Lee

# RESPONSE TO CNI CRITIQUE

of

"Land Settlement Alternatives for the Chugach Region:
Effects on Public Values of Transferring
Public Lands to Private Ownership"

by

Institute of Social and Economic Research
Arctic Environmental Information and Data Center

UNIVERSITY OF ALASKA

January, 1982

RESPONSE TO CNI CRITIQUE

## Introduction

The University of Alaska contracted with the U.S. Forest Service in April 1981 to do an independent study of effects on public values of transferring lands from public to private ownership under several proposed land settlement alternatives for the Chugach Native regional corporation. This report was completed in October 1981.

In December 1981, Chugach Natives, Inc. (CNI) staff and consultants prepared a critique of the university report ("Critique of ISER Analysis of Land Settlement Alternatives for the Chugach Region," December 1981). We have found the CNI critique to be mostly in error and largely misdirected. Its basic premise is that we should have written a different report, a report focusing on potential benefits for CNI, rather than the one we designed and produced, one focusing on effects of alternative settlements on public land and resource values.

The university report analyzed two land settlement alternatives that had been proposed by Chugach Natives, Inc., one alternative that had been proposed by the federal government, and two "benchmark" alternatives developed by the university study team. The two hypothetical benchmark alternatives illustrate land settlements that CNI might have received, had there been no restrictions on their selection of national forest lands ("no-forest" alternative), or if CNI accepted a minimum settlement package provided for in the Alaska National Interest Lands Conservation Act ("status quo" alternative).

Three university units contributed faculty and professional staff members to the study team: the Institute of Social and Economic Research (ISER), the Arctic Environmental Information and Data Center (AEIDC), and the School of Agriculture and Land Resources Management. ISER had responsibility for the design of the study, analysis of congressional intent, and the overall evaluation of land settlement alternatives. AEIDC conducted the environmental and management analyses of the alternatives and prepared maps and overlays. The School of Agriculture and Land Resources Management was responsible for technical development and mapping of the land ownership patterns that would result from alternative settlements.

We believe that our report, "Land Settlement Alternatives for the Chugach Region: Effects on Public Values of Transferring Public Lands to Private Ownership," is its own best response to the criticisms made by CNI's staff and consultants. However, to balance the public record, we are providing here a detailed response to CNI's criticisms.

Our response is organized into six sections corresponding to parts of CNI's written critique. First, a "general" section deals with various points found in the introduction to the CNI critique and in a part of the critique challenging the "relevance" of our report. This is followed by five sections responding point-by-point to CNI's criticisms of our methodology and of our economic, social, environmental, and management analyses.

## General

In its introductory and "relevance" discussions (CNI, pp. 2-3, 8-10), the CNI critique argues that our report does not address the objectives of the Chugach Region Study mandated by Congress in Section 1430 of the Alaska National Interest Lands Conservation Act (ANILCA), and that we have done merely an "impact analysis," which "is not encompassed in the legislative intent of Section 1430 . . . ."

It was not the purpose of our study to attempt to duplicate the work of the Chugach Lands Study Group (CLSG), which was established by Congress under Section 1430 of ANILCA. CLSG's purpose was "to identify lands . . . which can be made available for conveyance to Chugach Natives, Incorporated . . . ." CLSG was to look for lands that were, to the maximum extent possible, traditionally used, coastal accessible, and economically viable, and which would provide a "fair and just land settlement for the Chugach people." Our purpose, on the other hand, was <u>to analyze</u> the identified land settlement alternatives in terms of their economic, social, environmental, and management values and effects. This study purpose is explicitly encompassed by the legislative intent of Section 1430 of ANILCA, as we documented on page II-17 of our report, and it is reinforced by the legislative histories of both the Alaska Native Claims Settlement Act (ANCSA) and ANILCA, as demonstrated in Chapter II of our report.

Further, we did not ignore the question of a "fair and just" settlement for the Chugach Natives, but we tried scrupulously to avoid making political judgments about what should constitute such a settlement. That clearly was not and could not be our role. Instead, we approached this issue analytically and indirectly by constructing hypothetical "benchmark" cases as a means of evaluating actual, proposed alternatives that emerged from the CLSG process. The rationale for these benchmarks is explained on pages III-2-5 of our report, and the benchmarks themselves are described in detail in subsequent sections of the report.

The Section 1430 study provision explicitly incorporates requirements for "equal value" land and selection rights exchanges except when the parties agree to exchanges on a basis other than equal value. (Section 1430(a) incorporates by reference Sections 1302(h) of ANILCA and 22(f) of ANCSA, which set forth the "equal value" provisions.) This provision, and the difficulties in finding common or comparable measures of value to assist in determining what might be "fair and just," tend to highlight the role of economic analysis and the estimation of economic values attached to alternative land settlements. This accounts for the emphasis on economic analysis in our report, as well as in CNI's critique. We did not, however, state or imply that the economic analysis answers the question of what might be a fair and just settlement for Chugach Natives, Inc. That is a much broader political issue, and it is one to be decided in a public arena by authorized officials and affected public and private interests. Social science and related research can make only a limited contribution to the resolution of such issues.

Thus, the relevance of our report is that it contributes information and analysis to assist in resolving a sensitive and difficult political problem. The report is in part an "impact" analysis, but it is mainly a comparative analysis of relative public values involved in and affected by alternative land settlement proposals. And our study design and product are explicitly encompassed by congressional intent, as discussed briefly above and documented in detail in Chapter II of our report.

## Methodology

1. CNI argues that the study is flawed because a "baseline" analysis was not done (CNI, p. 4, pp.11-12).

The basic method used in our report is comparative case analysis. "Baseline" analysis is incorporated as a feature of the comparative framework. Specifically, the "status quo" benchmark case serves the essential functions of a "base" case within this framework, and it does this more realistically and effectively than if we had assumed no CNI lands in the region. (See page III-4 of our report.)

Contrary to CNI's statements, our comparative benchmark method <u>does</u> recognize that changes will occur regardless of landowner. This point is relevant only to the social and environmental analyses, since the economic value estimates are independent of ownership status, and the management analysis is necessarily based directly on assumptions about changes in ownership or management. Our comparative benchmark method is tailored to the analytical problem, rather than being artificially imposed on it, as a conventional "baseline" method would be.

We did not use the no-forest alternative as a "baseline" as CNI implies. Nor did we premise the status quo alternative on the "misconception that Congress intended for the Chugach Region Study to fail, and that CNI has no further recourse" (CNI, p. 12). There is absolutely nothing in our report that states or implies any such thing. It is clear that CNI misunderstands (or misrepresents) the nature and uses of the benchmark alternatives. The rationale and uses of the benchmark alternatives are discussed at length on pages III-2-5, III-5-7, and III-8-12 of our report.

2. CNI charges that the no-forest alternative is faulty, primarily because it includes only one large deficiency withdrawal (CNI, p. 4, pp. 12-14).

We designated the deficiency withdrawal west of Tatitlek in consultation with the Forest Service. Its estimated value compares with those of the Bering River coal field and the McKinley Lake area timberlands, and it accounts for about one quarter of the total estimated value of the no-forest alternative. There is no way of determining what deficiency lands the Secretary of the Interior would have designated had there been no restrictions on Native land selections in the national forest, but it is very doubtful that the relative value of a secretarial deficiency designation would have been substantially higher than our hypothetical designation. The hypothetical deficiency area thus seems a reasonable one in terms of its relative value within the no-forest alternative.

3. CNI contends that we selected their options C and D for analysis because those options would have the most negative cumulative impacts on the Chugach National Forest (CNI, p. 4, p. 14).

Options C and D were chosen (in consultation with the Forest Service) precisely because they encompassed central sets of in-region land selections that were likely to receive the most serious consideration in the CLSG study and negotiation process. Options C and D included all of the selection areas comprising options A, B, and E, except Washington and Oregon timberlands, western U.S. coal lands, and Nellie Juan-College Fjord wilderness lands. We assumed that these excluded areas would not receive serious attention in CLSG negotiations, and our assumption proved correct.

4. CNI states that options C and D included a ten percent overselection and that, since we did not allow for this, our estimates of values and impacts are inflated (CNI, p. 4, p. 14).

A ten percent overselection of acreage does not translate into a ten percent overestimate of values or impacts in our analysis. CNI obviously would seek to release the least valuable ten percent of the overselected acreage in any settlement agreement. Thus, allowing for the overselection would require only a minimal adjustment in the values and impacts estimated for options C and D, probably so small as to be negligible. (CNI's reference to the possibility of covenants on some of its selections, which would reduce the loss of public values, is irrelevant. One cannot evaluate the impact of hypothetical covenants that are not specified anywhere.)

## Economic Analysis

Much of the CNI critique was focused on the economic analysis section of the study. We have reproduced this section of the critique below, with responses following each point. We have also reproduced the economic analysis section of the critique's executive summary, together with our responses.

Most of CNI's criticisms are of the methodology we used to estimate market values, in particular timber values. While we believe that the methodology used was correct, it is important to remember that our purpose was to compare relative values among alternatives rather than to estimate absolute values. Since a consistent methodology was applied throughout the report in estimating values, and since the relative distribution of resources was roughly the same on the three proposed and two benchmark alternatives (with timber the most important resource in all alternatives), the relative values of the different alternatives would have been similar even with the kinds of changes in methodology suggested by CNI.

The economic analysis section of the CNI critique (single spaced), together with our responses, follows below.

"This section of the ISER report is the most widely misunderstood and misused. It leads a reader to believe that a major objective of the Chugach Region Study was an economic evaluation of possible alternatives, as though the study was to result in some kind of equal economic value land exchange. This is not true--if it were, there would have been no need for special legislation" (CNI, p. 15).

There is no implication in the economic analysis that the study had to result in "some kind of equal economic value land exchange." As stated on page III-13 of the report, "We used the yardstick of present market value to compare the extent to which different land settlements meet the goal of providing an economic resource base for the corporation." Also, as suggested in our comments on methodology above, taking economic values into account, as called for by Section 1430 of ANILCA, does not necessarily imply that equal economic values must be exchanged. Of course, the affected parties would have to agree to a settlement or exchange, whatever the terms.

"Our comments below address four specific problem areas. First the use of the 'market value approach' for evaluating public interest concerns. Second, five specific errors in determining timber values. Third, an incorrect premise concerning hard-rock mineral values. And fourth, their incorrect determination of land values.

"1. ISER's 'market value' approach is an unorthodox method for evaluating <u>public</u> benefits within an economic framework. Their approach ignores expected public benefits and costs of a CNI settlement as well as failing to recognize the future flow of benefits and costs to the public in general. ANCSA and ANILCA both mandate the CNI settlement shall be in the public interest, an interest conventionally determined through such methods as benefit-cost analysis. This analytical technique, while not done by ISER, requires difficult appraisals, but it remains the best available procedure to ensure public interests are quantified and analyzed" (CNI, p. 15).

The economic section of the report <u>does</u> discuss and compare public benefits and costs of different land settlements. There are sections on employment effects, public revenues, public expenditures, recreation and wilderness (pp. V-11-30).

The economic analysis section compared relative economic effects of the different land settlements without attaching value weights to these effects, as would be required for some kind of unified cost-benefit analysis. Such judgments are not for us to make. The relative values to be attached to employment and wilderness, for example, are political rather than technical judgments.

The market values that we estimated are also relevant to evaluating public benefits. The public is concerned with achieving a fair settlement by providing an economic resource base for CNI. The public is also concerned with the extent to which achieving a settlement will involve relinquishing valuable public resources. While market value is not a perfect measure of either of these factors, it is a useful indicator.

The rationale for the approach of the economic analysis section is summarized on page III-13 of our study:

"One purpose of a land settlement is to provide an economic resource base for the Chugach Native corporation. While the settlement has other purposes, such as providing for Native ownership of culturally and historically important lands, we were not able to evaluate nonmonetary values, such as cultural and historical values. Rather, we used the yardstick of present market value to compare the extent to which different land settlements meet the goal of providing an economic resource base for the corporation.

"The proposed land settlement alternatives would also have a variety of effects on the public at large, and to the extent that we could, we assessed these effects on the general public. There is no suitable 'yardstick,' such as market value, to measure these diverse public impacts. Instead, we looked at a variety of effects separately. We were able to make numerical estimates of employment changes that could result from a land settlement. In other cases, we could only broadly describe the nature of these effects."

"2. Several incorrect assumptions or methods were used by ISER that inflated 'bottom line' timber values derived for the various alternatives. Table 1 and the discussion below point out five major errors and show how these severely affect the actual timber values used by ISER (see Table 1, Step 1 for ISER valuation).

"A. ISER's timber analysis failed to account for the significant difference between a 'standing tree' forest inventory, on which its values were based, and the 'scaled-log' stumpage volume, which is the actual experience in practice. The Forest Service, as an example, uses a 'fall-down' figure between inventory and harvested volume of approximately 25.6% (James T. Bones' 1962 study as used in the Tongass Land Management Plan). Thus, the timber volume used to generate ISER's figures should have been initially reduced by approximately one fourth (Table 1, Step 2)" (CNI, p. 16).

This criticism is incorrect. For the Tongass National Forest selections, we used timber volume data supplied by W. H. Wilson, a forester with the Forest Service, Alaska Region. Wilson's data for the southeast area selections contained two sets of volume figures: one based on inventory volumes and one based on estimated scaled-log volumes (approximately 75 percent of inventory volume). We used the lower scaled-volume figures in our analysis of Tongass forest values. There is no evidence that the inventory/scale "fall-down" exists for the Chugach National Forest or for state lands. The methodology we used to estimate timber volumes for the Chugach National Forest was identical to that used by Joe Mehrkens in his study of economic viability of lands in the Prince William Sound-Copper River areas for the Chugach Region Study. The downward adjustment of step (2) in Table 1 has no basis.

"B. The ISER data base was drawn entirely from Forest Service timber sales in Alaska, all of which have a "primary manufacture" restriction that significantly reduces the real economic value of the timber sold. ISER attempted to adjust for this by assuming 100% of CNI timber would be marketed for round log export. In fact, only 70% of CNI's logs will likely meet export quality requirements (not 100%), reducing economic values further. The net effect of these two factors is shown in Table 1, Step 3" (CNI, p. 16).

CNI, Page 19:

TABLE 1. CNI HYPOTHETICAL ANALYSIS OF ISER TIMBER VALUATION

| STEP | VOLUME | VALUE | COMMENT |
|---|---|---|---|
| (1) | 100,000,000 Board Feet (BF) | $9,000,000 | ISER valuation based on:<br>- $90 per thousand board feet owner's value (average figure)<br>- Total harvest in five years<br>- 100% export (Yakataga only) export values equal to domestic values (all areas)<br>- Inherent 2% discount rate |
| (2) | 74,400,000 BF | $6,696,000 | Only 74.4% of inventory volume is harvested and scaled due to rot, breakage, etc. (U.S. Forest Service, 1962). |
| (3) | 74,400,000 BF | $5,691,600 | Average of 70% of wood harvested suitable for export, worth twice as much as domestic wood. Owner's average value per thousand board feet is $76.50. |
| (4) | 74,400,000 BF | $2,543,007 | A 50 year rotation yields $113,832 per year ($5,691,600/50 years). Assuming a real price increase of 6%/year and a CNI discount rate of 10% total net present value is $2,543,007. |

$$\frac{\text{True Market Value}}{\text{ISER's Market Value}} = \frac{\$2{,}543{,}007}{9{,}000{,}000} = 28.26\%$$

SPECIAL APPLICATION OF ANCSA SECTION 7 (i)

| STEP | VOLUME | VALUE | COMMENT |
|---|---|---|---|
| (5) | 74,400,000 BF | $2,543,007<br>Less 1,729,245<br>Net $ 813,762 | Remainder after distribution of 68% of net timber revenues. |

The primary processing differential calculations were based on the export prices actually received for spruce and hemlock sawlogs and utility logs harvested from private lands in Southeast and Southcentral Alaska. We assumed that timber harvests on CNI lands contained a substantial volume of low quality logs, suitable only for manufacture of pulp. If the domestic processors could pay more than the export market for some low quality logs and chips, then the values for CNI timber would actually be higher than we estimated.

"C. ISER assumed each timber selection area would be fully harvested within five years. Such an approach is physically impossible, and approaches financial suicide. Nearly all major land owners set annual allowable harvest volumes; very few totally harvest all their volume. Real world experience in Southeast Alaska indicates Native corporations are not liquidating their timber holdings in the short term, but rather managing them on an economic sustained yield cycle of between 50 and 85 years. Chugach would use a similar 50-85 year cycle.

"Also, ISER's calculations used a real discount rate of 2%. This rate is unrealistically low compared to real discount rates in the range of 10-15% currently used by industry on actual timber land valuations. Taking into account both the 50-year rotation and a more realistic real discount rate of 10%, a net present value of $2,543,007 can be calculated (Table 1, Step 4). This actual net present value to CNI is only 28.26% of ISER's $9,000,000 calculation. The application of this percentile to any of ISER's values can have devastating effects. For instance, altering the timber values alone by this factor in ISER's appraisal of CNI's Option C reduces its total medium-range value from $446.5 million to $175.18 million" (CNI, p. 17).

We did not assume that CNI would harvest its timber within five years. We assumed that it would be possible to harvest the timber within an approximately five-year period. This does not imply in any way that CNI would or should follow such a policy. In our discussion of employment effects (Appendix G), we explicitly assumed considerably longer harvest periods, varying by selection area. Nowhere in the report is there any assumption of a 2 percent discount rate. No discount rate was used in the estimation of timber values, as the study discusses the value at the present time of standing timber.

There is a fundamental inconsistency in CNI's arguments about discount rates and harvest periods. We estimated the value of the timber if it were cut within a short period of time. CNI claims that this value is too high because the corporation envisions a longer harvest period, with a high discount rate for future returns, which would lower the present value of its returns from the timber. But this amounts to saying that CNI would deliberately delay harvesting timber, although the corporation would be losing money by each year of delay, due to a high discount rate for deferred income.

If indeed CNI would deliberately follow a policy of reducing the value of its timber earnings this way, this would not constitute a justification for lowering the estimated market value of the timber. However, it is not likely that CNI would delay harvests for long periods if this actually resulted in losing money. It is more likely that the decision on the part of CNI to harvest timber over a long period of time implies a discount rate low enough to make this a profitable decision.

In short, unless CNI were deliberately seeking to lose money, a high discount rate would be inconsistent with a slow rate of harvest. In fact, different Native corporation landowners are liquidating their old-growth timber holdings at vastly different rates, depending on their preferences for present as opposed to future cash income, their attitudes toward resource development, and other available investment opportunities. These differences imply substantial differences in discount rates among the corporations.

If stumpage prices are increasing at a real rate of six percent (as CNI assumed in Table 1, Step 4), harvest over a long period of time would imply a real discount rate of six percent. Very few Native corporations are achieving this rate of return on their investments. It is unlikely, then, that CNI could reinvest its timber earnings and earn a higher return than it could by leaving trees on the stump. Thus, there would be no cost to CNI of a 50-year liquidation period as opposed to the hypothetical 5-year period we assumed.

If CNI had the opportunity to earn substantially more than a six percent real return in another activity, then the corporation would, as a prudent investor, liquidate its timber holdings rapidly. However, the rate at which these timber holdings could be liquidated is limited by physical constraints and by the effects on timber markets of selling a large volume of timber in a short period. We discussed this problem in the sections on aggregation effects (pages III-17, 18, V-5, and C-12 and 15.) Timber values could be somewhat reduced as a result of aggregation effects. However, there is no reason to think that it would take anywhere near 50 years (as assumed by CNI) to dispose of CNI's timber holdings if holding timber were not a profitable investment. No major adjustment (such as the 55 percent reduction in Table 1) is justified.

"D. While CNI's revenue-sharing obligation to the other regional corporations under Section 7(i) of ANCSA is not a consideration in determining true market values, it is very much a real cost to CNI. However, ISER totally ignored this obligation. Section 7(i) effectively requires CNI to distribute 68% of net profits from revenues derived from subsurface resources or timber. Thus, the real net present value to CNI of the timber values cited in the ISER report must be reduced by an additional 68% to a net of $813,762 (shown in Step 5) per 100,000,000 BF" (CNI, p. 18).

CNI is correct that we did not reduce the resource values to reflect the distributional impact of Section 7(i) of ANCSA. This is because the value not received by CNI would be received by the other regional corporations: there would be no change in the values themselves. It would have been inconsistent to reduce the estimated values of the different alternatives due to the 7(i) provision, while not allowing for the revenue <u>received</u> by CNI from other corporations under this provision. On page III-15 of the report, we noted that "the monetary value to CNI of a given selection area may be less than its market value, for reasons such as the Section 7(i) revenue sharing provision of ANCSA . . . ."

"3. The ISER report assumes that the conveyance to CNI of hard-rock mineral rights from the public domain represents an economic loss to the United States Treasury. This is wrong. The federal government receives no direct economic royalty, rent or other value from the alienation of hard-rock minerals. In fact, CNI or any individual or company can presently claim the mineral rights in those same lands for 'free' under the existing 1872 Mining Law" (CNI, p. 18).

We did not assume a loss of federal revenue from lands with hard-rock mineral potential. We discussed the possible loss of revenue from potential oil and gas leases. The transfer of hard-rock mineral rights from the public domain would not represent an economic loss to the U.S. Treasury, but the granting of exclusive rights to develop minerals would be a transfer from the public (i.e., other potential mining concerns) to CNI. The lands are currently available "for free," and the economic "loss" would be the value of the loss of this "freedom" to the public.

"4. In determining the value for timber land within the Chugach region, ISER valued the land and the timber separately. The land was given a simple real estate value, while the timber was valued on the basis of past timber sales. Since no real estate market exists in much of the region, any real estate value is purely whimsical. The land must be valued for its timber-producing capacity since that is the only market available at the present time" (CNI, p. 20).

CNI alleges that no values may be imputed to real estate in the region exclusive of resource development opportunities since markets for real estate in the region are poorly developed. Markets for real estate are indeed poorly developed in much of the Chugach region. However, this may be attributed in large part to the fact that there is relatively little private land in the region. It is not appropriate to infer that the land would therefore be worthless if it were privately held.

The lack of developed markets <u>does</u> make it difficult to estimate what land values would be in a private market. We utilized such data as were available to arrive at what we feel are conservative estimates of land value. Throughout, we emphasized that these values were only approximate, due to the lack of data and uncertainty about the future development of land markets (pp. III-16, III-19, V-4). Real estate value was assigned only to low-lying, flat, dry lands. As noted on page F-5, low real estate values were assigned for lands on which timber was likely to be harvested.

Below, we reproduce and respond to the points raised in the economic analysis section of the executive summary of the CNI critique.

"1. A benefit-cost analysis would have been a more appropriate method for weighing all of the values affected by the CNI options and the federal alternative than ISER's 'market value' approach" (CNI, p. 4).

The economic section of the report discussed a variety of economic effects upon the public of the different alternatives, including employment effects. It would have been inappropriate to assign arbitrary value weights to these effects by a cost-benefit analysis.

"2. ISER confused the difference between bidding on a timber sale and buying a piece of timberland" (CNI, p. 4).

We estimated the value of timberland as the value of standing timber, which is related to what would be bid in a timber sale, plus a small real estate value of the land following timber harvest.

"3. Timber-producing land does not in most cases have a separate real estate value" (CNI, p. 4).

The timber values calculated in the report were the value of the standing timber resource. The total value of timberland is the value of the standing timber resource plus the value of the land once the resource is removed. This may be a real estate value, such as we assigned. An alternative approach would be to include a capitalized value of timber income from future rotations, in which case there would be no separate real estate value. As we did not calculate values for timber income from future rotations, it was correct to assign separate real estate values.

"4. ISER assumed CNI would liquidate its timber within five years" (CNI, p. 4).

Absolutely no such assumption was made. We assumed that it would be possible to harvest the timber within an approximately five-year period. This does not imply in any way that CNI would or should follow such a policy. (See the response to Section 2C, above.)

"5. ISER values are based on southeast Alaska comparable figures, and this does not reflect a competitive free market situation" (CNI, p. 5).

A federal court has ruled that the two major purchasers from the Tongass National Forest during the period in which we drew our data (1970-1980) engaged in anti-competitive behavior to attempt to keep stumpage prices artificially low. This might cause our timber value estimates to be too low. However, the export market for logs and chips would still have been competitive. The impact of potentially low stumpage prices on National Forest sales (with the primary processing requirement) would cause our estimate of the primary processing differential to be correspondingly too great. Thus, there should be no net impact on the estimated timber values for CNI (without primary processing requirement).

"6. ISER failed to see that in nearly all cases a percentage of CNI's timber production would be exported and the remainder would be processed domestically. It is not an all-or-nothing situation" (CNI, p. 5).

To the extent that higher prices would cause CNI to market timber domestically rather than on the export market, the value would be higher rather than lower (see the response to point 2B, above).

"7. ISER used an unrealistically low discount rate of 2 percent, when CNI recommends that a typical market rate of 10-15 percent be used" (CNI, p. 5).

Nowhere in the report is there any assumption of a 2 percent discount rate. No discount rate was used in the estimation of timber values, as the study discusses the value at the present time of standing timber.

A discount rate of 10-15 percent would not be consistent with CNI's declared intention of harvesting over a 50-85 year cycle, unless CNI were deliberately seeking to lower the present value of income received from timber harvests.

"8. ISER's analysis fails to account for the "fall-down" of some 25 percent of volume between the inventory stage and the scaling yard" (CNI, p. 5).

We used scaled volume figures to account for this effect for Tongass National Forest timber. There is no evidence to suggest that this "fall-down" exists for the Chugach National Forest or state lands.

"9. ISER ignored the effects of taxation, 7(i) distribution, depletion, depreciation, reforestation, and other general and administrative costs to CNI as a result of its participation in the timber business" (CNI, p. 5).

We did not ignore these effects. We subtracted administration costs, estimated at $6.00 per MBF, from stumpage (p. C-9). We did not subtract reforestation costs from our timber value estimates because we estimated only the value of the current inventory of saw-timber (p. C-1). Presumably, CNI would not undertake reforestation unless the resulting increase in the present value of future timber rotations exceeded the costs of reforestation.

As discussed above in our response to section 1-D, we noted that the monetary value to CNI of timber resources would be reduced by the Section 7(i) requirement of ANCSA. However, this would not lower their market value. Similarly, taxes paid on timber income (which are affected by depreciation and depletion) do not reduce the market value of the land, although they affect the timber income which may be retained by the owner of the land.

"10. ISER assumed a loss of value to the federal government if it transferred lands with hard-rock mineral potential to CNI, although the U.S. Treasury derives no revenues under the present location and patent system of the 1872 Mining Law" (CNI,p. 5).

We did not assume a loss of federal revenue from lands with hard-rock mineral potential. We discussed the possible loss of revenue from potential oil and gas leases.

"11. ISER ignores the fact that taxpayers have been subsidizing timber sales in the Chugach National Forest since its inception, and the conveyance of part of it to CNI would reduce that deficit" (CNI, p. 5).

While the first portion of this statement may be true, it does not imply the second portion. The lands CNI desires from the Chugach National Forest are the best timber lands--lands where timber sales are most likely to bring in more than they cost the U.S. Treasury. Removal of these potential revenue-producing lands would most likely increase the net subsidy implicit in overall timber management activities in the Chugach National Forest.

## Social Analysis

1. CNI states that we chose to focus on dispersed recreation and subsistence values because they are easy to measure; also, CNI says they are easy to measure because "their effects are largely negative" (CNI, p. 4, p. 21).

We chose to focus the social analysis on dispersed recreation and subsistence because they are in fact the dominant public uses in the Prince William Sound area. This has nothing to do with their relative ease of measurement. Nor does the incidence of either negative or positive changes in these values have anything to do with the ease of measurement. Other social effects, e.g., changes in jobs and income, are discussed elsewhere in our report.

2. CNI charges that we ignored positive social effects that would accrue to CNI shareholders and that we also ignored the intent of ANCSA (CNI, p. 4, pp. 21-22).

Our report focuses on the effects on public values of transferring public lands to private ownership, not on benefits that might ultimately accrue to CNI shareholders. Nonetheless, we did estimate economic values of land and resources that might accrue to the corporation, and we discussed the new employment and income opportunities that would be available directly to shareholders.

Most of the CNI criticism of the social analysis is rhetorical and vague, particularly in its references to ANCSA. Our approach to ANCSA, and an explanation of its relationship to our study, is set forth in detail on pp. II-1-10, II-24-25, and III-2-4 of the report. We did not attempt to cover everything that is significant or interesting about ANCSA. Rather, we tried systematically to examine how Congress sought to balance retention of public land values with transfer of public lands to private ownership, and we reflected this concern in our study design and report.

3. CNI asserts that "all of the negative social consequences . . . were premised on the [false] assumption that CNI would close its lands off to the public" (CNI, p. 4, p. 23).

The projected pressures on dispersed recreation lands and subsistence resources derive more from proposed development activities and new uses than from any such assumption. As stated in CNI's own critique (p. 25), ". . . CNI would be compelled to pursue land and natural resource development activities agressively in order to comply with its charter, regardless of which alternative or land selection is finally granted. These activities, of course, will be tempered with the appropriate environmental safeguards. Nevertheless, the result will be a considerably more development-oriented approach than under the present federal management regimes." We did not argue that such development is negative, per se, or that it produces no benefits. We merely observed that in some locations, it would be likely to conflict with dispersed recreation and subsistence activities. Public ownership of land has traditionally been best suited for these activities, and it is a reasonable assumption that placing land in private ownership will alter recreation and subsistence patterns in the area.

4. CNI states that our report omits the positive social effects of increased employment in the Chugach Region and of an increased variety of recreational opportunities (CNI, p. 4, pp. 21-22).

This is simply wrong. We explicitly discuss these particular effects, and at some length, on pp. V-15-24, V-27, V-29, VI-16, and VI-18-20 of our report.

## Environmental Analysis

The Arctic Environmental Information and Data Center (AEIDC) prepared the environmental analysis in Chapter VII of our report. Below, AEIDC responds to CNI's criticisms of the environmental analysis.

1. "[The report] assumes . . . that increased development . . . is inherently negative" (CNI, p. 6).

This is untrue. Man's activities evoke change in natural systems. These changes are neither inherently good nor inherently bad. Our report reflects this attitude. Throughout the report we used terms such as "change" and "alter" to describe likely effects which would accrue to the environment (see pp. VII-6, 18, 22-23, 25-27).

2. "No mention is made of CNI's . . . commitment to fisheries habitat protection" (CNI, p. 6).

We made no judgment whatsoever as to whether or not CNI would protect aquatic habitats. Whenever we addressed questions of water quality we noted that changes could occur "unless adequate mitigative techniques were employed", etc. (see pp. VIII-10, 14, 16, and 25).

3. "[The report] ignores the probability . . . that certain developments will occur in the region regardless of land owners" (CNI, p. 6).

This is untrue. We were very careful to note that some developments were likely regardless of owner (see pp. III-28; VII-1, 3, 5, and 24).

4. "[The report] ignores the environmental impacts which are occurring . . . under Forest Service Management . . . " (CNI, p. 7).

This is not true. For example, we noted that timber development is likely on certain USFS lands nominated for selection by CNI regardless of whether they are transferred (see pp. III-28; VII-1, 3, 5, and 24). Placer mining activities for gold, common within the Chugach National Forest, were not discussed because few opportunities for such activities exist on lands identified for possible transfer to CNI.

5. "The conclusion of [the] Environmental Analysis section . . . is misguided" (CNI, p. 25).

We disagree. Economically viable lands within the Chugach region are limited to low-lying valleys and coastal plains. These same areas coincide with the region's most productive fish and wildlife habitats (see p. VII-29). Further, we cannot understand how CNI would develop other than low-lying sections, considering the dramatic relief characteristic of the region. Assuming the corporation could develop areas other than low-lying lands, we erred by <u>underestimating</u> the effects of conveyance.

6. " . . . the [university] study presumes that development by CNI . . . will be environmentally harmful" (CNI, p. 26).

This is not true. Nowhere did we intimate that CNI would "harm" the environment. Rather, we noted that the types of development likely to occur in these remote areas would alter existing plant communities and, consequently, the types of life dependent on them. The effects of change would vary by species and locale (see pp. VII-17, 18, and 22; Appendix I, pp. 4-7). Nowhere did we imply that change in and of itself would be "harmful."

7. "Finally, there are a number of specific inaccuracies . . . . For instance the area . . . at Yakataga . . . does not include the important trumpeter swan nesting area . . . nor the Kaliakh River coho spawning area . . ." (CNI, p. 27).

Trumpeter swans use lacustrine and, to a lesser extent, riparian habitats throughout the proposed Yakataga selection. These habitats were first identified by Jim King, USFWS flyway biologist, as long ago as 1975. CNI's statement on Kaliakh River coho is also misleading. We noted that this nomination encompasses the headwaters of several locally important salmon streams (see p. VII-6). The area selected is uniformly steep, increasing the likelihood of erosion following timber harvest. Further, we noted that downstream aquatic habitats could be adversely affected "unless stringent mitigative measures were employed."

8. " . . . the statement is made in the third paragraph that CNI would [emphasis added] receive lands on both the north and south shorelines of Jack Bay" (CNI, p. 28).

This is untrue. Our statement used the word "could" (not "would"). When we wrote the report, the state had identified lands on both sides of the bay as being suitable for transfer to CNI. Although CNI did indicate they were only interested in the southern shoreline in their June 1981 selections, they did not identify which specific tracts they wanted. CNI refused to honor our requests to identify these lands. Under the circumstances, we felt it prudent to assume that they could select lands from either shore of the bay.

9. " . . . no mention is made of what the odds are that [the Katalla oil] field would ever be developed . . ." (CNI, p. 28).

It was not the task of the environmental analysis to estimate the probability of given developments, but rather to analyze impacts should development occur. The analysis noted that CNI had selected these lands for their oil and gas potential, and that in our analysis we discussed effects should "significant deposits of oil and gas [be] discovered and recovered" (p. VII-19).

## Management Analysis

AEIDC also prepared the management analysis in Chapter VIII of our report. Below, AEIDC responds to CNI's criticisms of the management analysis.

1. A "true 'no-forest' alternative would have by far the greatest impact on the manageability of the Chugach National Forest . . . " (CNI, p. 7).

Although our "no-forest" alternative includes large tracts of forest lands, the holdings are consolidated rather than scattered, a configuration that would minimize management problems. We had no opportunity to analyze CNI's "true" no-forest alternative, nor were we aware that such an alternative existed.

2. " . . . [the report] only analyzes management impacts on the Chugach National Forest, and not on other federal holdings . . . " (CNI, p. 7).

The analysis covered other federal holdings where potential impacts were apparent (see pp. VIII-12, 13, and 15).

3. "[The report] ignores the fact that the status quo alternative would prevent improvement of conservation system boundaries . . . " (CNI, p. 7).

No significant opportunities for improvement of conservation system unit boundaries were apparent under any of the land settlement alternatives. (See further comments under point eight below.)

4. "Management concerns applicable to the Chugach region generally are not addressed . . . " (CNI, p. 29).

Our analysis focuses on effects on public values of transferring public lands to private ownership, including effects on management of state lands (especially Yakataga timber lands) and National Park

Service lands (see pp. VIII-4, 7, 9, 11, 12, 13, and 15). The dominant public land manager in the study region is the Forest Service, and effects on national forest lands are, of course, emphasized in our report.

5. The "approach emphasizes the negative aspects of private land ownership and fails to consider the positive aspects of private land ownership and development" (CNI, p. 29).

This is not true. We referred to positive aspects of private land ownership and development on pp. VIII-5, 6, 7, 8, 9, 10, 11, 12, and 14.

6. The report's "wilderness management emphasis [is] at odds with Congressional designations" (CNI, p. 30).

The management analysis considered wilderness management only of <u>lands in the proposed transfer alternatives</u> as one of the management options for public lands. Our analysis did not extend to other potential wilderness areas in the Chugach region that were not part of the settlement alternatives.

7. The report ignored the consolidation of land ownership patterns (CNI, p. 30).

In our judgment, the transfer of public lands to private ownership, as represented in the alternatives we analyzed, would not result in an overall net consolidation of the land pattern for either public or private owners.

8. The report did not address improvement of boundaries or identification of new conservation system units; it did not take account of CNI's Bremner River inholding, and it wrongly assumed that the national forest is a conservation system unit (CNI, p. 30).

In the absence of documentation, we were unable to assume that CNI has an inholding of nearly one-half million acres in the Bremner River drainage; it was our understanding that this was a potential selection area. The Chugach National Forest is, in fact, a "conservation system unit," established by Presidential Proclamation of July 23, 1907.