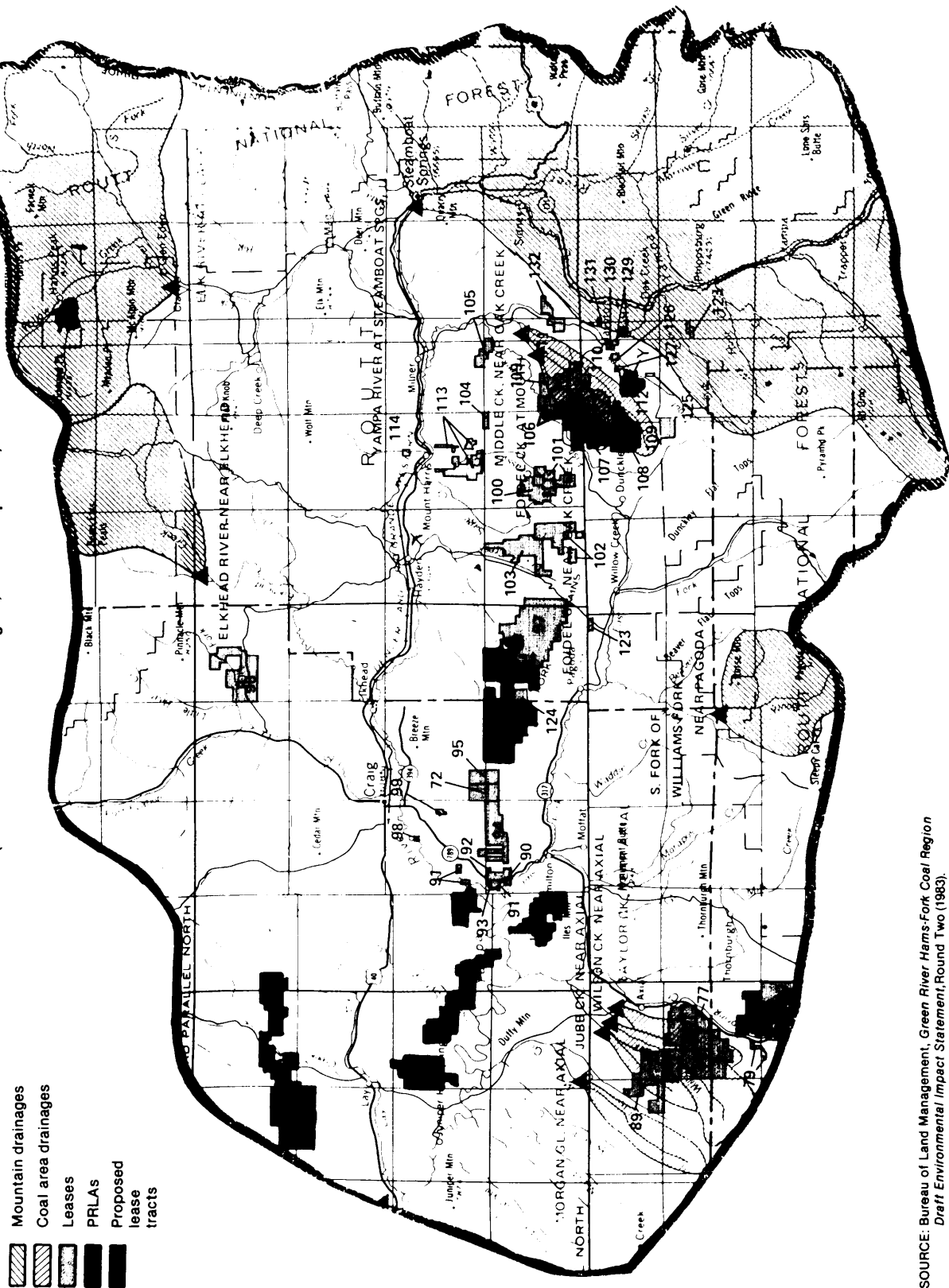
5. What are technical and policy options for mitigating environmental concerns?

An economically and environmentally sound coal leasing program is an integral part of national energy policy and public land management policy. In 1979, all participants in coal leasing reached consensus on the elements of a sound program. The soundness of that program—and underlying public confidence in the Department of the Interior—was undermined in 1982 when basic changes were made in program policy and regulations. Unless the reasonable expectations of all participants in that program about economic and environmental “soundness” are satisfied once again, competitive leasing will continue to be stalled because of the environmental and economic risks, and public confidence in the program will continue to erode.

Recently, the Department of the Interior has begun a review of the Federal Coal Leasing Program. This is an important first step in restoring an environmentally sound and predictable leasing process and priority should be given to its rap-

*Cumulative air quality impacts are also a concern with mine-mouth and other coal conversion facilities in Fort Union.

Figure 4.—Coal Tracts in Yampa River Basin, Showing Potential for Cumulative Hydrological Impacts from Multiple Mine Development
(Green River-Hams Fork region, Colorado portion)



SOURCE: Bureau of Land Management, Green River Hams Fork Coal Region
Draft Environmental Impact Statement, Round Two (1983).

id completion. Other actions likely are needed, however, and OTA identified a variety of technical and policy options that could improve the ability of the leasing program to assure the development of leases in an environmentally compatible manner, and help to restore a measure of stability and predictability to the leasing program. These options and the policy goals they might promote are listed in table 4 and discussed below.

OPTION 1: Reduce lease rates

Reducing leasing rates by offering less coal for lease on a predictable, steady schedule (while still allowing for adjustments in that schedule if necessary) would reduce the amount of land that has to be evaluated within a given amount of time for its environmental acceptability for leasing. Thus DOI staff would be more likely to have sufficient time to complete each stage of planning and analysis before proceeding to the next stage. Reduced leasing rates through lower leasing levels also would relieve the pressure on BLM to find a greater number of tracts environmentally compatible, and could address criticisms of the adequacy of pre-sale data and analyses and their documentation, the deferral of planning decisions, and the overuse of detailed lease stipulations. As a result of all these factors, the risk of adverse environmental impacts on lease tracts would be reduced. However, if a lower leasing rate results in BLM concentrating its leasing efforts primarily on those tracts in which industry has expressed strong interest, then such a rate could lead to leasing of tracts that are less environmentally compatible than areas deferred for future evaluation.

A lower, but steady, leasing rate with a predictable schedule also would make planning for all other participants in leasing more efficient. Furthermore, it is important that the process for setting leasing levels be transparent to facilitate public review, and that the process recognize environmental and market realities and public concerns. This option would be easy to implement, but would lengthen the period over which a given level of forecast revenues from the leasing program would be received.

OPTION 2: Decentralize decisionmaking authority

Decisionmaking authority in the current leasing program is highly centralized, with BLM State and field offices, and Regional Coal Teams (RCTs) forwarding recommendations to the Secretary of the Interior, who makes final leasing decisions. The program originally was structured to assure sensitivity to regional, State, and local needs and priorities. However, confidence in the soundness of that structure has eroded as Secretarial decisions on tonnages and tracts to be offered for lease and on the timing of leasing activities (including planning and environmental analysis) have, in many instances, overridden recommendations based on those needs and priorities. Overruling such recommendations also undermines the predictability and stability of the leasing program and thus strains the resources of **all** participants in the program. Several options might be considered to restore the needed sensitivity and predictability.

Decentralizing decisionmaking authority on tracts and tonnages to be offered for lease, and the timing of such offerings, to the RCT or BLM State Office level (subject to Secretarial review) would improve the sensitivity of leasing decisions to State and local needs and priorities. Delegation of final leasing decisions on leasing rates and tracts to be offered to the RCTs or the BLM State Office (subject to departmental review) would have few administrative costs. In effect, leasing decisions would remain in the hands of the Federal Government (which has a majority on each RCT), but the final decision would be closer to the region it affects.

A second option—to **restructure the RCTs to give the States equal or majority representation—would take decentralization** one step further. Under the current RCT structure, the Federal Government retains the majority voting membership on each RCT (see ch. 4). This has contributed further to the perceived insensitivity to State needs and priorities. However, to give the States a greater proportion would delegate important Federal management decisions on

Table 4.—Summary of Policy Goals and Options

Policy Options	Reduce environmental risk	increase effectiveness of public participation	increase effectiveness of BLM procedures	Improve program predictability and stability	increase confidence in the soundness of the program	improve quality of data and analyses to support leasing	Improve sensitivity to State/local needs
1. Reduce lease rates	L	C	C	L	L	L	C
2a. Delegate decisions to RCTs or BLM State Directors	—	—	L	C	L	—	L
2b. Give States equal or majority representation on RCTs	—	—	—	—	—	—	L
2c. Reorganize leasing regions along State boundaries	—	L	L	—	—	C	L
3a. Increase public understanding of the leasing program	—	L	L	C	C	—	C
3b. Improve documentation of planning and leasing decisions	C	L	C	L	C	L	—
3c. Reinstate opportunities for public participation	C	L	—	L	L	C	L
3d. Increase use of RCT task groups and ex officio memberships	C	L	C	C	L	L	L
3e. Expand voting membership on RCTs	L	L	L	—	L	—	L
4. Accelerate the preparation of Resource Management Plans	L	C	L	L	L	L	—
5a. Develop a comprehensive, accessible data base	L	L	L	—	C	L	—
5b. Facilitate use of industry data to support planning and analysis	C	—	C	—	C	L	—
5c. Continue research on mitigation and reclamation	L	—	—	L	—	L	—
6. Provide guidelines and standards for data adequacy	L	L	L	L	L	L	—
7. Reinstate workable threshold concept for cumulative impacts pre-EIS	L	C	C	C	L	L	—
8. Establish policies/procedures for environmental lease exchanges	L	L	L	L	C	—	C
9. Evaluate leasing on split estate and checkerboard lands	L	—	C	L	—	C	C
10. Evaluate policies for environmental analysis of PRLAs	L	L	L	L	C	—	C

NET: L means that an option is likely to further the goal; C means that the option could further the goal.

SOURCE: Office of Technology Assessment.

publicly owned resources to the affected State governments, and may be at least illegal and perhaps unconstitutional.

A third, and also controversial, option for decentralizing decision making would be to **expand voting membership on the RCTs to include a broader range of interests**. This might involve merely adding other affected Federal surface management agencies (e.g., the Forest Service), or all “interested parties” could be considered for membership, which would lead to extensive debate on representation. Alternatively, RCT Task Forces on special topics can be used to ensure greater participation by interested parties (see discussion of public participation, below).

An additional means of decentralization would be to **reorganize the leasing regions along State boundaries**. The current regions correspond to the coal fields, which straddle those boundaries and thus each region contains portions of two States (see fig. 1 inch. 1). When those States’ development policies and goals conflict, leasing decisions can compound the appearance of insensitivity. Using two-State regions in the leasing program also has complicated the coordination of BLM field operations. **Restructuring the leasing regions along State boundaries could make BLM management of the leasing program easier as well as more effective and predictable, because fewer offices would be involved in the planning and analysis for each coal region**. However, it would require reorganization of the roles and responsibilities of the BLM offices involved in the leasing program, and could lead to balkanization of interests.

OPTION 3: Improve the effectiveness of public participation

The effectiveness of public participation could be improved through brochures, newsletters, and workshops aimed at increasing public understanding; through better documentation of planning and leasing decisions; through reinstatement of opportunities for public hearings and comment periods on regional leasing levels, community impacts, and the application of the unsuitability criteria—topics on which public input has proven valuable in the past; and/or through working

groups or ex officio memberships within the RCTs.

A basic problem with public participation in the leasing program is that the general public does not understand the program well enough to participate effectively. This problem was dealt with effectively in the Fort Union region with a newsletter issued by BLM and distributed to all interested parties (e.g., landowners, public interest groups, other Federal and State agencies). Techniques that have contributed to public understanding in other government programs include brochures and workshops. **A readable newsletter or brochure** that described the basic steps in the program, their goals and products, and the means of public participation at each step would improve public understanding. Other programs have had success with brochures drafted by Task Forces or Committees composed of representatives of different interest groups as well as the Federal Government. Clearly, either a newsletter or brochure would have to be disseminated widely in areas affected by leasing in order to be effective. **workshops in local communities** at the outset of land use and activity planning also could improve public understanding, especially if they followed distribution of a newsletter or brochure.

Even groups who understand the leasing process may be frustrated in attempts to participate, however, because of the lack of documentation of leasing decisions. Currently, the availability of documentation varies widely among regions. In at least one region, the basic planning document—the MFP—is not available to the public in published form. In other regions, documents may be widely available, but do not indicate the basis or rationale for decisions. As discussed in chapter 4, regulations requiring such documentation have been dropped. **If all documents supporting decisions were published and widely available, and described the basis for decisions, including supporting technical data and analyses, the effectiveness of public participation would be enhanced, and major sources of frustration with—and thus challenges to—leasing decisions would be removed.**

Several other means are available for increasing the quality and quantity of opportunities for public participation. The 1982 revisions to the leasing program regulations eliminated four opportunities for public participation, including hearings on DOE-established production goals, and comment periods on leasing levels, on community impacts, and on the application of the unsuitability criteria. Comments on these factors are now limited to time set aside at public RCT meetings and to personal communications with BLM personnel. **The deletion of these opportunities has reduced the ability of the public to provide an in-depth review of critical decisions supporting a lease sale. Furthermore, these changes may have contributed to public confusion about opportunities for participation. BLM should consider reinstating these opportunities in a manner that would enhance the effectiveness of public participation.**

The RCTs also were intended to provide a forum for public participation in the leasing program. However, for a variety of reasons, including the formal RCT meeting style and inadequate public access to RCT background materials (including time for evaluation), **opportunities for public participation at RCT meetings currently are more procedural than substantive.** As a result, several groups have asked for **voting** membership on RCTs (which was denied). Expanding voting membership to include other affected groups (e.g., Indian Tribes, the Forest Service, local communities and landowners) would be difficult due to the need to decide what the important affected interests are and to negotiate for representation of those interests.

Alternatively, **greater use could be made of special RCT Task Forces or working groups similar to those used by the San Juan River RCT and in Utah, or of ex officio memberships as in Colorado.** These avenues for increased public participation have proven effective in promoting constructive dialog among the parties and thus improving the quality of leasing decisions. The primary obstacles to the more widespread use of RCT task groups, etc., are the limited RCT budget and staff support, and the lack of BLM career incentives for Bureau personnel who serve as RCT staff.

Relative to public participation, **care must be taken to ensure that the environmental, cultural, and economic concerns of special interest groups (including Indian Tribes, local communities, and farmers and ranchers) are addressed adequately.** In particular, consultation with the Tribes has not always occurred early enough in the planning for a lease sale; coordination with Tribal goals and policies is lacking. Such coordination is difficult in part because the environmental impacts of concern to the Tribes usually do not occur on BLM lands.

These options for improving the effectiveness of public participation tend to have a relatively low administrative cost, with the possible exception of RCT working groups. However, **the benefits posed by effective public participation, in terms of higher quality leasing decisions and therefore reduced environmental risk in, and greater public confidence in the soundness of, the leasing program, would outweigh the costs of implementation.** Negotiated lease stipulations (when stipulations are absolutely necessary) are an additional mechanism for public participation, but, as discussed in chapter 4, raise concerns about the overuse of stipulations and about anti-competitive effects if all potential bidders are not involved in the negotiations.

OPTION 4: Ensure comprehensive area planning is completed before a lease offering

One concern with the current implementation of the leasing program is the continued reliance on Management Framework Plans (MFPs) that have been amended or updated to support recent leasing activity (see ch. 3). **Further delays in the preparation of Resource Management Plans as an up-to-date comprehensive areal planning base will continue to contribute to the perceived inadequacy of BLM's data and analyses, and thus reduce the likelihood that the leasing program will proceed in a predictable and stable manner.** Preparing RMPs is a time-consuming process and could interfere with the immediate progress of leasing unless coupled with a very conservative leasing rate (option 1, above), and may leave BLM open to a charge of "planning for planning's sake" in areas where updated MFPs are legally adequate. However, com-

pletion of RMPs as the base for future land use and leasing decisions would remove a major source of criticism of the adequacy of pre-sale planning and analysis, and would help to ensure that pre-sale planning is compatible with the spirit of the 1976 statutory mandate.

As discussed in chapter 4, during fiscal year 1984 BLM proposed to implement several changes in the focus of pre-sale planning and assessment activities in order to reduce the costs of program administration. Of particular concern are the projected shift in emphasis from the collection of areawide data to information specific to areas with a high coal development potential, and the proposal to increase reliance on inhouse and company data (without ensuring public access and review of those data; see option 5, below). These changes assume that the existing planning base will be adequate, with region- or tract-specific amendments, to support future lease sales. Since OTA found the opposite, continued cutbacks in these activities could exacerbate the current problems with the leasing program unless compensating reductions are made in the regional lease rates (option 1, above).

OPTION 5: Develop a means of improving the data base and access to it

Ultimately, the adequacy of land use and activity planning and environmental assessment depends on the quality and quantity of supporting data and analyses. In the course of this study, OTA identified several sources of relevant data that would support leasing decisions by improving BLM's data base, but are not consistently being sought out or systematically used by BLM. These include data from mine plans, ongoing mining operations, other Federal and State agencies, local communities and residents, academe, the industry, and interest groups.

The primary obstacle to the use of these data sources is that they are not compiled in a manner that permits easy access. Thus, BLM staff must not only discover whether information relevant to a particular tract or question exists, but must expend a substantial amount of effort in searching files, mine plans, or the published literature to locate specific data. While consultation with the groups or individuals knowledge-

able about an area can facilitate this process somewhat, a comprehensive data base that compiles information from all sources in an accessible manner would provide a systematic means of incorporating the widest possible range of information about an area into pre-sale planning and analyses. Such a data base also could contribute to public and interagency review of BLM documents, as well as to the preparation of mining and reclamation plans. Furthermore, it would help ease the loss of institutional memory that results from attrition and personnel rotations.

DOI currently is developing a computerized data base on Federal coal resources and characteristics. This effort eventually could be expanded to include data bases on other resources, or even research on all aspects of coal development. Alternatively, the task could be funded jointly by Federal and State governments and the industry through an industry association, a consulting group, or a university. OTA notes with regret the discontinuation (for budget reasons) of the Forest Service's quarterly compendium of surface mining research, "SEAM. "

At the same time, **BLM needs to maintain up-to-date inventories of all resources on the public domain in order to address concerns about the age of some existing data, and about the gaps in available inventories.** If such inventorying is too expensive for the Federal Government, the burden for collecting these data could be shifted to the industry. One option would be for those companies interested in bidding on tracts within a particular area to jointly fund the collection and analysis of data to support leasing (including data on coal as well as environmental and other resources). The company that submitted the winning bid on a tract could then reimburse the others for their contribution. A similar approach is used in assessing oil and gas resources on the outer continental shelf (30 CFR 251 .6-3). Alternatively, an industry-funded research institute could be established (similar in concept to the Electric Power Research Institute), with each company's contribution determined according to considerations such as its size and level of mining activities on Federal lands. For application to coal leasing, either scheme could require some adjustment in the antitrust laws. Moreover, the

industry would have to make a commitment that no such data would be deemed proprietary (other than coal resource data)—and thus not subject to public review and comment—in order to address concerns about the injection of an inherently pro-mining bias into BLM’s planning and assessment.

Research on the ability to mitigate certain types of impacts and to reclaim surface mined lands also should be continued, and the results disseminated as widely as possible. Knowledge about (and thus use of) mitigation and reclamation techniques varied widely among the five Western coal regions. As a result, some regions used more stringent mitigation requirements than others. This contributed to the perception that pre-sale planning and analyses were inadequate, and may have made mining on some tracts appear more expensive than it had to be.

Finally, an important means of improving the quality of data and analyses is to encourage retention of qualified, experienced field personnel. **R-evaluating incentives for career development to encourage the maintenance of an “institutional memory” in BLM field offices and RCT staff assignments is a crucial first step here.**

OPTION 6: Provide meaningful guidelines and standards for assessing the adequacy of the data base

workable regulatory standards or guidelines for assessing the adequacy of pre-sale data and analyses would remove some of the grounds for uncertainty about their adequacy, and would aid BLM staff in their management of lease sales. Such standards and guidelines contributed to the consensus on the environmental soundness of the 1979 program regulations, but largely were eliminated from the regulations in 1982. The regulatory standard that remains is too vague to provide meaningful guidance to BLM field personnel, and may even excuse data inadequacy and the deferral of decisions when these can be attributed to time and resource constraints.

Although internal BLM memoranda and other directives continue to provide some guidelines for the adequacy of data and planning, these documents are not binding as regulations are, are not subject to public review and comment, are not

as accessible to the public as standards developed through formal rulemaking, and can be changed more easily than regulations. Any regulations developed should not be “cookbook” standards but guidelines with sufficient flexibility to accommodate regional differences in data needs. **These standards should explicitly recognize the quality and quantity of data and analysis in the various field disciplines needed to support decisions at each stage of the leasing process, and also might include guidelines that more rigorously define the circumstances under which decisions can be deferred due to insufficient data (or for other reasons).**

OPTION 7: Incorporate cumulative impact assessments in pre-sale planning decisions

The use of cumulative impact analyses in early land use and activity planning decisions also was part of the consensus on the 1979 regulations. Under the 1982 leasing program, however, cumulative impacts of the development of several mines within an area are not **required** to be assessed until the EIS on a regional lease sale. As a result, such an assessment usually is not incorporated in land use planning decisions, and is not used in activity planning until the RCT’s final recommendation on tracts to be offered for lease. Completion of adequate RMPs, which incorporate an EIS on general land use planning decisions, will ease this situation. However, given the tiered concept of data and analysis, the EIS on an RMP cannot include information at the same level of detail as in site-specific analyses or the final EIS on a regional lease sale.

Moreover, the 1982 regulations eliminated the threshold concept of cumulative impacts as a basis for dropping areas from further consideration for leasing prior to the final RCT **recommendation. According to DOI, the threshold concept was not well understood and had never been used. Development of a workable threshold concept of cumulative impacts and its reinstatement for land use and pre-EIS activity planning through formal rulemaking would improve the quality of BLM’s planning and assessment and reduce the probability that sensitive tracts would be leased.**

OPTION 8: Establish policies and procedures for environmental lease exchanges

OTA found lease exchanges to be a potentially useful tool in reducing the risk that a tract, once leased, would be found to be unminable for environmental reasons. Thus, the availability of environmental exchanges would reduce the pressure to approve a permit application on a tract found to have environmental flaws after it has been leased. Exchanges also can be valuable for pre-1976 leases and Preference Right Lease Applications (PRLAs) that were not acquired under the same mandate for environmental protection and thus might be so environmentally sensitive that the costs of mitigation and reclamation would be prohibitive.

However, **the need for congressional authorization for coal lease exchanges coupled with the lack of established, transparent policies and procedures for effecting environmental lease exchanges prevents their use.** Policies and procedures for economic exchanges are equally in need of evaluation and definition. OTA makes no judgment about the value of economic exchanges, but notes that consolidation of Federal ownership **could** facilitate environmental protection (although this has not always been the case to date).

DOI took a first step toward developing such a policy in a directive issued in November 1983, which states that "the exchange of leasable and salable minerals is an important tool in achieving public interest federal multiple use management and land protection goals," and lists 12 criteria for determining when an exchange would be in the public interest. These criteria include exchanges that would serve a national resource management or protection need. This general policy directive should be supplemented with a detailed outline of the procedures to be followed in evaluating a proposed exchange, which should be subject to public review and comment and incorporated in the program regulations. This would lend predictability and stability to the environmental lease exchange option, improve public and industry understanding of exchanges and thus the effectiveness of public participation, and would reduce the probability (i.e., risk) that

environmentally sensitive tracts would be developed.

OPTION 9: Evaluate policies and procedures for leasing on split estate and checkerboard lands

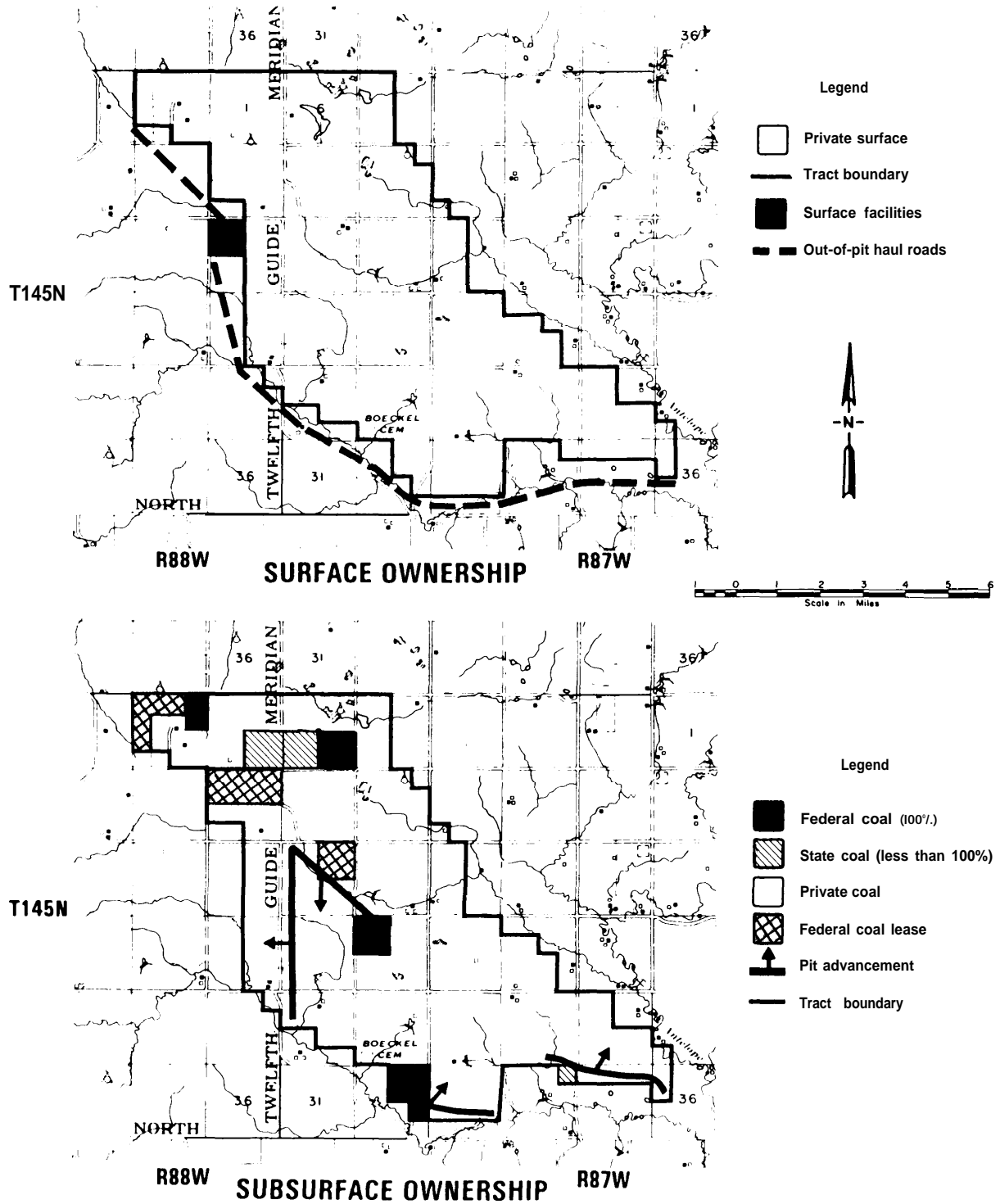
Split estate lands (in which BLM owns the mineral rights but not the surface) and checkerboard lands (where the Federal Government owns every other section in a "checkerboard" pattern) pose the most complex leasing situations. Based on the implementation of the leasing program to date on split estate (and checkerboard) lands, the process does not work the way it was intended in these areas. Resources that should be protected on Federal lands during land use planning do not appear to be valued as highly when they occur on private surface. Surface owners are able to block data collection and leasing entirely, but do not seem to have an equivalent ability to promote decisions in favor of leasing. Moreover, comprehensive areal land use planning and the control of post-mining land uses are extremely difficult in areas where BLM is not the surface manager. These problems are compounded when the Federal Government is the minority landowner. For instance, in the North Dakota portion of the Fort Union Region, the Federal Government owns less than 1 percent of the surface and only up to 13 percent of the mineral estate. Figure 5 illustrates this situation on one potential lease tract in Fort Union.

As a result of these and other concerns, it is **OTA's view that a thorough reexamination of the coal leasing process on split estate lands is merited.** State representation and public participation are essential to the credibility of any program established to evaluate leasing on split estate and checkerboard lands, and one means of performing this evaluation would be through a working group or Task Force of the RCTs in regions where split estate or checkerboard lands raise concerns about the effectiveness of the Federal coal leasing program.

OPTION 10: Establish uniform procedures for environmental evacuation of PRLAs

The environmental evaluation process for PRLAs is subject to many of the same problems identified with land use and activity planning

Figure 5.—Example of Split Estate With Minority Federal Ownership



SOURCE: Bureau of Land Management, *Fort Union Coal Region Draft Environment/ Impact Statement*, July 1982.

for competitive lease sales, but with PRLAs the concerns are more pressing because the PRLA program does not require the formal application of all of the environmental screens that are part of pre-lease planning for competitive lease tracts. * As a result, environmental protection must be achieved largely through mitigation requirements (lease stipulations and permit conditions). In addition, the program regulations were revised in 1982 to eliminate requirements for environmental data and analyses in initial showings for PRLAs. Establishing uniform procedures for

*The unsuitability criteria are applied to PRLAs either during land use planning (if the PRLA can be processed in the normal cycle of land-use planning) or during environmental analysis. If the PRLA is incorporated in land use planning, the multiple-use screen also would be applied.

environmental evaluation of PRLAs would help improve the quality of such evaluations, ensure consistency among regions (currently lacking), and provide greater predictability to the program.

The relation between the number of PRLAs in a region and the need for new production tracts to meet regional leasing rates also needs to be evaluated. For example, PRLAs in the San Juan River Region are estimated to contain one-half to two-thirds of the surface minable coal. Processing these PRLAs could reduce the need for competitive leasing in that region. Thus, that processing should be included as an alternative to competitive leasing in regional lease sale EISs, as well as be subject to an independent environmental assessment.