File: 17.2.4

Acquisition: Kachemak Bay - Seldovia Native Association

Lead Agency: DNR

Document(s): Appraisal
Valuation of Seldovia Native Association Inholdings
Kachemak Bay State Park, Alaska
as of September, 1989
prepared for F. Elvsaas, Seldovia Native Association
by Bill Mundy (Mundy-Day-Bunn)

including

* Appraisal Review of Seldovia Native Association
Land Exchange
A. Ferrara, R. Olsen to D. Tillery dated 10/3/89
Alaska Valuation Services

File/Record Type: unbound materials, approx. 70 pages

Other Notes: Possibly released (?) per memo from C. Tillery to N. Phillips dated 5/19/95 which references "Seldovia Native Association Inholdings original appraisal by Bill Mundy" (emphasis added) as well as other SNA appraisals prepared by Mundy (not clear due to different/inexact citations).

Also, this appraisal contains the statement: "This report is confidential and private property...."

Also, Appraisal Review by Alaska Valuation Services * is specifically identified as not to be released in letter from C. Tillery to N. Phillips dated 5/19/95.

17.2.4

VALUATION

of

SELDOVIA NATIVE ASSOCIATION

INHOLDINGS

KACHEMAK BAY STATE PARK,

ALASKA

As Of

September, 1989

by

MUNDY-DAY-BUNN

Alaska Valuation Service, Inc.

550 WEST 54TH AVENUE • ANCHORAGE, ALASKA 99518
(907) 561-1031 FAX (907) 562-7241

October 3, 1989

Mr. Dennis Lattery, Chief Appraiser
Division of Land and Water Management
Department of Natural Resources
State of Alaska
Anchorage, Alaska

RE: Our File #33706
Review of the Seldovia Native Assoc.
Land Exchange, Appraisals of two
parcels, Kachemak Bay State Park, Ak.

Dear Mr. Lattery:

At your request, we have reviewed two reports identified above, submitted to the Department of Natural Resources by the Seldovia Native Association. The reports were signed by Bill Mundy, Ph.D., CRE, MAI, and were apparently prepared by various members of the firm identified as Mundy-Day-Bunn. The date of valuation of the two reports is September 14 and 19, 1989.

The specific instructions to the review appraiser were stated as follows:

1. Review the adequacy of the reports in terms of appraisal instructions and memorandums of agreement which were intended to outline the basis of valuation.
2. Review the adequacy of the reports in terms of sound appraisal practice.
3. Review the adequacy of the reports in relation to the adequacy of the final values as a statement of the fair market value of the properties.

The assistance of Mr. Ronald J. Olsen of this firm in the inspection, data analysis and preparation of this report is acknowledged and he has signed the certification page. I would also like to acknowledge that I have prepared a narrative analysis of the subejct of these reviews for the Department of Natural Resources as of November 1985. My prior appraisal conclusion did not influence by review conclusions, but did provide me prior knowledge of the physical and economic aspects of the property.

In compliance with the instructions, we first reviewed the appraisal instructions and the memorandum of agreement detailed in a letter from Roger W. DuBrock, attorney representing the Seldovia Native Association (SNA) to Mr. Mundy requesting his appraisal services in a letter dated July 25, 1989 which was sent to this office along with copies of the completed reports by Mr. Mundy.

In our view there are four key features found in the instructions and memorandum given to Mr. Mundy that have a bearing on the analysis and valuation of the subject property.

1. "You are requested to perform your appraisal in conformance with the State's "Appraisal Instructions Pertaining to the Valuation of State Land..."

2. The total area of the proposed SNA exchange is 23,802 acres, of which 4,435 acres are to be valued, "...as if the timber had been removed through logging operations." This smaller portion of the entire exchange constitutes the focus of one of the two reports.

3. Under Section G of the Preliminary Exchange Agreement, it is stated:

   "The combined value of the State interests to be exchanged to SNA and TCC (Timber Trading Company) shall equal the appraised fair market value of SNA's surface estate within the Kachemak Bay State Park and the appraised fair market value of that portion of TCC's timber that is commercially viable."

The interplay of these three points determine the appraiser's compliance with his specific instructions and also determines, to a large extent, the applicability of the appraisal reports for the purpose of negotiating the land exchange.

DISCUSSION OF THE LARGER SNA PARCEL (19,367 ACRES)

Compliance with Market Value Requirement

The state requires that all appraisals will be predicated on a "market value" basis as defined by the American Institute of Real Estate Appraisers (AIREA). In both reports, the appraiser has quoted definitions of market value from AIREA within the definitions of the report. However, the appraisal of the larger SNA property in its statement of methodology (Page 3) notes:

> "One of the distinguishing characteristics of this market is that buyers are not motivated by what the land can maximally support in an economic sense. Rather, the buyer's motivation reflects the committment of unique or increasingly scarce land resources for an infinite period of time for the total well being of the public."

The buyers, though not specifically defined at this point in the report, can be inferred from the data and analysis to be government agencies. This refinement or limitation of the potential market for the subject property, as evidenced by the transactions considered within the report by the appraiser, essentially limits comparison of the subject to sales of property that engender considerations beyond the basic surface land value.

While government entities to comprise a substantial portion of the overall potential market for the subject property, it does not necessarily follow that government agencies are the exclusive market for the property. Obviously, the 1987 sale of the 12,400 acres of land to TCC indicates that there are other potential buyers for the subject property other than government agencies. There have also been numerous historical sales of small parcels for recreational homesites in the Kachemak Bay region and sales of larger parcels to private parties in other parts of Alaska.

There is also no clear substantiation as to what constitutes a market that is limited to government agencies. To the reviewer's knowledge, the proposed trade involving the subject and all of the transactions cited in the report involved only individual agencies. That is, there is no evidence that competition between agencies exists to acquire a given piece of property presented within the context of the report. Competition is a necessary pre-requisite to establish a market. Just as one sale does not a market make, neither does the contention hold true that one potential buyer constitutes the entire market for a given property. Thus, the report may well be valuing something other than market value as it is defined by AIREA.

Within the section entitled "Rationale" (Page 4), the appraiser proceeds to discuss the concept of "valuing property for public purposes". This section of the report introduces the concept that there are two different but related values under consideration by the appraiser. The first is termed "option value" and the second is termed "public interest value". Neither term is found within any current publication by AIREA and the terms themselves are not specifically defined nor attributed to any appraisal text.

While the appraisal profession is continually evolving and there is a need to examine new ways of looking at values for property, the use of option value and public interest value were not requested in either the letter to the appraiser by Mr. DuBrock, the attorney representing SNA, the Preliminary Exchange Agreement of the Appraisal Instructions Pertaining to Valuation of State Lands. It should also be noted that the entirety or portions of the subject properties have been previously appraised by four MAI appraisers over the past several years using traditional concepts of market value based on market transactions that have occurred within the State of Alaska.

The purpose of the subject appraisals was to facilitate the exchange of land between the State of Alaska and SNA. Thus, the same definitions and interpretations of those definitions must be applied to all parcels on both sides to ensure that an equitable exchange occurs. If the appraisals for the

state parcels are valued using a market value definition that considers the lands economic highest and best use, then it is only reasonable that the intent, as expressed in the various documents furnished to the appraiser noted above, anticipate that the appraiser will value the SNA property in the same way.

The appraiser's departure from the instructions is based on his discussion under "precedents" (Pages 4 and 5). In this section of the report, the appraiser cites (as support for his contention that the appropriate valuation process is to estimate the public or option value for the subject property), a court case and a transaction where a value to the buyer far exceeded the estimated land value. These examples do not, in themselves, reflect market transactions that meet the criteria of a market valuation as defined by AIREA, but rather are more indicative of political or legal decisions made to expedite negotiation impasses.

This principal is recognized within the Uniform Standards for Federal Land Acquisitions, Interagency Land Acquisition Conference: 1973, which is the current guideline used as the basis of property acquisition by the various federal agencies. The following excerpt is found on Page 32 of that document.

> "A-17, Price paid by a condemnor for similar property: Based upon a variety of reasons, e.g., that such payments are in the nature of compromise to avoid the expense and uncertainty of litigation and so are not fair indications of market value, that such evidence complicates the record, confuses the issue, is misleading and especially in condemnation cases, raises collateral issues as to the conditions under which such sales were made, the overwhelming view of the various federal courts is that the sum paid by the condemnor for similar land, even if condemnation proceedings have not begun, is inadmissible. However, there is a small minority view under which evidence of purchases by the condemnor is admitted on the theory that objection to this type of evidence goes to its weight, not its competency."

The reviewer grants that the subject situation does not involve the threat of condemnation. However, it can readily be established that federal and many state agencies (Department of Transportation) explicitly limit the acceptance of settlement data in the performance of appraisal assignments as is suggested within the quotation noted previously.

A comment draft of new appraisal guidelines for the Department of the Interior was also reviewed by the appraiser. This does not eliminate the type of comparables used in the report but does require the appraiser to demonstrate their applicability and adherence to market considerations rather than political or other settlement reasons.

Establishment of comparability is central to the nature of settlements involving federal agencies that are at values considered to be well above a property's highest and best economic use. That is, that such settlements as the 1984 sale of 8,000 acres for sea bird habitat within the Pribilof Islands to the Department of Interior cited within the report are in fact complex political settlements that may involve a variety of considerations beyond the acquisition of the land and the value of a particular habitat.

While the Pribilof sale may be a valid indicator of subject value, it is incumbent upon the appraiser to fully research the sale and establish that the sale and the factors surrounding the sale are in fact comparable and sufficiently analogous to the subject to be included within an analysis. Once that determination is made, it is further incumbent upon the appraiser to give it appropriate weight in the context of meeting the explicit tests of market value contained or implied within the AIREA's definition of market value. As will be discussed in detail later in this review, the appraiser has not adequately met the burden of establishing comparability for the various "political or legal settlement" comparables used in the analysis. Since the comparables are demonstratably not market derived, the appraiser is apparently considering something other than market value.

In fact, the discussion of option value and public interest value within the report is much closer in concept to "use value and investment value". The following discussion is drawn from The Appraisal of Real Estate: 9th Edition, Pages 21 and 22:

> "...Limited market properties may be appraised for market value based on their current use or the most likely alternative use. Due to the relatively small market and the lengthly market exposure needed to sell such properties, there may be little evidence to support a market value estimate based on their current use...If a property's current use is so specialized that there is no demonstratable market for it, but the use is likely to continue, the appraiser may render an estimate of use value. Such an estimate should not be confused with a market value estimate. If no market can be demonstrated, of if the data is not available, the appraiser cannot estimate a market value and should state this in this in his/her report. However, it is sometimes necessary to estimate market value in these situations for legal purposes. In these cases, appraisers must comply with the legal requirement, relying on their judgement rather than direct market evidence."

In order for the appraiser to use the value in use concept, it is necessary for him to establish that no other traditional approach to market value is viable. The report that was submitted to the reviewer does not address this issue. In view of the fact that there have been four previous appraisals involving the subject property that used traditional definitions of economic highest and best use, and that at least two of these appraisals were used as the basis of subsequent successful negotiations between the State of Alaska and SNA that resulted in sales of property, the reason for a departure from traditional methodologies of establishing market value should be clearly and convincingly demonstrated by the appraiser.

The second concept that bears a close resemblance to the "option value and public interest value" used by the appraiser is the definition of "Investment Value" also found in the text cited above:

> "...As used in appraisal assignments, investment value is the value of an investment to a particular investor based on his or her investment requirements. In contrast to market value, investment value is a value to an individual, not value in the marketplace.
>
> Investment value reflects the subjective relationship between a particular investor and a given investment...When measured in dollars, investment value is the price an investor would pay for an investment to satisfy his or her desires, needs, or investment goals. To estimate investment value, specific investment criteria must be known."

Assuming the appraiser wanted to make a departure from traditional market value approaches using the investment value criteria, he would have to establish the analogy of the public interest value being an investment value with criteria that is specific to the public interest. The use of comparables based on political or legal settlements that were at prices over what would commonly be considered to be market value could conceivablely be demonstrative of this investment value concept. However, that premium would have to be isolated from other possible considerations. In our review of the comparable data and analysis within this report, we found no written isolation of specific criteria that can be attributed solely to the public interest. Thus, no objective evaluation of the investment value can be made from the comparable data.

In any event, whether the appraiser used an accepted definition which departs from market value, such as "values in use or investment value", or other definition of "option value or public interest value", he has not clearly shown the necessity for departing from traditional market valuation techniques. The absence of specific instructions to the appraiser to depart from traditional methodology makes it incumbent on him to fully justify in an objective manner why he has chosen to approach the valuation of the subject in a non-traditional fashion.

It could be argued that the appraiser, by including the definition of market value and then using other criteria for valuing the property, has produced a misleading valuation which would be a violation of the Code of Professional Ethics and Standards of Professional Conduct of the American Institute of Real Estate Appraisers. However, the reviewer does not believe that is a correct interpretation as the appraiser is advancing the premise that the valuation method is in fact market value. Whether or not that premise is successfully advanced depends to a large extent on the definition of value and what constitutes a market.

COMPLIANCES WITH NARRATIVE REPORT REQUIREMENTS

The appraisal is considered to be in compliance with the requirements under Section 4 of the Appraisal Instructions Pertaining to Valuation of State Lands with the following exceptions:

A. Certification Page.

The certification page does not show a date of valuation or value conclusion. which is typically shown by appraisers in Alaska.

B. Letter of Transmittal

The letter of transmittal does not indicate either the date of valuation or the rights appraised, which is typically seen in appraisals for State and federal agencies in Alaska.

C. Date of Appraisal/Date of Inspection

The only reference to the date of appraisal is a discussion of time frame contained on Page 3 of the report. It notes that the report was prepared between the dates of August 1, 1989 to September 15, 1989. No specific date of valuation is noted.

D. Purpose of the Appraisal

The purpose of the appraisal is listed under the heading of purpose of research on Page 2 of the report. As noted in the discussion on the preceeding pages in this review, it is not clear to the reviewer that the report considers market value as was requested in the instructions to the appraiser.

E. Rights Appraised

The reviewer did not note any discussion of the rights valued within the report of the subject property. It is the reviewer's understanding that the subject property has property rights that are limited to surface uses only. There is a limited discussion of the sale of gravel resources within the highest and best analysis. Presumably, some consideration was given by the appraiser as to the subject property rights, however there was no explicit discussion that we could find. The State requires that an analysis of this right and its influence on valuation be made within its instructions.

F. Highest and Best Use

The appraiser has concluded that the highest and best use of the site is its retention as natural land. As natural land, the market is potentially limited to government agencies such as the State Department of Natural Resources (DNR). The criteria upon which the DNR would acquire the property is that it would consolidate its holdings within the Kachemak State Park. Presumably, the value of the subject property is inherrent in its scenic vistas, watershed and wildlife habitat values.

The appraiser does not address the impact of the withdrawl of 4,435 acres suitable for timber harvesting on the remainder of the entire inholdings (19,367 acres) which, as identified within the instructions to the appraiser discussed previously, are in fact the focus of this report. A review of the map contained within this report identified as Figure 3, shows that almost the

entire coast line and the accessible valley's and lower hillside areas are designated as commercially viable forest land. The remaining property, the subject of this valuation, are predominately high elevation, steep hillside areas with limited recreation or wildlife habitat potential.

The appraiser was requested to value the whole of the SNA inholdings as two separate parcels. One containing the prime areas from a commercial timber, recreational and wildlife habitat standpoint containing 4,435 acres. This valuation is as "cut-over timber land". Cut over timber land would have significantly lower utility from recreational and wildlife habitat standpoints. The growth cycle for revegetation of the sites would be lengthy (approximately 100 to 150 years according to data furnished by the appraiser in his analysis of the "cut over" parcel). In this smaller parcel assignment, the appraiser has concluded that the highest and best use of that 4,435 acres is as follows:

> "The highest and best use of the subject lands has been determined, independently by those requesting this appraisal. The 4,435 acres have been deemed most appropriate as timber land, with forest production (reforestation) as its highest and best use."

The other appraisal assignment which is the subject of this portion of the review constitutes the remainder, or 19,367 acres of the total inholding.

These varying highest and best uses of the adjoining sites must be addressed in order to not mislead the reader or participants in the negotiation process (ultimately the public interest) as to what is being valued in this report.

The description of the subject site that precedes the discussion of the highest and best use which is confined six paragraphs on Page 7 of the report is extremely abbreviated, considering the size and diversity of the property, and does not address the impact of the logging process of the 4,435 acre area on the remaining 19,367 acres.

In fact, much of the wildlife habitat, scenic vistas, watershed and recreational amenities attributed to the subject site (19,367 acres) discussed at length by the appraiser on Pages 16 thru 28 and in the various tables within the appendix of the report are in fact concentrated in the very areas that are designated for timber harvesting and are not the subject of this larger acreage report.

In conclusion, the appraiser did not appear to fully consider within the written report the impact of the logging of the adjoining parcel to the subject (19,367 acres). The lack of comments to fully address the questions of access and park land value that are specific to the subject apart from the 4,435 acre parcel, significantly flaw the analysis and conclusion of highest and best use in this report.

The 19,367 acre parcel which is predominately steep, sparsely timbered terrain with very restricted access may have only a very limited public interest or option value and would clearly have only a neglible commercial or speculative value based on the analysis within the report. Considering that the appraiser arrived at a nominal value for the logged over smaller parcel of $100/acre, the value of the remaining, largely untimbered and inaccessible 19,367 acres could be dramatically impacted.

It would be our recommendation that the site description and highest and best use analysis of the 19,367 acre parcel be revised to reflect its status relative to the smaller parcel.

J. On-Site Photograph

In relation to the state's instructions concerning photographs, it appears to the reviewer that Photos #2, #3, #4 and #8 are more indicative of the low lying areas that are suitable for timber harvesting (4,435 acre parcel) as indicated on the colored map, figure #3 of the report. In fact, it appears that these same photos are used to describe the smaller (4,435 acres) parcel. Some discussion as to where the subject property generally begins relative to the better quality coastal area would help focus the readers attention on the conditions of the terrain.

N. Subject Site Description

As noted in the review of the reports highest and best use analysis, the subject site description is extremely abbreviated considering the complexity of the assignment. Below are some of the specific comments addressed under the various site description headings of the report.

Topography:

The appraiser states: "The subject lands have extensive water frontage with approximately 8 miles of shoreline along China Poot and Neptune Bay, and approximately 4 miles of frontage on Sadie Cove."

According to Figure #3 of the report, substantial areas including almost all of the China Poot and Neptune Bay frontage and the most accessible area of Sadie Cove are designated as part of the 4,435 acre parcel that is not considered within this report.

Access and Improvements:

The appraiser states: "China Poot and Neptune Bay provide relatively safe moorage and landing areas with gently sloping shorelines."

As noted above, these access considerations are more germaine to the 4,435 acre parcel than the larger backland 19,367 acre subject parcel and could mislead the reader into attributing better recreational access to the subject parcel than would actually exist without some kind of easement provision across the smaller parcel. uh-uh ??!?!

O. Property Valuation Narrative

The previous review comments concerning the appraisers use of market value and the flawed highest and best use analysis are sufficiently material to warrant

substantial revision of the appraisal. The following comments concerning the actual valuation process, tacitly accepts the appraiser's original valuation premise and highest and best use analysis and are focused on the consistency and adequacy of the data and whether the adjustments and analysis of the sales data support the appraiser's conclusion of value in the context of the state's property valuation requirements.

For the purpose of reviewing the data and the reconciliation and conclusion of data we contacted Mike Robbins, Ph.D., Professor of Real Estate at the University of Wisconsin School of Business. Professor Robbins, as one of his specialities, has written extensively about the concept of public interest value.

According to Professor Robbins, in order to value a given property from a public interest standpoint, the appraiser must first establish what elements of the subject have value over and above other properties with similar features in the area. Simple proximity to a state park is not in itself an adequate basis for determination of public interest value. Rather elements of wildlife habitat, scenic beauty or other specialized features of the subject must be ranked and weighted relative to other comparables to establish a premium that would be paid for the subject site's unique features over and above the underlying value of the land. This ranking or weighting would be in addition to traditional requirements to establish comparability of transactions.

In examining the subject report, we have found no attempt to quantify what elements of the subject property are in fact special or unique. The analysis focused on general attributes such as black bear habitat, eagle habitat and fishery resources that are found in the subject's vicinity but nothing that addresses the subject property specifically. In fact, an examination of the various maps reveals that most, if not all of the resource concentrations are found in the coastal and valley areas of the SNA property that is the subject of the other report (4,435 acres) and as we noted previously would be subject to the impact of logging, and are located off the subject property boundaries.

Thus, regardless of what sales were used, there would be no way to clearly adjust for differences relative to the subject since the subject was not analyzed in sufficient detail to determine what unique properties exist from which to make comparisons.

The appraiser discussed six criteria upon which to establish comparability of sales to the subject. These criteria included:

1. Purpose off Acquisition
2. Property Attributes
3. Location
4. Remoteness
5. Size
6. Sale Date

In addition to these considerations, other common elements that have a direct bearing on sales prices that are usually addressed within a standard market value appraisal, but were not specifically noted would include:

1. Real Property Rights Conveyed
2. Financing Terms
3. Condition of Sale

ADEQUACY OF THE DATA CONSIDERED

The Appraisal Instructions Pertaining to the Valuation of State Lands clearly states:

> "Comparable Sales Data: Data presented in the report regarding comparable sales will include grantor/grantee, legal description, date of sale, sales price, acreage, terms and a brief description of the property. A comparable sales map, showing location of the sale in relation to the subject is required. Comparable sales photos are required. Aerial photos with the comparable property adequately located are sufficient."

These requirements are minimal and without the level of detail required by DNR, it is impossible for a reviewer or any independent party to follow the appraiser's analysis of comparable data relative to his own or other relevant criteria discussed previously.

Only twenty of the appraiser's comparable data transactions have been written on separate data sheets that generally meet the minimum data reporting requirements stated above. Even then, none of the comparables submitted with the reviewer's copy of the report contain photos or maps that indicate their relation to the subject parcel. The details given are limited and a discussion motivation for the specific purchases and conditions of sale are missing on all but a handful of the sales.

Based on the minimum comparable data requirements stated above, this eliminates from valid consideration all the transactions noted on Table 13 (Pacific Northwest Region National Wildlife Refuge Acquisitions, Parcels Over 100 Acres, 1980-1988) and Table 14 (U.S. Forest Service Acquisitions, Land and Water Conservation Fund 1980-1985, Projects Over 100 Acres).

It would also eliminate from further consideration sales identified as #1 and #3 on Table #15 (National Park Service Land Acquisitions, Purchases Over 50 Acres). We would also note that the Wrangell Saint Ellias, (Gagon) sale to the Park Service, to our knowledge is in error, in that it did not report the existence of substantial improvements on the site. Attached to this review is our independently confirmed data on this sale which indicates that the land value only was $191,000 or approximately $1,194/acre.

The seven historic transactions noted on Table #16 (State of Alaska Sponsored Acquisitions Under the Land and Water Conservation Fund, Parcels Over 100 Acres) though they are written up on comparable data sheets, do not have any description of the property. Thus, no evaluation is possible using the appraisers or other criteria noted above. Thus, as valid comparables relative to the subject, these transactions must be eliminated as well.

Of the nine sales found on Table #18 (Acquisitions Made by Public and Conservation Agencies for Preservation Purposes) there are no comparable details included for sales listed as #7 and #8 and insufficient details given for the Goat Island #4A and #4B for analysis purposes.

The remaining comparables that could be used to arrive at a value conclusion for the subject are primarily limited to those found on Tables #15, #17 and #18. The sales considered on Tables #15 and #17 are all located within Alaska and share a greater degree of locational comparability than those located out of state on Table #18.

Since the information provided in the comparable data sheets and in its discussion does not meet the state's data requirements for the majority of his comparables, his conclusions in his discussion of time and size adjustment criteria that in part rely on his statistical analysis of non-conforming data, should be reconsidered. Similarily, his criteria used to establish comparability is vague and non-specific. That public entities are interested in acquiring land for "preserving natural integrity and providing public enjoyment of property" is questionable. That is akin to saying that real estate investors are interested in and motivated to purchasing income producing property. Both statements are true but neither specifies the criteria by which choices are made between properties which is at the heart of the direct market comparison approach and the underlying principle of substitution.

VALUE SUMMARY AND RECONCILIATION

The appraiser has not established specific criteria for adjustment of the various comparables used relative to the subject property. No adjustment was submitted comparing transactions with the subject. The transactions used in the analysis are largely non-conforming with the requirements of the state and those that approach the minimum requirements are not detailed enough from which to draw conclusions from the data using the appraisers premises of "option and public interest value".

This analysis is further impacted by the subject description and highest and best use analysis within the report that ascribes many of the "public interest or option value" attributes to property that is not a subject of this appraisal (the 4,435 acres of adjoining timber land). Thus, the data and analysis within the valuation section does not support the appraisers conclusion of value.

SUMMARY OF REVIEW CONCLUSIONS FOR THE SNA (LARGER PARCEL), 19,367 ACRE APPRAISAL

Based on our review of the report, we have concluded the following findings relative to the review criteria established by DNR.

1. The report has numerous departures from the appraisal instructions. Specifically, the methodology used was not defined adequately and it is not clear that public interest value or option value are in fact indicators of "fair market value". The criteria by which to evaluate the subjects unique features relative to the comparable data is vague and non-specific. Other factors such as the non-compliance with DNR's requirements for comparable data makes most of the appraisers adjustment criteria unsupportable.

2. The primary or fatal flaw of the report is found in the site description and subsequent highest and best use analysis which under the appraisers public interest or option value premise attributes many of the supposedly unique features of the subject property such as habitat and prime recreational access to the adjoining, 4,435 acre, cut-over timber land parcel, when in fact the subject site is largely devoid of these attributes. This largely invalidates the adjustment analysis and the comparables used within that analysis which presumably have a differing highest and best use than the subject site.

3. Due to the problems highlighted in the first two points, the valuation conclusion is not supported by the appraisers analysis or value conclusion.

DISCUSSION OF THE VALUATION OF THE SELDOVIA NATIVE INHOLDNGS (SMALLER 4,435 ACRE, CUT-OVER) PARCEL

Compliance with Market Value Requirement

The definition of market value is from the 8th Edition of The Appraisal of Real Estate, published by AIREA which has been superceded by the 9th Edition which has a varying definition which includes the concept of most probable price as opposed to the highest price that a property would bring. This variance in market value could well have influenced that choice of comparables by the appraiser in his analysis. Attached for reference is a copy of the current definition used by AIREA.

Highest and Best Use

The appraiser does not attempt to establish independently through either qualitative or quantitative means what the properties highest and best use is. Rather, he has accepted a predetermined definition from a client as stated on Page 3 of the report:

> "The highest and best use of the subject has been determined independently by those requesting this appraisal. The 4,435 acres have been deemed most appropriate as timber land, with forest production (reforestation) as its highest and best use."

This decision to not independently determine the highest and best use of the property calls into question whether the appraiser is performing an independent valuation or rather has accepted a limited appraisal assignment that does not necessarily reflect market value. Considering that the companion appraisal of the larger 19,367 acre parcel focuses on public interest value based on attributes that largely exist on the smaller site (subject of this report) including recreational access, wildlife habitat, etc., the predetermined conclusion of highest and best use seems inconsistent with sound appraisal practice and could lead to an understated or misleading valuation.

Description of Subject Lands

The description of the subject property is extremely abbreviated for a narrative report on a property that is over 4,000 acres in size with a variety of topographical features, that is discontiguous, with significant recreational potential. The very brevity of the description contained in its entirety in three paragraphs on two pages understates the complexity and diversity of the property and could mislead readers who are not familiar with the property.

VALUATION

The Appraisal Instructions Pertaining to the Valuation of State Lands clearly states:

> "Comparable Sales Date: Data presented in the report regarding comparable sales will include grantor/grantee, legal description, date of sale, sales price, acreage, terms and a brief description of the property. A comparable sales map showing location of the sale in relation to the subject is required. Comparable sales photos are required. Aerial photos with the comparable property adequately located are sufficient."

These requirements are minimal and without the level of detail required by DNR it is impossible for a reviewer or any independent party to follow the appraisers analysis of comparable data relative to his own or other relevant valuation criteria.

None of the comparables have photos, maps showing any of the comparables relative to the subject (in fact they are all located out of state) and none of the comparables had an adequate description that could be used to establish comparability with the subject.

None of these transactions were in Alaska, yet we have been informed that some transactions in southeast Alaska have occurred.

VALUE RECONCILIATION

The reconciliation process is predicated upon a predetermined highest and best use of the site which, in essence, severely limits the consideration of alternative uses and the range of potential values. Given this constraint however, it is unlikely based on the data used (which in our opinion is weak due to its non-compliance with DNR requirements and the location of all the comparables outside of the state) that a significantly differing value conclusion would be derived by any appraiser.

SUMMARY OF REVIEW CONCLUSIONS FOR THE SNA (SMALLER PARCEL) 4,435 ACRE APPRAISAL

1. The appraiser is largely non-compliant with DNR's appraisal standards, particularly in relation to the comparables, the definition of market value and the limited predetermined highest and best use analysis.

2. The appraisal, due to its restricted highest and best use and its reliance on non-localized data, may not have resulted in a conclusion of fair market value.

3. The conclusion of value, is weakly supported and appears largely predetermined by the highest and best use by default analysis.

I hope that these reviews assist you in our evaluation of the two appraisals which were the subject of this review.

Very truly yours,

Alfred J. Ferrara, SRPA, MAI
Appraiser and Consultant

Ronald J. Olsen
Appraiser and Consultant

AJF/RJO/kaa

File #33706

CERTIFICATION

The undersigned does hereby certify that, except as otherwise noted in this review:

1. The statements of fact contained in this review are true and correct.

2. The reported analyses, opinions and conclusions are limited only by the reported assumptions and limiting conditions, and are my personal, professional analyses, opinions and conclusions.

3. I have no present or prospective interest in the property that is the subject of this review, and I have no personal interest or bias with respect to the parties involved.

4. My compensation is not contingent on an action or even resulting from the analyses, opinions or conclusions in, or the use of, this review.

5. My analyses, opinions and conclusions are developed, and this review has been prepared, in conformity with the requirements of the Code of Professional Ethics and the Standards of Professional Practice of the American Institute of Real Estate Appraisers and the Society of Real Estate Appraisers.

6. The use of this review is subject to the requirements of the American Institute of Real Estate Appraisers and Society of Real Estate Appraisers relating to review by its duly authorized representatives.

7. Alfred J. Ferrara is currently certified under the voluntary continuing education program of the Society of Real Estate Appraisers, and the American Institute of Real Estate Appraisers.

8. Neither Ronald J. Olsen nor Alfred J. Ferrara have made a personal inspection of the property that is the subject of this review.

9. No one provided significant professional assistance to the persons signing the review.

DATE OF REVIEW: September 4, 1989

ALFRED J. FERRARA, SRPA, MAI
APPRAISER AND CONSULTANT

RONALD J. OLSEN, APPRAISER

(5136) COMPARABLE LAND SALE NO.

LOCATION: May Creek Airstrip within Wrangell National Park

LEGAL DESCRIPTION: Lots 1 and 2, U.S.S. 7205, protracted Sections 10 and 15, T6S, R15E, CRM, Alaska

PRICE: $420,500

ZONING: Unzoned

TERMS: Cash

H & B USE: Spec./Rec.

DATE: 9/27/85

ACCESS: Airstrip

INSTR: QCD

BK/PG: Chitna Recording District

AREA: Lot 1 - 119.99 acres
Lot 2 - 40.00 acres

GRANTOR: Francine Gagnon

GRANTEE: U.S. Park Service

DATE SOURCE: BIA Appraisal, Documents and Doug Trosper, BIA

DATE/BY: 11-87/RJO

PROPERTY DETAILS: This is the negotiated sale of two inholding parcels within a National Park. No condemnation proceedings were invoked and the Park Service did not have specific condemnation authority in this instance. The sites are 119.99 and 40.00 acres, held jointly by the grantor as a native allotment. The larger of the two parcels is located at the north end of the May Creek Airstrip and is irregularly-shaped due to an airstrip easement. It extends about 3/4 of a mile on an east-west axis, and about 1/2 mile north and south. Lot 2 is 1/4 mile square and is located about 1/8 of a mile north of the northeast corner of Lot 1. Access is via air year-round, or by snowmachine from McCarthy. The May Creek/Dan Creek "cat trail" road connects both parcels. It is unimproved and unmaintained. The terrain is generally level, with slight undulations. The soils range from well drained to peat covered. The best drained soils have White Spruce, and Black Spruce cover the wetter soils. Approximately 50% of the sites are considered well drained. May Creek crosses a corner of the larger parcel. There are no utilities available. It is developed with a 576 square foot and an 891 square foot log cabin. There is an attached bunkhouse of 423 square feet built in 1970. The total living area of the two buildings is 1,890 square feet. The main cabin interior has five rooms and it is in good condition. It has an on-site generator, a wood stove, a wood cookstove and a 500 gallon tank. There is also a 128 square foot storage building, a 247 square foot shop and miscellaneous outbuildings. The grantors had held the property since 1965 and had intended to develop the site as recreational lots. The Park Service had offered to purchase the property on several occasions since 1982.

Comp #5136

ANALYSIS: The Bureau of Indian Affairs, which performed an appraisal on this property on behalf of the grantors, developed a cost approach which allocated a higher estimation than $229,500 to the two cabins, addition and various outbuildings in 1985. A fee appraiser hired by the Park Service developed the cost approach figures for cabins and outbuildings shown below. This was the basis of the negotiated purchase price.

$ 420,500	Sales Price
$-229,500	Allocation for Improvements
$ 191,000	Land Value

Though separated by 1/8 of a mile, the two sites were sold as a single parcel and no distinction was made by either the grantors or grantees for size adjustments to the price for the land.

$191,000 (land) divided by 159.99 acres (Lots 1 and 2) = $1,194/acre

DEFINITION OF MARKET VALUE

Market value is defined as follows:

> "The most probable price, as of a specified date, in cash, or in terms equivalent to cash, or in other precisely revealed terms, for which the specified property rights should sell after reasonable exposure in a competitive market under all conditions requisite to a fair sale, with the buyer and seller each acting prudently, knowledgeably and for self-interest, and assuming that neither is under undue duress." /1

Fundamental assumptions and conditions presumed in this definition are:

1. Buyer and seller are motivated by self-interest.
2. Both parties are well informed and are acting prudently.
3. The property is exposed for a reasonable time on the open market.
4. Payment is made in cash or its equivalent, or in specified financing terms.
5. Specified financing, if any, may be the financing actually in place or on terms generally available for the property type in its locale on the effective appraisal date.
6. The effect, if any, on the amount of market value of atypical financing, services or fees shall be clearly and precisely revealed in the appraisal report.

The date of value to which this estimate of market value applies is October 4, 1989. The value estimate is in terms of cash.

1/ American Institute of Real Estate Appraisers, The Appraisal of Real Estate, 9th Edition, 1987, Page 19.

MUNDY-DAY-BUNN

(not a partnership)

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September 14, 1989

Mr. Fred Elvsaas
Seldovia Native Association
Drawer L
Seldovia, AK 99663

RE: Kachemak Bay State Park Inholdings

Dear Mr. Elvsaas:

Transmitted with this letter is our valuation of 19,367 acres of Seldovia Native Association's holdings located within the boundaries of Kachemak Bay State Park. These holdings are currently being proposed for exchange with the State Department of Natural Resources.

This valuation has been made in conformance with standards established by the American Institute of Real Estate Appraisers, a professional appraisal organization of which I am a member (MAI #5439), certified through September 1992.

In performing this appraisal we have considered alternative uses for the property and have determined the most probable use to be natural land for preservation and management of its significant scenic, wilderness, recreational and wildlife resources. The valuation is based on the selling price per acre of similar types of properties acquired for similar purposes throughout Alaska and the United States. The approach we have taken in examining other transactions in which the public use value of undeveloped lands has been directly or indirectly considered ins multifold. In each case, a market supported value range for lands having significant scenic, wilderness, recreation and/or wildlife resources has been determined.

The evidence we have analyzed suggests the most probable market value for the subject properties is $1,300 per acre. Thus; our opinion of the total value of the 19,367 acres being offered for exchange is $25,175,000.

It has been a pleasure working with you on this most interesting and challenging project. If you have any questions regarding this analysis, please feel free to call upon us.

Sincerely,

MUNDY-DAY-BUNN

Bill Mundy

Bill Mundy, Ph.D., CRE, MAI

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ASSUMPTIONS AND LIMITING CONDITIONS

That the analyst is not responsible for the accuracy of opinions furnished by others and contained in this report. Nor is he responsible for the reliability of government data utilized herein.

That compensation for research services is dependent only upon delivery of this report, and is not contingent upon estimates provided.

That this report considers nothing of legal character, and the analyst assumes no responsibility for matters of legal nature.

That no research has been done to determine the absence and presence of hazardous and toxic materials on the subject property. Research shows that contamination can have a significant effect on property value. Because an engineering analysis and value impact analysis regarding contamination is outside the scope of this assignment we render no value opinion on this issue.

That testimony or attendance in court is not required by reason of this analysis unless arrangements are previously made.

That information furnished by property owner, agent and management is correct as received.

That no part of this study may be used as a part of or referred to in a public or private stock offering.

This report is based on information which the author believes to be reliable. However, the information used reflects the author's personal opinion of market conditions and other factors which influence employment, population, commercial and residential real property markets and value. The use of such information is at the user's own risk.

INTRODUCTION

The subject property is located within the boundaries of Kachemak Bay State Park. Kachemak Bay State Park and the adjoining Kachemak Bay State Wilderness Park are located at the southwestern end of the Kenai Peninsula between Cook Inlet and the Gulf of Alaska. The two parks, encompassing approximately 256,240 acres, were established by the Alaska State Legislature in 1970 for "the protection of the unique wildlife, recreational and scenic resources contained in those lands and waters."

As a means to protect the two parks respective values, the parks were established and managed under separate definitions of a "scenic park" and a "wilderness park." The legislation defines these respective units as follows:

> Scenic park defined: Relatively spacious areas of outstanding natural significance, where major values are in their natural geologic, faunal or floral characteristics, the purpose of which is directed primarily toward the preservation of its outstanding natural features and where development is minimal and only for the purpose of making the areas available for public enjoyment in a manner consistent with the preservation of natural values such as camping, picnicing, sightseeing, nature study, hiking, riding and related activities which include no major modification of the land, forests, or water development that are primarily of urban character. (AS 41.21 990)
>
> Wilderness park defined: An area whose predominant character is the result of the interplay of natural processes, large enough and so situated as to be unaffected, except in minor ways, by what takes place in the non-wilderness around it, a physical condition which activates the innermost emotions of the observer and where development of manmade objects will be strictly limited and depend entirely on good taste and judgment so that the wilderness values are not lost. (AS 41.21 990)

Containing approximately 175,000 acres and including about 79 miles of coastline, Kachemak Bay State Wilderness Park is the only unit in the Alaska State Park system that was legislatively designated as wilderness. Additionally, the tidelands and submerged lands of Kachemak Bay were designated as a state critical habitat area in 1974. Critical habitat areas are areas recognized as being complete biotic systems or well-defined areas necessary for wildlife nesting or spawning and are managed by the Alaska Department of Fish & Game.

Additionally, over 50 offshore islands, islets and rocks associated with the Kenai Peninsula and Cook Inlet region are within the boundaries of the Alaska Maritime National Wildlife Refuge (Maritime Refuge). Many of these closely abut the park and wilderness area. The Maritime Refuge was established in 1980 concurrently with the Alaska National Interest Lands Conservation Act (ANILCA) from 11 pre-existing refuges plus an additional half million acres of headlands, islands and rocks. The 4.9 million acre refuge stretches discontinuously from southeast Alaska to the Chukchi Sea, and was established to manage habitat vital to marine mammals, fishes and resident and migratory birds.

Proposed Exchange

In 1971, one year after the designation of Kachemak Bay State Park (KBSP), the United States Congress passed the Alaska Native Claims Settlement Act (ANCSA) which entitled Alaska Natives to receive land as settlement of aboriginal land claims. As part of its entitlement, the Seldovia Native Association (SNA) selected roughly 29,400 acres from within the boundaries of the

previously designated state park. These selections included key coastline and public use areas, and accounted for over one-third of the total KBSP area.

A Memorandum of Understanding between the state, SNA, the Kenai Peninsula Borough and Cook Inlet Region, Inc. (owners of subsurface estate) was first executed in May, 1979 as a means to resolve land disputes arising from Native selections in the park area. A primary component of this agreement was the parties' mutual commitment to exchange SNA selection lands within the park for comparably valued state lands elsewhere. The driving purpose for the land exchange was to consolidate state land holdings and create "land ownership patterns which [would] permit more effective administration of the State public domain."

To date, two land exchanges totaling 4,538 acres of SNA lands have been consummated. The details regarding these exchanges are discussed in the Valuation section of this report. Two other exchanges have been attempted, but have failed for various reasons.

In 1987 SNA sold the timber on 12,400 acres of its inholdings to Timber Trading Company (a subsidiary of Koncor Timber Company) with a contract which allowed the company to cut timber for a 12 year period beginning in May, 1987. It was subsequently determined by Timber Trading Company (TTC) that 4,435 of the 12,400 acres have commercial potential. The threat of timber harvesting within the park revived interest in a land exchange and has prompted renewed negotiations between the involved parties.

A Preliminary Exchange Agreement has been negotiated between the State of Alaska, SNA and TTC which contemplates the State of Alaska acquiring SNA's land and TTC's timber in exchange for state lands and timber rights as well as other compensation. The proposed exchange agreement involves a total of 23,802 acres of SNA lands, 19,367 acres of which are owned in fee simple interest and 4,435 acres on which the timber is owned by TTC.

It is our understanding that although the timber and the land are at present separately owned, the State of Alaska intends to consolidate these ownerships and place the land and timber acquired into the Kachemak Bay State Park, where they will be administered for their natural and scenic values.

Despite this intended consolidation, the Preliminary Exchange Agreement dictates that two separate appraisal reports be produced. The first report shall determine the value of the 4,435 acres of commercially viable forest land, valued as cut over land. The standing volume and market value of the TTC timber found on this acreage has previously been determined by a timber appraiser. The appraisal of the 4,435 acres of forest land has also been conducted by Mundy-Day-Bunn and is provided under separate cover. The second report, contained herein, shall determine the fair market value of the remaining 19,367 acres of SNA's inholdings.

Purpose of the Research

The purpose of this appraisal is to establish a market value for the 19,367 acres of non commercially viable timberland owned by Seldovia Native Association and currently being proposed for exchange with the State of Alaska. The intention of this appraisal is to provide a basis for determining an equal value exchange of lands between the two parties.

Definition of Market Value

The American Institute of Real Estate Appraisers defines market value as:

"The most probable price in cash, terms equivalent to cash, or in other precisely revealed terms, for which the appraised property will sell in a competitive market under all conditions requisite to fair

sale, with the buyer and seller each acting prudently, knowledgeably, and for self-interest, and assuming that neither is under undue duress.

Fundamental assumptions and conditions presumed in this definition are:

1. Buyer and seller are motivated by self-interest.
2. Both parties are well-informed, and are acting prudently.
3. The property is exposed for a reasonable time on the open market.
4. Payment is made in cash, or its equivalent, or in specified financing terms.
5. Specified financing, if any, may be the financing actually in place or on terms generally available for the property type in its locale on the effective appraisal date.
6. The effect, if any, on the amount of market value of atypical financing, services, or fees shall be clearly and precisely revealed in the appraisal report."[1]

Many of the legal definitions of market value are based on the following:

The highest price estimated in terms of money which the land would bring if exposed for sale in the open market, with reasonable time allowed in which to find a purchaser, buying with knowledge of all of the uses and purposes to which it was adapted and for which it was capable of being used.[2]

Research Participants & Time Frame

This study was prepared for Seldovia Native Association under the supervision of Bill Mundy, Ph.D., CRE, MAI. Victoria Adams, M.A., Research Analyst, performed the majority of the analysis and wrote the report. Field research and data collection were performed by Victoria Adams and Linda Glover, M.B.A. Both Bill Mundy and Victoria Adams inspected the property that is the subject of this report, and Bill Mundy performed the final report review. Data was collected and analyzed during July and August, 1989; the report was prepared between August 1, 1989 and September 15, 1989.

METHODOLOGY

Approach

A considerable body of evidence exists to demonstrate a significant market in the buying and selling of undeveloped land for the purposes of preserving its natural, scenic, wilderness or wildlife habitat character. One of the distinguishing characteristics of this market is that buyers are not motivated by what the land can maximally support in an economic sense. Rather, the buyer's motivation reflects the commitment of unique or increasingly scarce land resources for an infinite period of time for the total well-being of the public. This concept of public interest land and the valuation methodology which stems from it is described in the following sections.

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[1] American Institute of Real Estate Appraisers, *The Appraisal of Real Estate*, 8th ed. (Chicago: American Institute of Real Estate Appraisers, 1983), 33.

[2] *Sacramento Southern R.R. Co. v. Heilbron* 156 Cal. 408, 104 P. 979 (1909).

Rationale

The concept of valuing property for public purposes has been prominent in the assessment of wilderness land resources since the late 1960's. It is a value which is attributed to lands which are undeveloped, unique in their scenic beauty or wealth and productivity of natural life forms; in addition, either the lands themselves or the life which they produce may be utilized by segments of the public for commercial or recreational purposes. Therefore, the lands do not have the traditional "economic" character. That is not today, nor in the future, would one expect to find these lands supporting income producing activities. When preserved for wildlife, wilderness or scenic purposes there is no prospect of selling the land for a residential or recreational subdivision, harvesting timber, or holding it for some other economic endeavor.

The concept of value for public use is closely related to that of option value. Option value has several related meanings, all of which are relevant in considering the value of scarce natural environments. In one sense, while actual visitors to the site benefit from its being preserved and opened to public access, non-users also benefit in that they have acquired the option to visit the site at a later date, or in the knowledge that their children will have the option to do so.

From the point of view of land and resource planners, it is the gain from having the option to preserve the resource in its present state or develop it later. This is a significant value; since the supply of these resources is limited, additional wilderness lands cannot be produced by man, and once they have been developed they cannot be returned to their natural state.

Finally, from the viewpoint of the seller it is the value, in addition to present economic value, which arises from retaining an option to a good or service for which future demand is uncertain. As natural wilderness areas are becoming increasingly scarce, their value to society is increasing. By selling now, the seller gives up the option to sell in the future and possibly realize a significantly higher price.

Each of the above facets of option value shows a benefit which is gained by preserving natural areas.

Precedents

A number of cases have set a precedent for the consideration of public value or option value in decisions concerning land valuation and land use. One of the most widely known of these is the Hells Canyon case. At issue was whether a hydroelectric power project which would degrade the scenic character of the canyon, as well as its richness as a natural habitat should be constructed. The controversy between developers and conservationists continued for over a decade, due largely to the difficulty inherent in attempting to assign a dollar value to the canyon in its undeveloped state to allow comparison with the estimated value of the proposed dam.

The dilemma was resolved by an analysis presented by John Krutilla in which he observed that it was not necessary to establish a value for the canyon, only to show that its value was greater than that of the dam. Although no measure of value was available for the canyon at that time, there was strong evidence that the rate of growth of its value could be expected to increase over time. Consequently, it was concluded that the initial or present value of the canyon could be very low and yet, due to the projected growth of the value over time, still be worth enough to make the preservation alternative economically superior to the development of the dam. In other words, the value of the option to retain the canyon in its original state in anticipation of its rapidly increasing scarcity and value in the future increased its present value substantially.

After the presentation of the analysis the case was soon resolved, resulting in the rejection of the proposed dam and the preservation of the canyon in its natural state. In this case it was determined

that the option value made the value of the land when preserved as a wilderness resource higher than the value of that same land under the most highly valued development scenario (economic highest and best use).

A second precedent is provided by the Department of Interior's acquisition of some 8,000 acres of seabird cliff habitat within the Pribilof Islands chain in Alaska. The cliffs are known for supporting over 2.5 million birds. The land parcels involved were purchased in 1984 from two Alaskan Native corporations at a total price of $5,120,000. The purchase price was established by an act of Congress, and yields an average unit price of $640 per acre. A subsequent real estate appraisal, made by the U.S. Fish & Wildlife Service, determined the highest and best use of the property to be for marginal homesites and reindeer grazing. This appraisal estimated the value of the lands to average about $83 per acre. The important precedent set in this case is that Congress set a value for the property in the public interest roughly eight times greater than by standard appraisal based on the lands economic highest and best use.

These two cases demonstrate an important point. When these lands are acquired they are taken out of production from an economic sense. To take them out of production will require the acquirer to pay at least the going rate for this particular type of land. And, in actuality, he will probably have to "bid" a higher price—a price greater than the highest price at the land's *economic* highest and best use—to remove them from production.

Report Design

This analysis begins with a general overview of the lands being offered for exchange to include mention of the subject's location, access, existing improvements and zoning. Following this a description of Kachemak Bay State Park's primary fish, wildlife, recreation and archaeological resources will be presented, identifying important habitat areas and providing population estimates and commercial values. Where possible, these resources will be discussed in respect to their presence on the subject lands. These sections provide a background understanding of the nature and quality of the lands being valued.

Based on this description, an analysis of the subject land's highest and best use is presented. This analysis considers all the potential ways to which the property could physically, legally, and profitably be put to use.

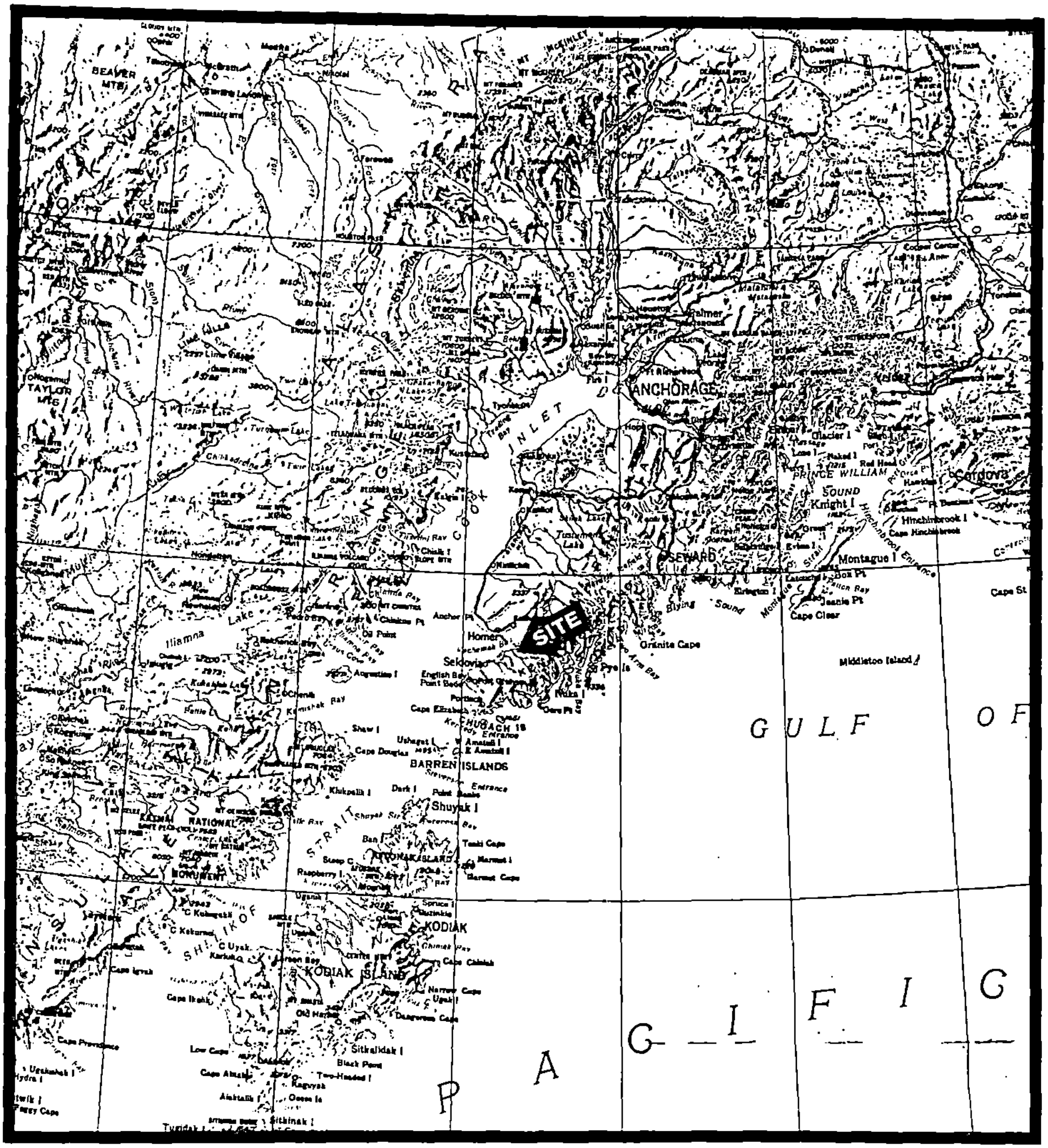
Finally the Valuation section presents an analysis of the fair market value of these lands based on its highest and best use. Several approaches to value are introduced and comparable sales data for each approach are analyzed. The approaches are then evaluated for the relative merit and reconciled to determine a final value conclusion.

DESCRIPTION OF SUBJECT LANDS

Location

The 19,367 acres which are the subject of this report, combined with the 4,435 acres of timberland which are valued separately, encompass nearly the entire southwest portion of Kachemak Bay State Park on the Kenai Peninsula in southcentral Alaska (see Figure 1). The two properties combined form a fairly contiguous parcel which fronts China Poot Bay and Neptune Bay on the north and the eastern shore of Sadie Cove. A noncontiguous parcel is also included along Sadie

Figure 1
Location Map



Cove's western shoreline. The legal description for the lands offered for exchange are contained in Appendix A. It should be noted that no survey has been conducted to delineate the two properties, so that the legal description contained here includes both the 19,367 acres and the 4,435 acres of timberland.

Topography

The topography of the subject lands varies considerably from alluvial plains along China Poot and Neptune Bays to rugged mountainous terrain in the southern portion of the parcel. Two ridges extend through the property southeasterly from the northwest corner, roughly parallel with Sadie Cove. Elevation ranges from sea level to about 4,300 feet. The largest watershed is fed from the Wosnesenski Glacier through the middle section of the parcel into China Poot Bay. Stonehocker and Quiet Creeks are both fed by this drainage. In addition, there are numerous smaller lakes and drainages scattered throughout the property.

The subject lands have extensive waterfrontage with approximately eight miles of shoreline along China Poot and Neptune Bay, and approximately four miles of frontage on Sadie Cove.

Ownership

The subject 19,367 acres are owned by the Seldovia Native Association as part of their entitlement under ANCSA. SNA's holdings represent the largest private ownership within the Park's boundaries. The Kenai Area Division of the Alaska State Parks estimates that there are approximately 100 additional private parcels within the park's boundaries, mostly of five acres or less in size and located along the coast. According to the Kachemak Bay State Park Management Plan (1988), most of these parcels predate the establishment of the park and were acquired through State and Federal Disposal programs. All lands below mean high tide are owned by the State of Alaska.

Figure 2 delineates SNA's holdings within the state park boundaries that are proposed for exchange. These holdings include both the 19,367 acres which are the subject of this report and the 4,435 acres of timberland which have been valued in a separate appraisal report. The figure also delineates parcels granted to the state under previous exchanges and ANCSA land selections relinquished by SNA as part of those previous exchanges. Figure 3 highlights the timbered acreage which is the subject of a separate appraisal. The timbered acreage is discontiguously scattered amidst the subject parcel.

Access & Improvements

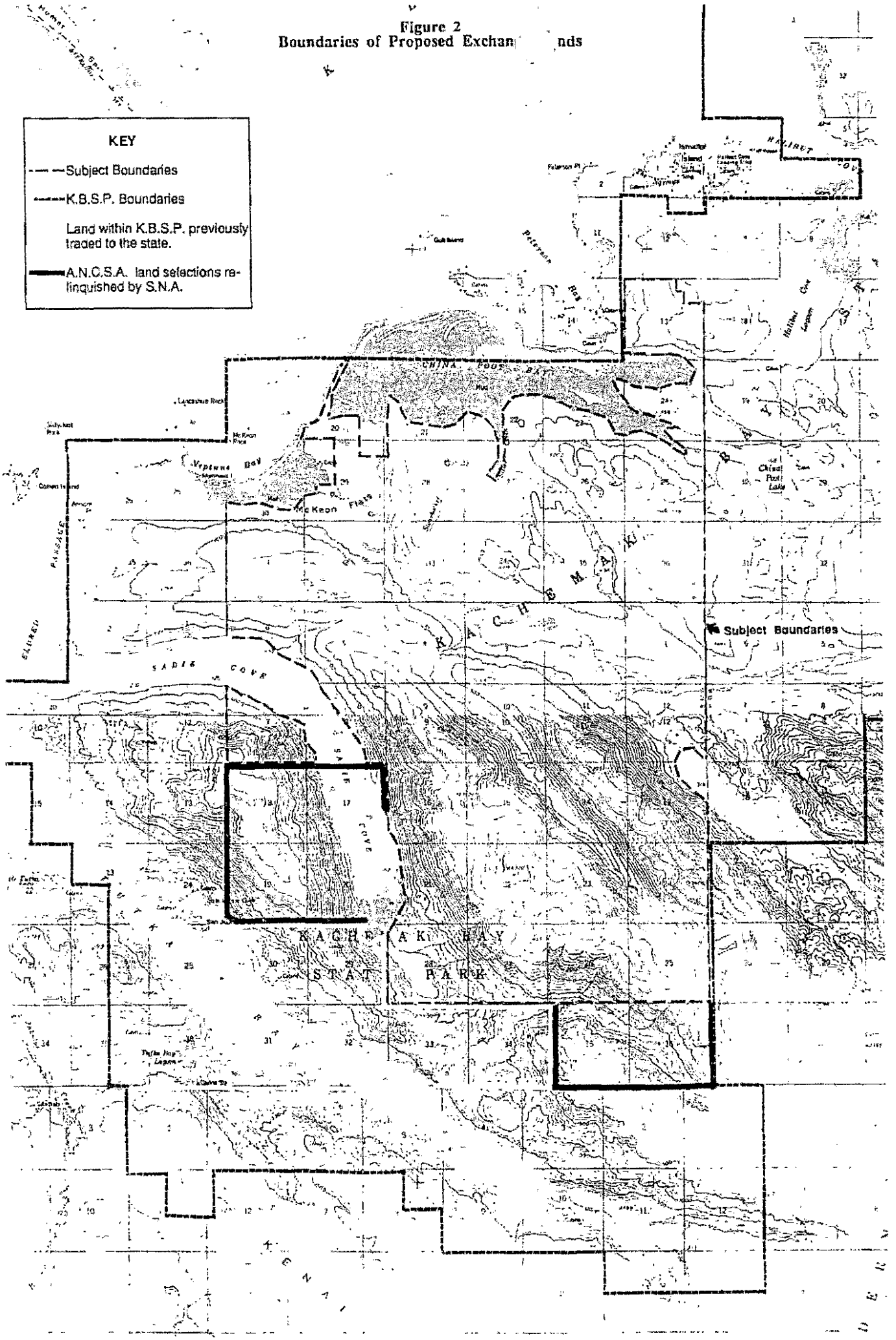
Access to the coastal portions of the subject property is via floatplane or boat. China Poot and Neptune Bays provide relatively safe moorage and landing areas with gently sloping shorelines. Sadie Cove, in contrast, has steeper coastlines with little to no beach areas. Access to the backland portion of the subject is by foot traffic only. There are currently no roads on, through, or adjacent to the subject property. Various hunting and hiking trails have been established over time, but have not been formally maintained.

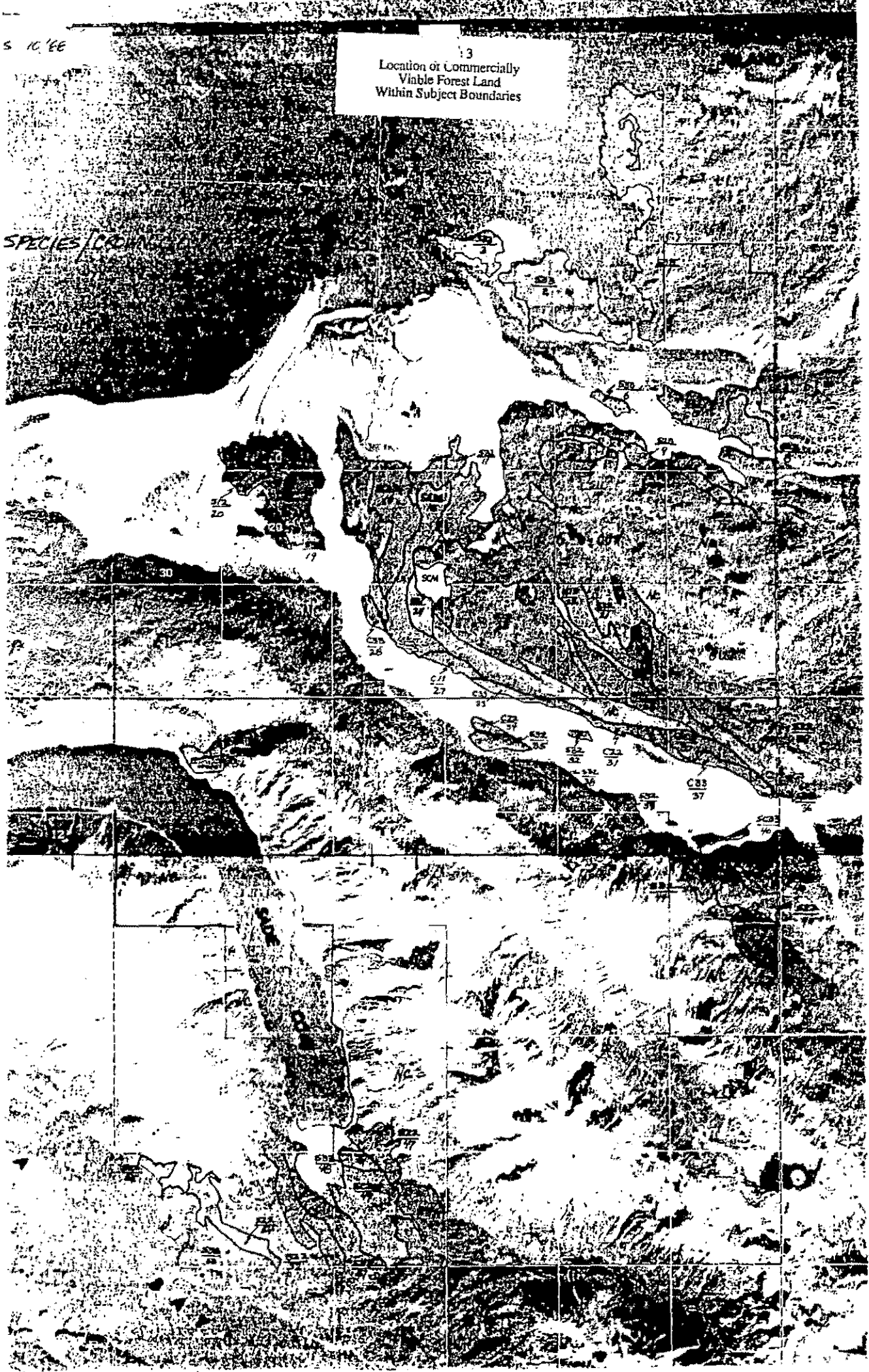
There are no known improvements within the subject boundaries.

Easements & Encumbrances

A Homer Electric Association power line easement crosses the northern quarter of the property. The appraiser is not aware of any restrictive or other easements that would affect the value of the property.

Figure 2
Boundaries of Proposed Exchan nds




3
Location of Commercially
Viable Forest Land
Within Subject Boundaries

Zoning

For the purpose of properly managing the resources within various state park units, all lands and waters within the state park system have been classified into land use zones. The majority of the subject property has been classified as Natural according to the Alaska State Park's scheme. According to the Kachemak Bay State Park Management Plan, the purpose and characteristics of a Natural zone is as follows:

> Natural zones are established to provide for moderate to low impact and dispersed forms of recreation and to act as buffers between recreational development and wilderness zones.
>
> These zones are relatively underdeveloped and undisturbed and are managed to maintain high scenic qualities and to provide visitors with opportunities for significant natural outdoor experiences. An area's natural landscape character is the dominant feature within this zone. Landscape modification may be allowed to enhance, maintain or protect the natural setting according to the unit management plan.

This classification was designed for park management purposes and does not restrict the use of SNA inholdings within the park boundaries.

Other restrictions apply to the tidal grounds of the subject property which, as mentioned, belong to the State. Any uses involving tidelands (running lines, mooring lines, docks, etc.) are subject to State approval and may even require permitting by the Corps of Engineers and Coast Guard.

REGIONAL SETTING

The Kenai Peninsula is sometimes regarded as a "playground" for the populations of Anchorage and southcentral Alaska. The quality and variety of the region's scenic, recreational and wildlife resources attract visitors from all over the state and country, as well as having some international appeal. The vast majority of the Kenai Peninsula is in public ownership and is managed for multiple use, wildlife habitat, and public recreation. Adjacent to the Kachemak Bay State Park and Wilderness Park is the Kenai National Wildlife Refuge and Kenai Fjords National Park. Northeast of these units is the Chugach National Forest.

Major communities in the region include Kenai, Soldotna, Seward and Homer. Of these, Kenai/Soldotna is the largest and serves as the major government, retail and service center. Halibut Cove and Seldovia are smaller communities located in closer proximity to the subject lands.

The primary access point to Kachemak Bay State Park and the subject lands is from the City of Homer, located approximately 3.5 miles across Kachemak Bay from China Poot Bay. Homer was originally settled at the end of the spit in 1898 by the Alaska Gold Mining Company. When gold failed to be discovered, the town first boomed as a coal mining center. The town suffered a serious decline following the end of the coal trade only to later restructure its economy to one emphasizing farming and fishing. The greatest effect on Homer's growth occurred when the Sterling Highway, linking Homer and the rest of the Kenai Peninsula to Anchorage, was completed in the early 1950's. Homer's population grew at a rapid rate of nearly 7% annually during the 1970's and first half of the 1980's, and is expected to continue increasing at an annual rate of 5% or greater through 2000. Currently, the population of Homer is estimated to be over 4,000, with a population of the greater area of 11,000.

Fishing and government spending account for the largest sources of income to the Homer economy, though tourism represents a vital and growing sector. With a well-developed harbor, highway access and airport, Homer is also an important transportation and service center for the south Kenai Peninsula.

According to the Kachemak Bay State Park Management Plan, the City of Homer recognizes that tourism will play an ever increasing important role in the area's economy and that Kachemak Bay State Park is an important factor in the area's tourism industry. Numerous sightseeing tours, fishing boat and air charter services operate from Homer into Kachemak Bay and the subject lands. There is also regular ferry service to Halibut Cove and Seldovia, and tours of Gull Island.

NATURAL RESOURCES OF KACHEMAK BAY STATE PARK & SUBJECT LANDS

Six major ecosystem types are found within Kachemak Bay State Park, providing habitat for a wide variety of wildlife. These include marine, seashore and tidal marsh, forest, subalpine brush, alpine and freshwater. Each of these are found to some degree on the subject lands. The Kachemak Bay State Park Management Plan recognizes that the abundance and diversity of wildlife is one of the greatest assets and attractions to the park. Despite the importance of wildlife to the values of the park, wildlife distributions and populations have not been extensively studied. The following paragraphs describe, based on the limited information available, the wildlife resources found within the boundaries of Kachemak Bay State Park and Wilderness Park. Where possible, these resources will be discussed in respect to their presence on the subject lands.

In addition to wildlife, the park and the subject lands contain significant scenic, archaeological and recreational resources. These, too, are briefly described below. The subject's scenic resources are best illustrated by the photographs which follow this section (Figure 7).

Sources used in the descriptive portion of the report include the Alaska Division of Parks & Outdoor Recreation, Kenai Area Office; Alaska Department of Fish & Game; the Center for Alaska Coastal Studies; the U.S. Fish & Wildlife Service; and Seldovia Native Association. A full list of sources is cited in the Bibliography (Appendix F).

Wildlife Resources

Black Bear

Black bears are known to be relatively abundant and widely distributed on the Kenai Peninsula (Game Management Unit 7 and 15), with an average density of about one black bear per 1.5 square miles of suitable habitat in the Kachemak Bay State Park area.[3] Black bears are generally found in the lowland forest habitats, though they are known to seasonally use subalpine and alpine habitats. Major black bear populations are found where food and cover are plentiful, usually along salmon streams and in semi-open forest areas where fruit-bearing and herbaceous plants and shrubs are abundant. Winter denning usually occurs along hillsides and south facing slopes.

Black bear populations in Kachemak Bay State Park have not been censused; therefore, estimates of the number and composition of bears are not available. Assessments of the population have relied on the observations and experience of Alaska Department of Fish & Game personnel, local hunters and guides, and bear harvest data obtained from the State's mandatory sealing program.

[3] Source: Alaska Department of Fish & Game, personal correspondence, August, 1989.

Table 1 summarizes the black bear sport harvest from Game Management Unit (GMU) 15 between 1980 and 1987. GMU 15 covers an area much larger than the subject lands, encompassing nearly the entire western portion of the Kenai Peninsula (a map of GMU 15 is found in Appendix B). The reported sport harvest in this area in 1987 totalled 113 bears. This represents a 19% decrease over the eight year mean harvest and 21% lower than the previous year's harvest. 1985 shows a peak harvest of 245 bears. The table breaks down the harvest into the coastal zone. Subunit 15C, which encompasses the south side of Kachemak Bay from Bradley River to Gore Point, and into the coastal area between Halibut Cove and Jackolof Bay, which roughly corresponds to the subject lands. Though this area represents only an average of 4.5% of the annual black bear sport harvest for the whole of GMU is it represents a significant one-third share of the southern Kachemak Bay area. The coastal portion of sub-unit 15C is a traditional sport harvest area and has experienced some of the highest harvest increases over the last eight years.

Table 1
Black Bear Harvest, Game Management Unit #15 & 15C
1980-1987

Year	GMU 15 Total	Coastal Zone Subunit 15C	Halibut Cove Jakalof Bay	% of GMU Total	% of Subunit 15C
1980	162	7	4	2.5%	57.1%
1981	100	11	4	4.0%	36.4%
1982	81	11	3	3.7%	27.3%
1983	109	11	4	3.7%	36.4%
1984	155	23	6	3.9%	26.1%
1985	245	39	15	6.1%	38.5%
1986	143	19	8	5.6%	42.1%
1987	113	29	6	5.3%	20.7%
8 Year Total	1,108	150	50		
8 Year Average	139	19	6	4.5%	33.3%

Source: Alaska Department of Fish & Game, Game Division

Brown Bear

Though brown bear are known to occur throughout most of Alaska, the occurrence of brown bear is limited within Kachemak Bay State Park. According to the Division of State Parks, as well as the Alaska Department of Fish & Game, there have been few sightings of grizzly or brown bears and no recorded harvests.

Mountain Goats

Unlike bear, moose, and other mammal species, the Alaska Department of Fish & Game has conducted studies of the mountain goat population in the Kachemak Bay State Park area. The mountain goat inhabits the alpine areas of the park, spending most of the summer months in high alpine meadows and migrating down to at or below tree line during the winter. The most recent aerial surveys conducted in the areas delineated in Figure 4 identify the following numbers of goats in 1982 and 1984.

Figure 4
Mountain Goat Census

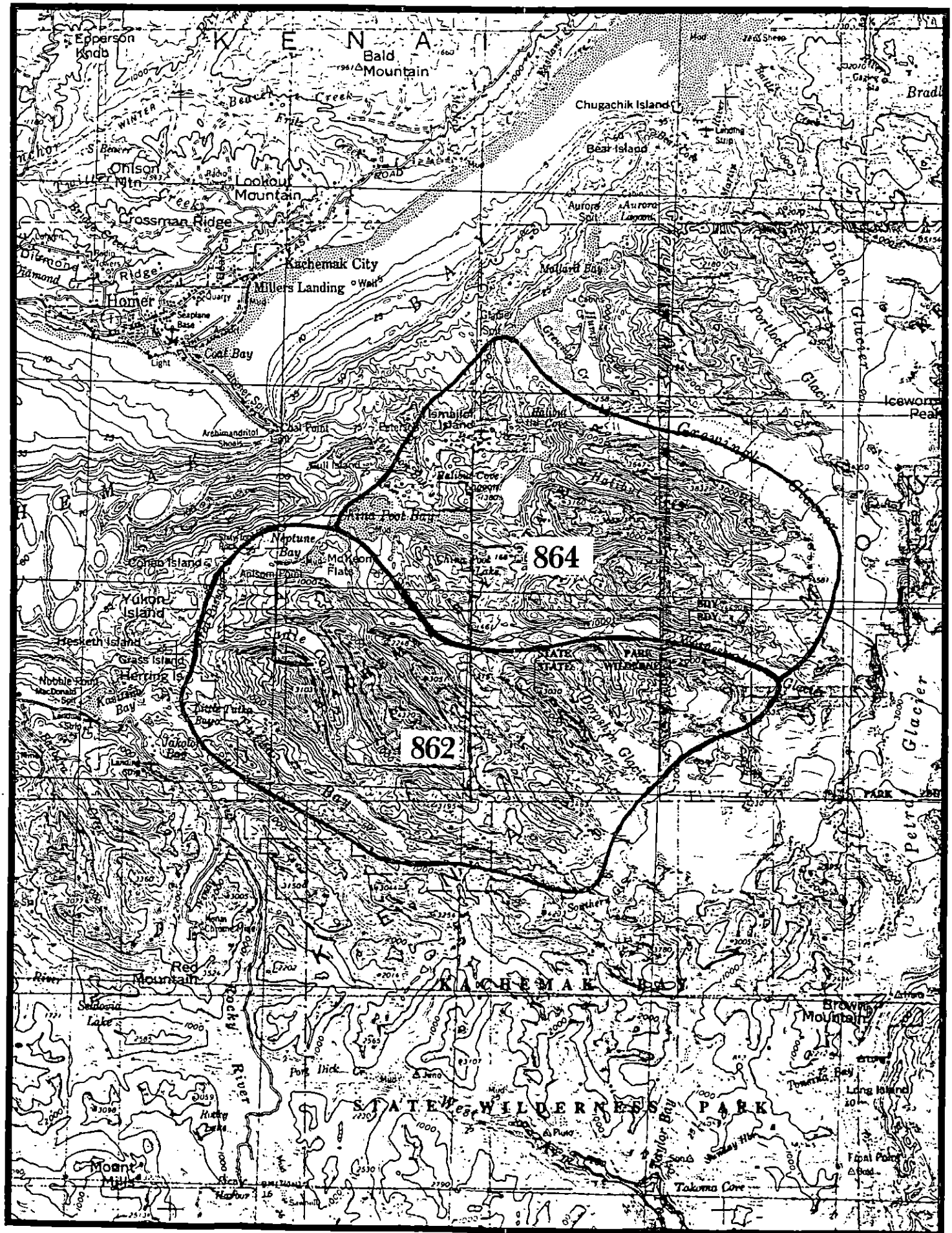


Table 2
Summary of Most Recent Mountain Goat Aerial Surveys
South Shore of Kachemak Bay, Kachemak Bay State Park

Count Area	Year	Adult	Kids	Total
861	1984	97	28	125
862	1982	64	24	88

Source: Alaska Department of Fish & Game

These surveys indicate healthy populations of mountain goats in the park. In respect to the subject lands, mountain goats frequent only the higher elevations of the more southerly boundaries and are not as common as in other alpine regions of the park.

Moose

According to the Alaska Department of Fish and Game, Kachemak Bay State Park and the subject lands provide only marginal habitat for moose. Whereas moose generally prefer younger forests, the subject lands contain mainly mature, coastal forests. Despite these habitat conditions, low densities of moose are known to exist in the Park, covering a broad range in the summer, and collecting in sea level riparian areas in the winter. The only population survey on record was conducted by the Alaska Department of Fish and Game during March, 1988 over McKeon Flats. Six adult moose and no calves were observed. According to Game Biologist Dave Holderman, the survey probably reflects 50% to 60% of the moose population in the drainage, providing an estimated herd size of 10 to 12 moose. According to the same source, McKeon Flats provides the best available habitat in that drainage system, and moose populations are assumed to decrease further south.

Other Land Mammals

Other land mammals that are known to habitat Kachemak Bay State Park and the subject lands include the river otter, mink, wolverine, coyote, red fox, wolf and lynx. Of these, the otter, mink, coyote and red fox are considered common, the wolverine and wolf are considered present but not common and the lynx are considered scarce.[4]

Marine Mammals

Marine mammal species that are known to occur in the Kachemak Bay area include the sea otter; beluga, humpback, mink, fin, gray, killer, and pilot whales; Pacific white-sided dolphin; harbor and Dall's porpoises; and harbor seals. Figure 5 shows the distribution of harbor seal, Stellar sea lion and sea otter habitat in the vicinity of the subject lands as of 1985. The map, redrawn from the Alaska Habitat Management Guide, reveals major seal habitat concentrations in Eldred Passage, China Poot Bay, and Halibut Cove. After near extinction, the sea otter has been making a slow but steady recovery throughout most of its former range in Alaska. Though inner Kachemak Bay is

[4] Alaska Department of Fish & Game; personal communication with Ted Spraker, Regional Game Biologist, July, 1989.

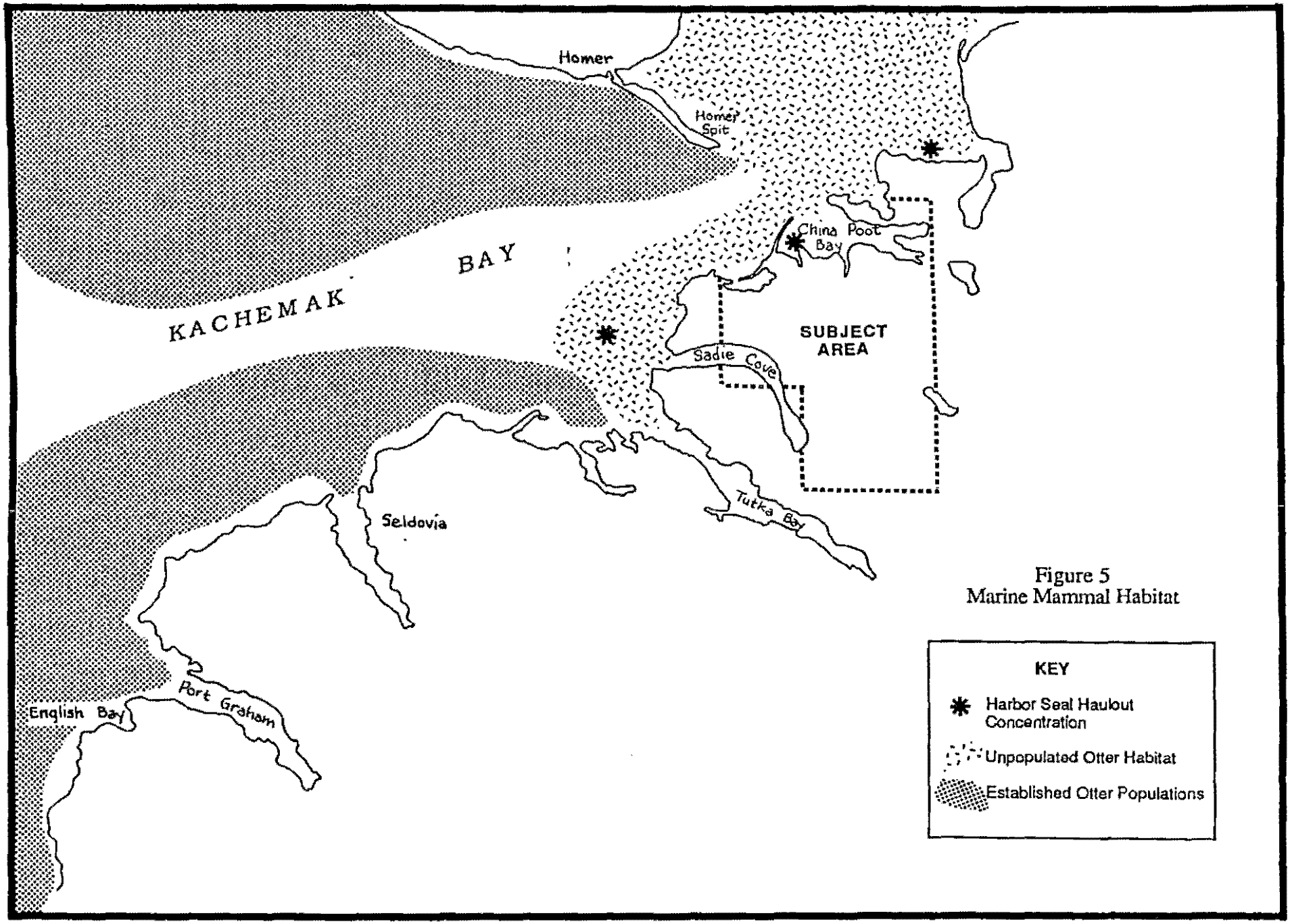


Figure 5
Marine Mammal Habitat

considered "unpopulated sea otter habitat" (habitat suited for but currently without established populations) by the Habitat Guide, otters are frequently seen along the coastal areas of the subject lands. The Alaska Maritime Natural Wildlife Refuge Comprehensive Conservation Plan and Environmental Impact Statement estimates that there are 2,500 to 3,500 sea otters along the Kenai Peninsula and Cook Inlet, including Kachemak Bay. The abundance of and opportunity to see sea lions, sea otters and whales is an increasing attraction of the subject lands. Seasonal charter and tour boats to rookeries and haul out sites are currently one of the most popular uses of the Gulf of Alaska unit of the Maritime Refuge, and local tourist operations from Homer attest to the gaining popularity of photographic and sightseeing expeditions.

Avian Resources

Kachemak Bay provides a wide range of avian habitat to include rocky cliffs, sheltered bays, tidal mudflats, and shallow water areas. The U.S. Fish & Wildlife estimates that about 2.5 million sea birds representing 23 species inhabit the gulf of Alaska unit of the Alaska Maritime NWR. In addition to these, many more species of water fowl, marsh and shore birds, raptors and passerine birds are found in the Kachemak Bay Area. A complete listing of these species, their residency and breeding status, and their relative occurrence during the year is provided in Appendix C. This species list was compiled in May, 1989 by David Erickson of the Alaska Department of Fish & Game and covers the area of Point Pogibski to Anchor River. It contains 225 different bird species of which 114 are indicated as being either common or abundant during at least one season of the year.

Apart from this species compilation and general research conducted by the Alaska Maritime NWR, bird colonies in Kachemak Bay and in the Park have not been extensively studied. A 1978 Catalogue of Alaska Seabird Colonies compiled by the U.S. Fish & Wildlife Service identifies two notable seabird colonies in close proximity to the subject lands: Gull Island and Sixty-foot Rock. At the time of the survey, approximately 7,500 birds were estimated to inhabit Gull Island, consisting mainly of Black legged kittiwakes, common murres and tufted puffins. Sixty-foot Rock was estimated to support roughly 550 birds, primarily common murres.

Bald Eagle

Bald Eagles are common throughout Kachemak Bay State Park and the subject lands. Feeding and nesting habitats occur along the coastline and major estuaries. The eagles prefer to nest in large cottonwood stands, though they are also known to inhabit spruce forests similar to those found on the subject lands.

Figure 6 shows the locations of bald eagle nests in Kachemak Bay as surveyed by the U.S. Fish & Wildlife Service's Division of Raptor Management Studies. It should be noted that these data are five years old and indicate locations of nests and not necessarily distinct territories.[5] Another study conducted by Biosystems Analysis, Inc. as part of the Bradley Lake hydroelectric project impact research indicated that the number of nests observed by the U.S. Fish & Wildlife Service underestimates the number of nests currently established in Kachemak Bay. Though the impact study area did not include the region south of Glacier Spit, based on the extensive surveys conducted in the smaller study area, our source indicated that one could expect more nests than were observed in the 1984 U.S. Fish & Wildlife Service census.[6]

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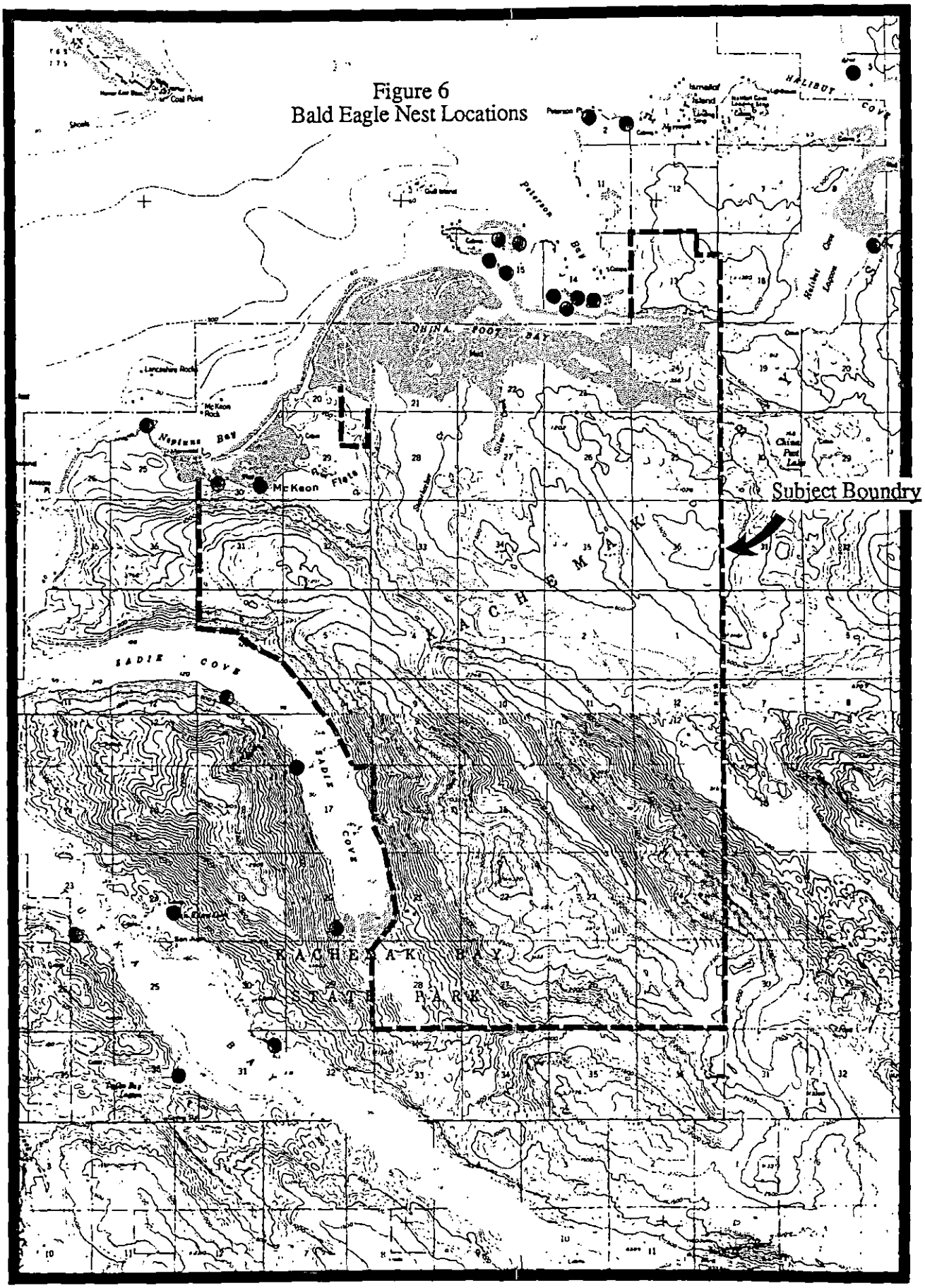
[5] According to Dave Roseneau of Biosystems Analysis, Inc., some nesting pairs may occupy one to four or five nests within close proximity to each other.

[6] Personal communication with Dave Roseneau, Biosystems Analysis, Inc, August, 1989.

Figure 6
Bald Eagle Nest Locations



Despite differences in opinion over the actual number of nests and population it is generally accepted that the bald eagle population inhabiting the area inclusive of the subject land is both considerable and thriving.

The Center for Alaska Coastal Studies has conducted volunteer coastwalks along Kachemak Bay since 1982 as a means to gather baseline ecological data. The center is an educational and scientific non-profit organization whose goals are to increase awareness and knowledge of Kachemak Bay's marine ecosystem. The center was contacted for baseline data on the wildlife species observed along the coastlines corresponding to the subject lands. Information compiled over the last three years confirmed the occurrence of the species described above. Most notable was the sighting of bald eagles and bald eagle nests in the Neptune Bay area, which had the highest number of sightings in the whole coastwalk area, and the number and diversity of marine mammals observed in Sadie Cove.

Commercial & Sports Fisheries

The coastal and inland waters of Kachemak Bay provide habitat for a host of commercial and sport fisheries. Some of these fisheries are among the most productive and valuable in the Southcentral region of Alaska. Though the commercial aspects of the region's fisheries occurring beyond the subject's shoreline boundaries are emphasized in the following discussion, the importance of the inland stream and drainage for rearing and spawning cannot be overstated. The natural preservation of the Park's watersheds are considered vital to the health and continued survival of the salmon and freshwater species in the region. In turn, these fish provide sustenance for the bears, fox, otters, eagles, marine mammals and pelagic birds, and are a major link in the chain of Kachemak Bay State Park's ecosystem. Moreover they provide the livelihood for many of the human inhabitants in the region's communities and thousands more in canneries and packaging and processing industries. Salmon and halibut fishing is a favorite recreational pursuit on Kachemak Bay's coastal and inland waters and provide a significant subsistence resource. Likewise, the freshwater streams and lakes contain excellent recreation opportunity for wilderness fishing for Dolly Varden and rainbow trout.

Shellfish resources are also a vital component of the region's ecosystem. Their seafloor habitats are linked to adjacent land masses and are, therefore, inescapably affected by the uses to which the land is put. The nearshore waters off the subject lands provide important nursery habitat for many shellfish species, and the commercial viability of mariculture development in the Neptune and China Poot Bay is most likely excellent.

Pacific Salmon

All five species of Pacific Salmon are found in and have been harvested from the Cook Inlet Management Area. Table 3 summarizes the region's salmon catch and ex vessel value by species for the 30 year period 1959-1988 as reported by the Alaska Department of Fish & Game.

It can be seen that the pink salmon is the primary species accounting for 77% of the 30 year total harvest and an average annual value over $850,000. In addition to being the most abundant, the pink salmon is the smallest of the Pacific Salmon species, averaging only three to five pounds. The pink salmon spends two years in the ocean, traveling great distances before returning to spawn. Once it returns to fresh water, it usually travels only a short distance before spawning, sometimes even spawning in estuaries. There is a large pink salmon hatchery located in Tutka Bay just south of the subject's boundaries. Operated by the Alaska Department of Fish & Game, the hatchery has produced an average harvest of 435,000 pinks since 1978, with a peak year harvest of 1.03 million fish.

The Chum or dog salmon is the second largest commercial salmon species in the management unit in terms of harvest, accounting for nearly 13% of the unit's 30 year catch or 3.9 million fish. King (chinook), Sockeye (red), and Coho (silver) salmon are less abundant species, with an annual average combined harvest of 102,978 fish. These three species, however, have relatively greater value on the market and combined have averaged 35% of the annual ex vessel value for all commercial salmon. Though the number of Sockeye harvested is smaller than Chum (30 year average of 94,125 as compared to 130,008), its ex vessel value is considerably higher, with a 29 year average value of $585,000 as compared to $366,000.

Table 3
Lower Cook Inlet Salmon Catch by Species, 1959-1988

Year	Chinook	Sockeye	Silver	Pink	Chum	Total	Total Ex Vessel Value
1959	132	21,637	6,352	124,748	110,838	263,707	—
1960	27	24,726	2,692	611,647	116,082	755,174	$453,000
1961	41	22,776	1,619	303,377	55,593	383,406	$215,000
1962	60	25,286	7,727	2,248,341	179,259	2,460,673	$1,209,000
1963	96	15,121	6,736	203,616	138,510	364,079	$201,000
1964	91	20,654	9,460	1,055,417	323,335	1,408,957	$602,000
1965	10	14,002	862	115,598	28,076	158,548	$76,000
1966	62	15,333	5,411	579,240	129,062	729,108	$347,000
1967	176	29,044	2,726	375,488	85,445	492,879	$264,000
1968	64	95,242	4,883	585,441	75,134	760,764	$525,000
1969	64	122,796	623	202,444	61,203	387,130	$403,000
1970	106	20,898	4,696	716,212	242,427	984,339	$530,000
1971	73	22,234	4,561	392,871	148,602	568,341	$438,000
1972	88	57,897	2,234	28,663	75,543	164,425	$305,000
1973	145	29,136	2,101	307,403	115,513	454,298	$682,000
1974	183	27,428	6,514	50,601	19,210	103,936	$495,000
1975	142	28,142	6,211	1,063,338	21,646	1,119,479	$1,663,000
1976	450	58,159	3,216	136,445	50,822	249,092	$731,000
1977	217	101,597	1,798	1,293,932	145,789	1,543,333	$2,959,000
1978	1,747	156,404	6,529	352,561	73,518	590,759	$2,341,000
1979	1,238	64,417	12,393	2,990,929	218,490	3,287,467	$6,317,000
1980	424	69,442	14,505	889,703	73,492	1,047,566	$1,906,000
1981	1,086	110,255	10,776	3,279,183	336,093	3,737,393	$7,507,000
1982	1,066	131,320	46,892	551,589	198,185	929,052	$2,448,000
1983	873	187,645	11,219	927,607	192,319	1,319,663	$1,990,000
1984	713	270,756	17,271	698,276	93,804	1,080,820	$2,413,000
1985	1,043	278,694	10,327	1,229,717	30,638	1,550,419	$2,822,000
1986	796	234,861	18,852	1,408,293	82,688	1,745,490	$3,013,000
1987	1,179	248,848	14,354	201,429	157,018	622,828	$2,989,000
1988	1,694	319,008	7,946	921,296	321,911	1,571,855	$8,247,000
30 year total	14,086	2,823,758	251,486	23,845,405	3,900,245	30,834,980	$54,091,000
30 year average	470	94,125	8,383	794,847	130,008	1,007,773	$1,865,000
% of total	0.05	9.16	0.81	77.33	12.65	100.00	

Source: Alaska Dept. of Fish & Game

All five salmon species are known to inhabit the drainages associated with the subject lands. Pink salmon are common throughout many of the streams while there are notable Coho and Sockeye runs in Stonehocher and China Poot Creeks respectively. The Alaska Department of Fish & Game has been stocking China Poot Lake (Leisure Lake) with sockeye since 1980 and expects an annual production of 100,000 to 150,000 fish by this year.

As Table 3 reveals, the value of the Lower Cook Inlet region's salmon fishing is considerable. Using IBM computer runs provided by the Commercial Fisheries Division of the Alaska Department of Fish & Game, an attempt has been made to estimate the number and value of salmon harvested in waters off of SNA lands. Geographic areas and statistical sub-areas are defined by the Department's Division of Commercial Fisheries for the management unit and roughly correspond to inland drainage systems used for spawning. For the purposes of this study, sub-area 241-15 and half of 241-16 were included in the analysis. The delineation of these areas and other sub-areas in the LCI Management Area are included in Appendix B. Harvest data, by statistical sub-area was obtained from the commercial fisheries division for the 11 year period 1978 through 1988. The sums of each of the five salmon species harvested in the statistical sub-areas adjacent to the subject lands are presented in Table 4. These figures are compared with catch totals for the L.C.I. Management Unit as a whole to derive a relative percentage of the total regional harvest. It should be noted that due to the inability to affirmatively associate a salmon caught in near or offshore waters with a particular spawning stream inland, the harvests and commercial values represent estimates of the subject land's relative share of the salmon fishery.

It can be estimated based on 11 years of harvest, for instance, that nearly 30% of the L.C.I. Management Unit's sockeye salmon harvest is caught in the inlets, bays and coastal zones surrounding S.N.A. lands. Similarly, over 18% of the region's total Pacific salmon harvests may partially be attributed to the spawning drainages located on these lands. Applying this percentage to the ex vessel values of salmon harvests from 1979 to 1988 provides the estimates of the value of the salmon fishery found in Table 5.

Using this methodology, the estimated portion of the ten year total ex vessel value for all salmon species which may roughly be attributed to the subject land is $7.16 million.

Shellfish

The Lower Cook Inlet commercial shellfish industry primarily consists of the king, tanner and Dungeness crap, shrimp and clam. Of this, the three crab fisheries dominate the market. Unlike the Pacific salmon, shellfish species are not anadromous and are therefore only indirectly related to the adjacent land areas. Whereas a connection may reasonably be made between a salmon caught in a given coastal zone and a particular inland spawning habitat, no such connection can be made with crab or shrimp harvests. Because access to the Lower Cook Inlet's shellfish fisheries is not restricted by localized points of origin, e.g., China Poot Bay or Halibut Cove, attributing any value of shellfish harvests to adjacent land areas is, therefore, tenuous. Despite this indirect relationship, the near and off-shore shellfish habitats constitute a vital part of the subject land's ecosystem and a brief discussion of their commercial importance has been included here.

Table 6 summarizes the catch (in pounds) and value of the three crab fisheries for the southern district of the Lower Cook Inlet Management Unit between 1978 and 1988, as compared to the Management Unit's total. The southern district covers a much larger area than can be reasonably attributed to the subject's shoreline, covering the area from Anchor Point to the north to Cape Elizabeth to the south (see Appendix B). Harvest data for these geographical levels, however, was not available for analysis. Rather than trying to attribute commercial values to the subject lands,

Table 4
Salmon Catch by Statistical Area & Lower Cook Inlet Totals
1978 - 1988
(harvest in pounds)

1988	Sockeye	Pink	Chum	Chinook	Coho	Total
241-15	417,777	325,791	1,114	20,272	859	765,813
241-16	35,111	1,080,287	19,980	2,126	4,851	1,142,354
Subtotal	452,888	1,406,078	21,094	22,398	5,710	1,908,167
Region Total	1,524,715	2,795,729	3,033,596	25,901	70,825	7,450,766
% of Region	29.70%	50.29%	0.70%	86.47%	8.06%	25.61%

1987	Sockeye	Pink	Chum	Chinook	Coho	Total
241-15	364,140	102,470	451	10,191	915	478,167
241-16	44,901	97,710	14,046	5,300	1,920	163,876
Subtotal	409,041	200,180	14,497	15,491	2,835	642,043
Region Total	1,215,959	703,220	1,300,537	21,286	117,910	3,358,912
% of Region	33.64%	28.47%	1.11%	72.77%	2.40%	19.11%

1986	Sockeye	Pink	Chum	Chinook	Coho	Total
241-15	74,931	52,540	870	7,603	1,100	137,044
241-16	43,819	603,272	14,616	3,709	3,939	669,354
Subtotal	118,750	655,812	15,486	11,312	5,039	806,398
Region Total	1,012,725	4,810,575	667,351	16,413	162,041	6,669,105
% of Region	11.73%	13.63%	2.32%	68.92%	3.11%	12.09%

1985	Sockeye	Pink	Chum	Chinook	Coho	Total
241-15	285,399	18,970	199	8,340	2,666	315,574
241-16	40,115	779,965	11,815	8,192	5,487	845,574
Subtotal	325,514	798,935	12,014	16,532	8,153	1,161,148
Region Total	1,319,072	4,303,053	252,206	29,189	103,359	6,006,879
% of Region	24.68%	18.57%	4.76%	56.64%	7.89%	19.33%

1984	Sockeye	Pink	Chum	Chinook	Coho	Total
241-15	488,283	39,881	535	5,171	642	534,512
241-16	73,224	415,008	13,790	6,268	3,265	511,553
Subtotal	561,507	454,889	14,325	11,439	3,907	1,046,065
Region Total	1,259,594	2,460,438	823,366	20,524	147,816	4,711,738
% of Region	44.58%	18.49%	1.74%	55.73%	2.64%	22.20%

1983	Sockeye	Pink	Chum	Chinook	Coho	Total
241-15	350,702	58,455	2,388	8,504	689	420,738
241-16	96,198	890,124	38,529	4,832	5,287	1,034,969
Subtotal	446,900	948,579	40,917	13,336	5,976	1,455,707
Region Total	943,392	2,807,075	1,763,344	19,945	81,171	614,927
% of Region	47.37%	33.79%	2.32%	66.86%	7.36%	236.73%

Table 4 Continued

1982	Sockeye	Pink	Chum	Chinook	Coho	Total
241-15	7,642	3,594	53	9,954	126	21,369
241-16	47,702	277,604	32,654	4,477	6,413	368,849
Subtotal	55,344	281,198	32,707	14,431	6,539	390,218
Region Total	790,950	1,786,921	22,331	421,877	4,811,798	614,927
% of Region	7.00%	15.74%	146.46%	3.42%	0.14%	63.46%

1981	Sockeye	Pink	Chum	Chinook	Coho	Total
241-15	54,350	39,355	16	827	223	94,771
241-16	126,315	1,751,685	30,701	1,345	8,835	1,918,880
Subtotal	180,665	1,791,040	30,717	2,172	9,058	2,013,651
Region Total	668,705	12,223,887	2,748,007	7,898	91,464	15,739,961
% of Region	27.02%	14.65%	1.12%	27.49%	9.90%	12.79%

1980	Sockeye	Pink	Chum	Chinook	Coho	Total
241-15	52,484	15,453	75	484	873	69,369
241-16	38,157	469,281	6,305	3,254	8,851	525,847
Subtotal	90,641	484,734	6,380	3,738	9,724	595,216
Region Total	383,651	2,845,385	567,772	9,089	109,237	3,915,134
% of Region	23.63%	17.04%	1.12%	41.13%	8.90%	15.20%

1979	Sockeye	Pink	Chum	Chinook	Coho	Total
241-15	33,231	95,653	195	2,861	5,956	137,896
241-16	50,101	691,762	10,034	6,429	7,127	765,452
Subtotal	83,332	787,415	10,229	9,290	13,083	903,348
Region Total	410,700	10,341,274	1,812,216	23,240	105,943	12,693,373
% of Region	20.29%	7.61%	0.56%	39.97%	12.35%	7.12%

1978	Sockeye	Pink	Chum	Chinook	Coho	Total
241-15	96,778	94,906	115	3,703	4,009	199,511
241-16	359,482	291,461	9,539	11,638	2,207	674,325
Subtotal	456,260	386,367	9,654	15,341	6,216	873,836
Region Total	1,166,495	1,247,469	627,228	57,387	54,216	3,152,795
% of Region	39.11%	30.97%	1.54%	26.73%	11.46%	27.72%

11 year av.	Sockeye	Pink	Chum	Chinook	Coho	Total
241-15	202,338	77,006	546	7,083	1,642	288,615
241-16	86,829	668,014	18,364	5,233	5,289	783,730
Subtotal	289,167	745,020	18,911	12,316	6,931	1,072,345
Region Total	972,360	4,211,366	1,237,996	59,341	532,344	5,902,592
% of Region	29.74%	17.69%	1.53%	20.75%	1.30%	18.17%

Source: Alaska Department of Fish & Game, Commercial Fisheries Division, Summary Program
Mundy-Day-Bunn Associates

Table 5
Estimated Salmon Harvest & Value by Species
Attributed to Subject Property
1979 - 1988 Averages

	KING		SOCKEYE		COHO		PINK		CHUM		TOTAL	
	L.C.I. Total	20.75%	L.C.I. Total	29.74%	L.C.I. Total	1.30%	L.C.I. Total	17.69%	L.C.I. Total	1.53%	L.C.I. Total	
1979	$36,000	$7,470	$621,000	$184,685	$68,000	$884	$4,495,000	$795,166	$1,097,000	$16,784	$6,317,000	$1,004,989
1980	$12,000	$2,490	$336,000	$99,926	$64,000	$832	$1,196,000	$211,572	$298,000	$4,559	$1,906,000	$319,380
1981	$18,000	$3,735	$740,000	$220,076	$69,000	$897	$5,334,000	$943,585	$1,346,000	$20,594	$7,507,000	$1,188,886
1982	$28,000	$5,810	$827,000	$245,950	$367,000	$4,771	$406,000	$71,821	$820,000	$12,546	$2,448,000	$340,898
1983	$20,000	$4,150	$704,000	$209,370	$57,000	$741	$696,000	$123,122	$513,000	$7,849	$1,990,000	$345,232
1984	$23,000	$4,773	$1,393,000	$414,278	$120,000	$1,560	$635,000	$112,332	$242,000	$3,703	$2,413,000	$536,645
1985	$47,000	$9,753	$1,637,000	$486,844	$86,000	$1,118	$974,000	$172,301	$78,000	$1,193	$2,822,000	$671,208
1986	$21,000	$4,358	$1,414,000	$420,524	$132,000	$1,716	$1,245,000	$220,241	$201,000	$3,075	$3,013,000	$649,913
1987	$27,000	$5,603	$1,951,000	$580,227	$118,000	$1,534	$295,000	$52,186	$598,000	$9,149	$2,989,000	$648,699
1988	$32,000	$6,640	$3,583,000	$1,065,584	$127,000	$1,651	$1,957,000	$346,193	$2,548,000	$38,984	$8,247,000	$1,459,053
10 Year Total	$264,000	$54,780	$13,206,000	$3,927,464	$1,208,000	$15,704	$17,233,000	$3,048,518	$7,741,000	$118,437	$39,652,000	$7,164,903
10 Year Aver.	$26,400	$5,478	$1,320,600	$392,746	$120,800	$1,570	$1,723,300	$304,852	$774,100	$11,844	$3,965,200	$716,490

Source: Alaska Department Fish & Game, Commercial Fisheries Division, Lower Cook Inlet
Mundy Day Bunn Associates

Table 6
Crab Fishery Catch & Ex-Vessel Value
Southern District, Cook Inlet Management Area
1978 - 1988

	KING			DUNGENESS			TANNER		
Season	Catch (#)	Value *	% of total mgmt. area	Catch (#)	Value *	% of total mgmt. area	Catch (#)	Value *	% of total mgmt. area
1978	584,090	$671,704	34.67%	1,212,571	$594,160	99.74%	2,806,568	$1,192,791	52.11%
1979	664,388	$903,568	57.95%	2,130,963	$1,385,126	100.00%	2,323,420	$1,161,710	40.54%
1980	853,584	$746,886	63.33%	1,875,281	$1,218,933	100.00%	1,134,940	$595,844	22.39%
1981	508,670	$503,583	23.63%	1,850,977	$832,940	100.00%	1,047,630	$733,341	32.06%
1982	183,899	$308,950	11.79%	818,380	$572,866	99.94%	548,529	$652,750	23.25%
1983	closed	---	---	746,585	$821,244	99.89%	584,908	$818,871	19.75%
1984	closed	---	---	799,638	$1,079,511	99.93%	996,763	$1,156,245	35.42%
1985	closed	---	---	1,389,891	$1,667,869	99.11%	1,229,298	$1,684,138	40.65%
1986	closed	---	---	550,968	$539,949	97.71%	1,164,261	$1,816,247	44.27%
1987	closed	---	---	761,423	$951,779	97.22%	1,077,379	$2,531,841	44.02%
1988	closed	---	---	677,334	$677,334	94.17%	944,763	$2,210,745	61.38%
average:	558,926		38.27%	1,164,910		98.88%	1,259,860		37.80%

* Values are approximate based on average price per pound paid to fishermen.

Source: Alaska Department of Fish & Game, Shellfish Division, Southern Cook Inlet Region.
Mundy Day Bunn Associates

then, the table has been presented here to reveal the relative importance of the southern district, of which the subject is an integral part, to the Lower Cook Inlet Management Unit as a whole. This importance is most evident in respect to the Dungeness crab: the southern district dominates the Management Unit's Dungeness crab fishery by providing an average of nearly 99% of that fishery's total harvest. The southern district accounts for over one-third of the king and tanner harvests as well.

In respect to the subject lands, Sadie Cove provides productive habitat for both Dungeness and tanner crab. Like other areas in Alaska, the King crab season has been closed in the Lower Cook Inlet unit since the early part of the decade.

Shrimp

Table 7 summarizes the effort, harvest and approximate value of the Lower Cook Inlet shrimp fishery since the 1977-78 season. Similar to the crab fishery, harvest data was not available at a small enough geographic area to make meaningful associations to the subject land's boundaries. Though not as commercially important as either crab or salmon, combined trawl and pot shrimp harvests have generated an average ex vessel value of nearly $1 million per year over the last 12 seasons.

Other Commercial Fish Species

Other fish species that inhabit Kachemak Bay include Pacific Cod, Sablefish, rockfish, flatfish, halibut, herring, mussels and several species of clams. Though these species have commercial value to Alaska and the Lower Cook Inlet Region, their relative importance to the subject lands is most probably minimal. No determination of their commercial value has been attempted here, though their recreational value is noted below.

Sports Fisheries

The most popular sports fisheries in the Kenai Peninsula area consist of king, coho and sockeye salmon, Dolly Varden arctic char, steelhead, halibut and assorted shellfish. In respect to the saltwater fisheries, the popularity of halibut, in particular, has grown significantly over the last decade or so.

The number of sports fishermen in the Kenai Peninsula area increased nearly three-fold between 1984 and 1987 according to estimates derived from Alaska Department of Fish & Game annual postal surveys of sports anglers using Alaskan waters. Table 8 summarizes the annual reports from 1984 to 1981, breaking the sports fishing industry into four subcategories: freshwater dip net, saltwater boat, saltwater shoreline, and shellfish.

Saltwater shoreline fishing has experienced the most dramatic rise in popularity, with well over a 1000% increase in the number of anglers and nearly 450% increase in the number of fishing days. Freshwater dip net fishermen also increased a remarkable 440% over four years, with the number of angler days increasing by 350%. Only the recreational harvest of shellfish showed a slight decline (17%) in the number of fishing days, though it too showed an increase in the number of fishermen.

Kachemak Bay represents a vital share in the region's sports fishery. Though only 7% of the personal use dip net fishermen used the Kachemak Bay area in 1987, 71%, 51%, and 74% of the saltwater boat, saltwater shoreline, and shellfish anglers, respectively, fished in this area. According to the Homer District of the Alaska Department of Fish & Game, the freshwater streams

Table 7
Shrimp Harvest & Value
Kachemak Bay Region, Cook Inlet Management Area
1978-1989

	TRAWL SHRIMP			POT SHRIMP		
Season	Number of Vessels	Catch (pounds)	Approx. Value*	Number of Vessels	Catch (pounds)	Approx. Value*
1977-78	7	5,037,946	$680,123	51	597,449	$358,469
1978-79	6	6,012,799	$992,112	41	170,314	$119,220
1979-80	7	5,797,427	$1,304,421	49	237,890	$190,312
1980-81	15	6,177,129	$1,822,253	30	313,359	$282,023
1981-82	23	4,995,499	$1,348,785	45	153,836	$138,452
1982-83	15	3,020,767	$845,815	40	155,622	$166,516
1983-84	10	525,508	$189,183	15	21,438	$26,798
1984-85	10	1,566,686	$364,000	22	76,105	unknown
1985-86	5	1,249,728	$187,500	25	72,097	$117,500
1986-87	3	504,206	$78,500	37	75,289	$100,000
1987-88	0	closed	closed	30	31,632	$48,000
1988-89	0	closed	closed	9	5,323	$9,750
average:	10	3,488,770	$781,269	33	159,196	$141,549

* Values are approximate based on average price per pound paid to fishermen.

Source: Alaska Department of Fish & Game, Shellfish Division,Southern Cook Inlet Region
Mundy Day Bunn Associates

Table 8
Kenai Peninsula Sports Fishery
1984 - 1987

	1984		1985		1986		1987		% Change 1984-1987	
	Anglers	Days Fished	Anglers	Days Fished	Anglers	Days Fished	Anglers	Days Fished	Anglers	Days Fished
Freshwater: *										
China Poot	703	1,271	398	468	993	1,927	1,016	1,016		
Kenai River							10,065	22,547		
Kasilof River	2,158	5,956	6,024	9,260	9,140	13,929	6,679	8,910		
Other			583	919						
Total: **	2,860	7,227	7,005	10,647	10,016	15,856	15,513	32,473	442%	349%
Saltwater Boat:										
Kachemak Bay	21,849	63,390	45,102	56,771	40,091	62,307	61,098	88,063		
Anchor River			2,040	4,335	6,278	10,734	8,372	18,816		
Deep Creek	10,523	45,154	20,956	47,928	19,535	46,344	17,606	49,948		
Resurrection Bay	10,992	44,669	24,931	47,472	17,169	38,103	18,714	30,787		
Whiskey Gulch					2,832	6,651	3,847	10,105		
Other	3,114	14,557	2,358	4,541	3,153	7,972	4,834	6,431		
Total: **	40,131	167,770	85,034	161,047	70,284	172,111	85,969	204,150	114%	22%
Saltwater Shoreline:										
Kachemak Bay					4,759	7,461	7,818	11,367		
Resurrestion Bay					7,855	13,272	7,387	11,356		
Other	1,105	4,534			554	1,749	1,540	2,088		
Total: **	1,105	4,534	7,157	13,055	12,468	22,482	15,390	24,811	1293%	447%
Shellfish:										
Resurrection Bay	569	1,221			2,044	2,044				
Kachemak Bay	4,818	23,288	(no data)		10,861	21,668	9,942	19,028		
Kasilof-Anchor Pt.	12,647	29,880			32,149	32,507	22,870	25,427		
Other	734	2,040			204	1,066	1,938	2,443		
Total: **	17,490	56,429			42,632	57,285	30,965	46,898	77%	-17%
Grand Total:	61,586	235,960	99,196	184,749	135,400	267,734	147,837	308,332	140%	31%

* Personal use dipnet freshwater only
** Angler totals may not equal sum of sites due to some anglers fishing at more than one site.

Source: Alaska Department of Fish and Game, Sports Fish Division.
Mundy Day Bunn

on the subject lands, however, do not support significant sports fisheries. The most notable is China Poot Bay Creek where personal use dip net fishermen and anglers harvest approximately 2,000 to 3,000 sockeye salmon annually. China Poot Lake (just outside of the subject boundaries) was stocked with rainbow trout in the early 1950's, but is now a naturally self sustaining population. Dolly Varden are also naturally occurring, but do not constitute a large sports fishery in this area. There is extensive personal use of dungeness crab and various clam species in Neptune and China Poot Bays, and productive clam beds at the head of Sadie Cove.

Recreational Resources

Though hunting and fishing opportunities draw many visitors to Kachemak Bay State Park and the subject lands, non-consumptive recreational pursuits are a significant and growing use of the park lands. Examples of nonconsumptive recreational activities include hiking, boating, kayaking, wildlife observation and photography. Only sketchy and incomplete records of visitation to Kachemak Bay State Park have been compiled to reveal an average annual count of about 23,700 visitors over the last five years. The number of visitor use days, obtained from the state's Division of Parks and Outdoor Recreation is summarized in Table 9.

Another indication of the Park's popularity for recreational pursuits can be gleaned by the number and popularity of private scenic boat and air charters and guide trips operating out of Homer.

Table 9
Visitor Use Days/Kachemak Bay State Park

Month	1988	1987	1986	1985	1984
April	NCT	792	NCT	NCT	NCT
May	NCT	2,597	2,334	1,890	NCT
June	8,746	9,134	7,345	9,983	7,722
July	8,362	3,036	9,551	4,682	9,948
August	2,169	3,866	3,054	3,563	3,524
September	- -	963	2,201	3,556	5,940
October		1,056	NCT	NCT	NCT
Total	19,277	21,444	24,485	23,674	27,134

Note: "NCT" indicates No Count Taken.
Source: Division of Parks & Outdoor Recreation, State of Alaska Department of Natural Resources

Archaeological Resources

According to the Kachemak Bay State Park Management Plan, there is archaeological evidence to indicate that the Kachemak Bay area was occupied by early Eskimo cultures as early as 790. Research on Chugachik Island (northeast of subject property) indicates native group occupation roughly 5,000 years ago. The Management Plan places a priority on the protection and management of cultural resources within the Park. Though Chugachik Island is known for containing significant archaeological resources, historical records suggest that there may be other such areas within Kachemak Bay State Park. No archaeological sites or artifacts have as yet been discovered on the subject lands.

Figure 7
Subject Photographs

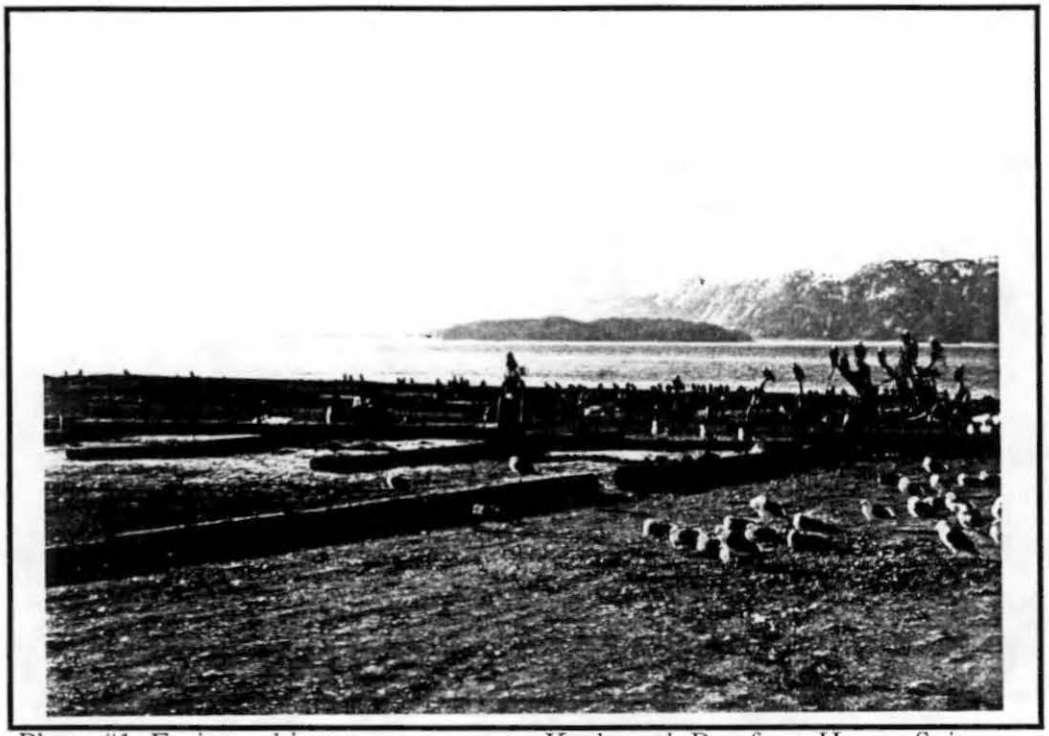


Photo #1: Facing subject property across Kachemak Bay from Homer Spit

Photo #2: China Poot Bay

Photo #3: Southeast end of China Poot Bay with China Poot Lake (Liesure Lake) in background

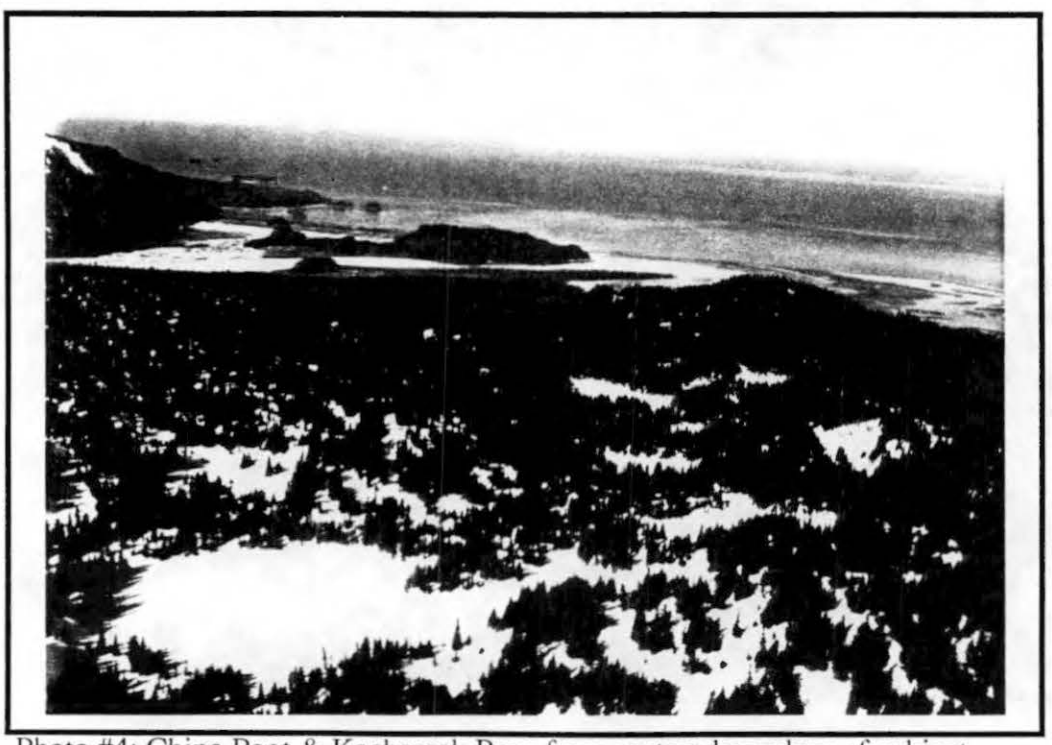


Photo #4: China Poot & Kachamak Bays from eastern boundary of subject property

Photo #5: Mountain ridges; camera facing southeasterly

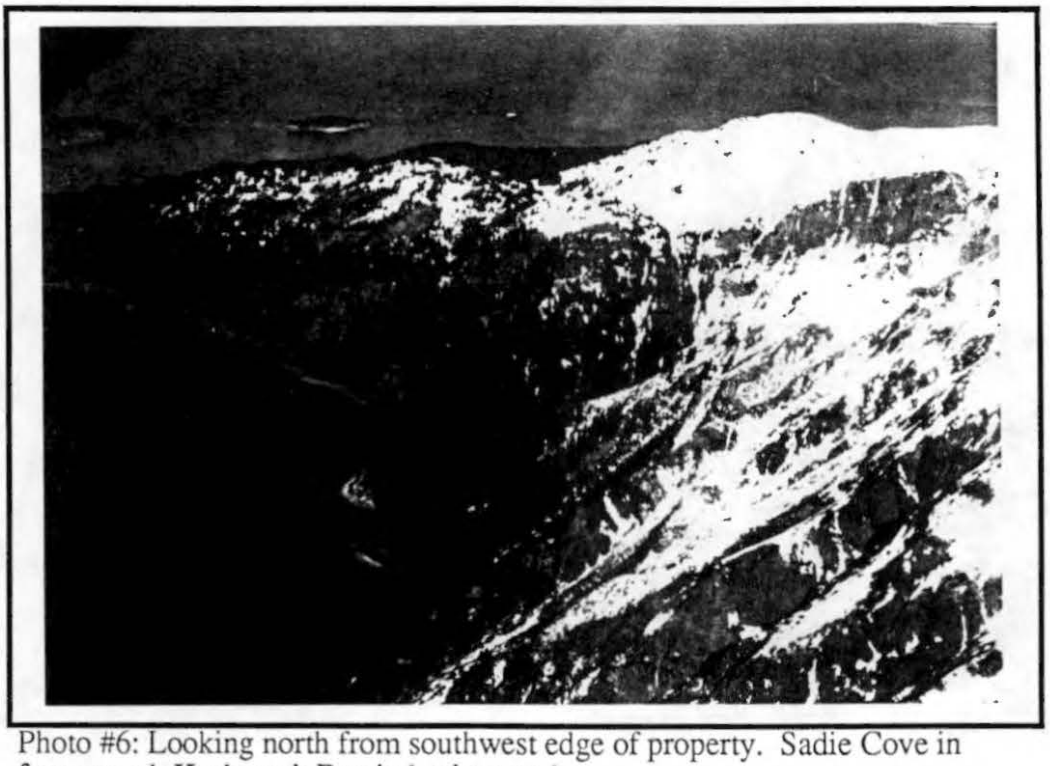


Photo #6: Looking north from southwest edge of property. Sadie Cove in foreground; Kachemak Bay in background

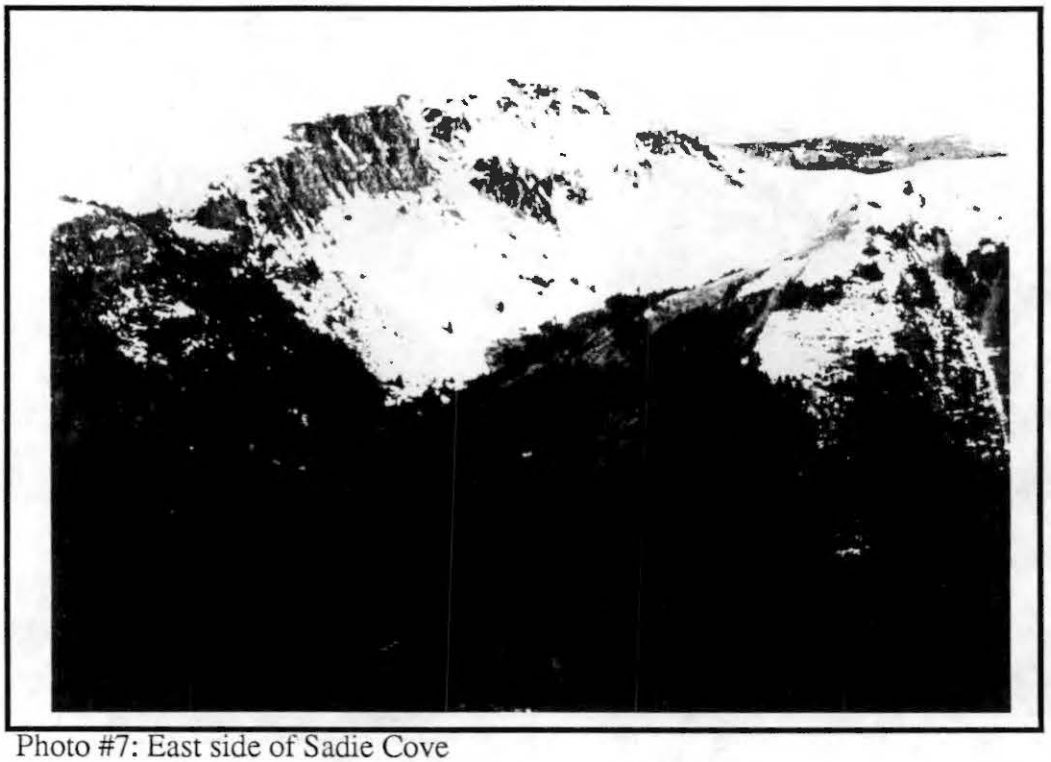


Photo #7: East side of Sadie Cove

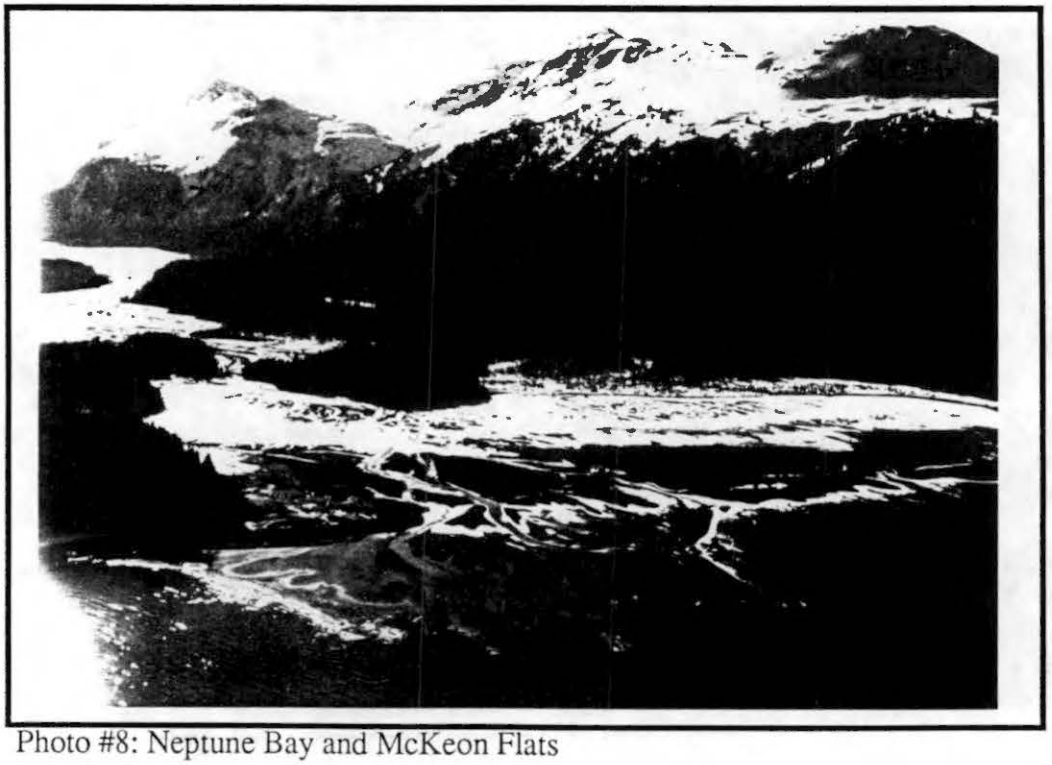
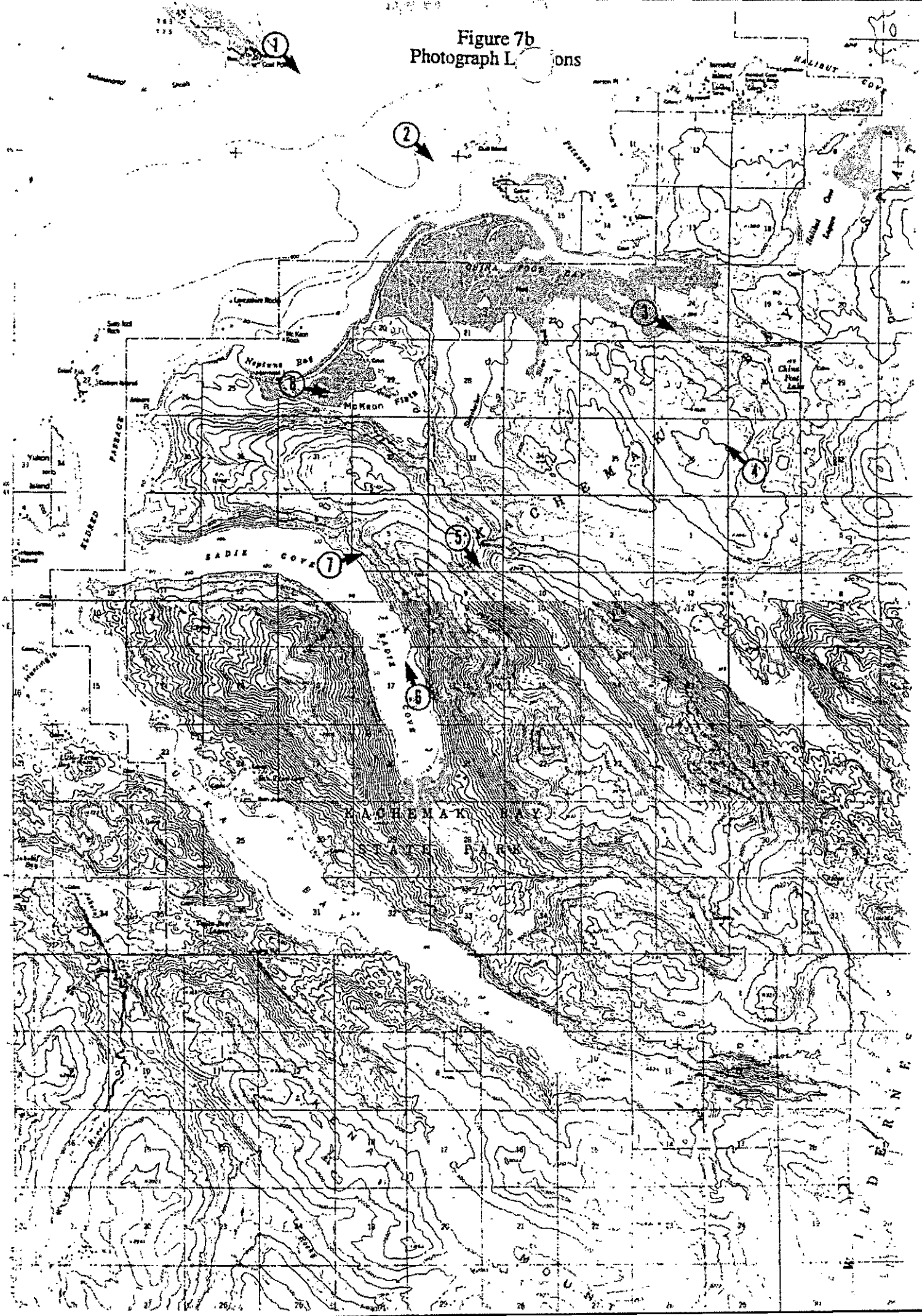


Photo #8: Neptune Bay and McKeon Flats

Figure 7b
Photograph L[illegible]ons



HIGHEST AND BEST USE

The highest and best use is considered to be that reasonable and probable use which will result in the highest present value of a property. In *Real Estate Appraisal Terminology*, a handbook of appraisal terms sponsored by the American Institute of Real Estate Appraisers, and the Society of Real Estate Appraisers, highest and best use is defined as:

> "The reasonable and probable use that will support the highest present value, as defined, as of the effective date of the appraisal. Alternatively, that use, from among reasonably probable and legal alternative uses, found to be physically possible, appropriately supported, financially feasible and which results in the highest land value ... it is to be recognized that in cases where a site has existing improvements on it, the highest and best use may very well be determined to be different from the existing use. The existing use will continue, however, unless and until land value in its highest and best use exceeds the total value of the property in its existing use. ... Implied within these definitions is recognition of the contribution of that specific use to community environment or to community development goals in addition to wealth maximization of individual property owners."

The principle of highest and best use is the economic basis for well conceived land use decisions. As implied by the above definition, it maintains that land will tend to be developed in a manner which will result in the greatest possible overall economic return, subject only to the constraints of **physical possibility, legal permissibility** and both **economic and financial feasibility**. Also implied in this definition is that the use be appropriately supported within the context of the property's surrounding political, economic and physical environment.

The highest and best use of the site can be determined in two manners, from the qualitative standpoint and from the quantitative standpoint. The qualitative approach is based on the appraiser's judgment, and it is dependent on a sound reasoned logic. The quantitative approach is based on a careful highest and best use analysis comparing the land values supportable by alternative uses, the highest and best use being that use which maximizes the value of the site.

The previous sections have provided a description of the subject's physical base, natural resources and surrounding community and historical background which provide the context in which to determine the property's most probable and profitable use. With these factors in mind, several potential use scenarios for the subject property have been considered. These include:

1) timber harvest

2) recreational homesite development

3) commercial recreational development

4) mineral extraction

5) natural land

Each of these potential uses are summarized in respect to the four criteria outlined above in Table 10. Alternative use scenarios and their resulting net present values are discussed in the following paragraphs.

Table 10
Potential Land Use Matrix

Potential Use	Physically Possible	Legally Permissable	Economically Feasible	Appropriately Supported	Estimated NPV
Timber Harvest	yes	yes	yes	no	$3.05 mil.
Recreational Homesites	yes	yes	questionable demand	moderate development	$7.05 mil.
Commercial Recreation	yes	yes	questionable demand	moderate development	$.76 mil.
Mineral Extraction	sand, gravel, rock only	shoreline permitting required	yes	no	$7.24 mil.
Natural Land	yes	yes	yes	yes	$25.18 mil.

Source: Mundy Day Bunn

Timber Harvest

As mentioned in the introductory sections of the report, in 1987 SNA sold the timber on 12,400 of the subject's total 23,802 acres. A subsequent timber cruise and appraisal contracted by TTC found 4,435 acres to have commercially viable timber resources for a total of 44,987 MBF.[7] At the time of the timber sale, SNA retained 1,825 acres of forested land in Township 7-South, Range 12 West. This acreage has not been cruised to determine commercial timber volumes. If, for the sake of illustration, we apply the volume density found on the TTC land to the retained SNA acreage, we come up with an estimated volume of 18,500 MBF on the 1,825 acres.

TTC's timber has been valued at $165/MBF by a third party appraiser. Again, for the sake of illustration, if this stumpage value is applied to the estimated volume, it results in a total value of the land based on timber harvest of $3,052,500. Based on an annual harvest of 15,000 MBF to 20,000 MBF, the resource could be depleted in one to two years. Discounting for present value has, therefore, not been applied.

Recreational Homesites

Much of the subject property possesses amenities which provide it with high recreation and commercial development potential. This potential is particularly good along relatively level ocean and river frontages and in scenic viewsheds. There is a recognized demand for recreational homesites with these amenities in the Kachemak Bay region.

For this scenario, the entire 23,800 acre parcel being proposed for exchange was divided into 40 acre 1/4 sections and those 1/4 sections having developable waterfrontage or in close proximity to were added to estimate the number of acres having the potential for recreational homesite development. This method results in approximately 3,000 acres. Because of the difficulty in accurately identifying and subtracting out the 4,435 acres on which TTC owns timber and which are not the subject of this appraisal, this acreage has been included in this example. It should be noted, however, that if this were to be subtracted out, the remaining acreage amenable to development would be diminished significantly.

For the sake of illustration, we have assumed that 1,000 of the 3,000 acres could be subdivided into five acre lots and sell for $10,000 per acre ($50,000/lot). The remaining 2,000 could be subdivided into 20 acre lots and sell for $2,500 per acre (also $50,000/lot). Based on our research of recreational subdivision through southcentral Alaska, a developer can expect to incur approximately $1,000 per acre in development costs and an additional 15% of gross sales in marketing expenses. If we assume a fairly optimistic absorption rate of 20 small lots and ten larger lots per year, then the sell-out period would be ten years for the 3,000 acres. Using these assumptions and applying a discount rate of 10% and 4% inflation results in the net present value scenario presented in Table 11 of $7 million.

Commercial Recreation Development

The popularity of Kachemak Bay State Park for hunting, fishing, wildlife observation and study, and other forms of recreation indicate the demand for commercial facilities to support these activities. Hunting and fishing lodges represent a good example of such facilities. These are generally developed on larger acreages of anywhere between 15 to 50 to upwards of 500 to 1,000 acres depending on how much area the commercial operator wanted to have exclusive use of (if for instance, an operator desired to have a private hunting reserve as part of his operation, the necessary acreage would be much higher.)

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[7] See Appendix for appraisal cover sheet documenting volumes and stumpage values for the 4,435 acres.

Table 11
Net Present Value of Recreational Homesites
Sales Scenerio

Total Acreage:	small lots	large lots
Acres per lot:	5	20
Lots sold per year:	20	10
Acres sold per year:	100	200
Price per acre:	$10,000	$2,500
Gross annual sales:	$1,000,000	$500,000
-Development costs (@$1,000/acre)	($100,000)	($200,000)
-Marketing Costs (15% of gross sales)	($150,000)	($75,000)
Net Annual Sales	$750,000	$225,000
Net Annual Income (1989)	$975,000	
NPV (t=10; i=6.0%*)	$7,053,613	

* Discount rate= market rate of 10% less 4% inflation.
Source: Mundy Day Bunn

Table 12
N.P.V. of Commercial Recreation Development
Land Sales Scenerio

Acres per lot:	160
Lots sold per year:	1
Acres sold per year:	160
Price per acre:	$1,000
Gross annual sales:	$160,000
-Development costs (@$100/acre)	($16,000)
-Marketing Costs (15% of gross sales)	($24,000)
Net Annual Sales	$120,000
Net Annual Income (1989)	$120,000
NPV (t=10; i=6.0%*)	$760,738

* Discount rate= market rate of 10% less 4% inflation.
Source: Mundy Day Bunn

Similar to the process described for recreational homesites, we have assumed an optimistic scenario whereby 160 acre lots are sold for $1,000 per acre at a rate of one very year for a maximum of ten such sites for 10 years. Surveying, platting and marketing costs for the land would be considerably less expensive than for the higher density lots, perhaps in the range of $100 per acre and 10% of gross sales for marketing costs. Applying these assumptions yields a net present value of $760,700 as outlined in Table 12.

Mineral Resource Extraction

The subject's subsurface estate is owned by Cook Inlet Region, Inc. with a Memorandum of Understanding between them and SNA regarding management of gravel and rock resources. Apart from construction materials (sand, gravel, rock) the subject lands contain no known commercial quantities of mineral resources. Gravel, and rock extraction, however, is currently a commercially viable alternative for the China Poot and Neptune Bay areas. A quarry operated within Kachemak Bay State Park at the mouth of Sadie Cove until eight or ten years ago when the state was able to exploit an alternative site outside the park boundaries. SNA currently operates pits in Seldovia and Jackoloff Bays producing a total of between 50,000 to 60,000 cubic yards per year. According to a source at SNA, the Homer area has depleted its commercial gravel resources and currently trucks in gravel from over 50 miles away. Demand for construction materials that can be barged in high volumes across Kachemak Bay is, therefore, likely to increase.

According to SNA, they are able to get $2.50/cubic yard in place[8] at the two sites they currently operate. These are small scale operations where the buyer incurs all costs of extraction and transportation. Large scale operations in China Poot Bay would require more developed extractive and barging facilities. If we assume that these facilities along with labor and administration expenses cost $1.50 per cubic yard, then net income would be $1.00 per cubic yard. Given an annual production rate of 1.0 million cubic yards for ten years at the same inflation and discount rates used in the previous scenarios, yields a net present value of $7.24 million.

Natural Land

The property's outstanding scenic vistas, extensive shoreline and watersheds, backcountry forests, abundant wildlife, numerous recreational opportunities, and generally pristine environmental quality are all characteristics that make it highly desirable for acquisition into the public domain. Indeed, the state's designation of this land as a scenic park and its consistent efforts to gain managerial control over it demonstrate its value from the public interest's standpoint. There is little doubt that the SNA inholdings are a vital part of Kachemak Bay State Park in respect to public access, views from Homer and Kachemak Bay, and the protection of significant resources on the surrounding land.

The preservation of the subject as natural land is both physically and legally possible while providing a use that is the most appropriate given the surrounding environment. In respect to economic feasibility, the following valuation analysis indicates that the subject property yields the highest net present value as natural land.

Conclusion

Given the locational and physical attributes of the subject property, several alternative uses have been examined in an effort to determine the most probable and profitable use of the property. These use alternatives have been compared to the four criteria implied in the definition of highest and best use and a net present value scenario has been estimated. The results of this analysis

[8] Buyer incurs all costs of extraction and transportation.

suggest that the highest and best use of the subject property is as natural land to be preserved and managed for its scenic, wildlife and recreational resources.

VALUATION ANALYSIS

The determination of natural, "public interest" land as the subject's highest and best use dictates the use of the sales comparison approach as the most appropriate method of valuation. Because natural environments cannot be recreated, the cost approach to value is not relevant in this instance. The income capitalization approach is also not relevant because the highest and best use as determined in the previous section does not produce an income return on the investment. The sales comparison approach relies on the principle of substitution which holds "that the value of a property tends to be set by the price that would be paid to acquire a substitute property of similar utility and desirability."[9] Inherent in this principal is that the properties being compared were acquired for similar purposes, and that the buyers shared similar motivations.

The sales comparison approach is the preferred appraisal method when there exists a sufficient number of comparable market transactions. As mentioned in the introduction, there is a significant market in the buying and selling of high amenity natural land for purposes of preserving its scenic, wilderness or wildlife habitat character, or for the purposes of providing public access to these amenities. This market primarily consists of public agencies (federal, state or municipal) and private environmental or conservation organizations involved in land acquisition, most notably the Nature Conservancy, The Trust for Public Land, and numerous smaller land trusts throughout the country. Our search for comparable properties included all these sources of potentially relevant data.

The major criteria used for selecting comparable properties included:

1) **Purpose of Acquisition.** Only those properties which were purchased with the intention of enhancing or preserving the natural integrity and providing public enjoyment of the property were considered comparable. Properties which were acquired for development of anything other than the minimal improvements (or no improvements at all) necessary to enable public access were disregarded.

2) **Property Attributes.** It is recognized that the subject property has extraordinary scenic, scientific, wilderness and wildlife habitat characteristics, as well as the potential for providing a wealth of dispersed recreational experiences (e.g., hiking, kayaking, camping, hunting, etc.). Though many of the comparable properties selected may not be similar to the subject in respect to their particular topographic features or habitat types, they possess one or all of these amenities.

3) **Location.** The search for comparable properties purchased in the public interest began in Alaska. All purchases and exchanges made by public agencies in Alaska known to the appraiser were considered. The limited number of such transactions led the appraiser to extend the search to other states and regions. It is the appraiser's opinion that the purpose for which a property was acquired (e.g., for the public interest) is an overriding determinant of value, thereby justifying the extended search to locations outside of

[9] *The Appraisal of Real Estate*, AIREA, 9th Edition, 1987, p. 312.

Alaska.[10] Locational influences on value, however, were considered in the analysis of data aggregated from U.S. Fish & Wildlife Service as well as other comparables.

4) **Remoteness.** Though properties having limited to no road access were considered more comparable than those with superior access, remoteness was not used as a criteria to eliminate transactions from the pool of comparables. The majority of sales that were analyzed individually did not have vehicle access and could be considered relatively remote. The NWR acquisitions, in contrast, are generally more accessible. Along with a locational factor, adjustments were made to account for the relative accessibility of each refuge unit in analyzing the aggregated data set.

5) **Size.** With two exceptions[11], the search for comparables was limited to parcels over 100 acres. This size threshold was chosen as a means to identify those properties with the highest likelihood of being undeveloped, whose improvements (if any) had little to no influence on the selling price, and where selling price would not reflect any value added from the short platting process.

   It is acknowledged that a parcel's size often has a significant effect on the value of commercial, residential, industrial or agricultural property. Unlike these types of income properties, however, the value of wildlife habitat and dispersed recreational land is not typically influenced by size. In fact, increased size may add more value in instances where the habitat is for wider ranging animals, where land is being acquired to maintain a relatively intact ecosystem, or where isolated forms of recreation are desired.

   Correlation analysis was performed on the two largest data sets to test the relationship between parcel size and selling price per acre. A summary of these results are presented in the appropriate subsections below and in the appendix. For both data sets the analyses found negligible correlation between the two variables with no statistical significance. This absence of a clear relationship is substantiated by the narrow difference between the average and weighted average unit values of parcels over 100 acres for most of the data sets described below.

6) **Sale Date.** 1980 was used as a cutoff date for most of the comparable properties. Once again, some of the Alaskan sales were the exception. In reviewing the National Park Service and State sponsored acquisitions in the state of Alaska, it was found that the majority occurred prior to 1980. Again, for the sake of locational comparison and completeness, some of these acquisitions were considered.

   Sales date, like parcel size, is an attribute commonly adjusted for in the sales comparison approach to value. Value adjustments made to particular sales are meant to account for economic changes in the marketplace which may influence the value of real property. Changing market conditions are particularly relevant in appraising income producing properties. However, the market for preservation land does not appear to be as dynamic. While it has been asserted in the introductory sections of this report that high amenity natural lands are likely to increase in value as they become more scarce, this process tends to be a long term one.

   The relationship between a parcel's selling date and per acre selling price was also statistically tested to determine whether value adjustments were warranted. Again, the two

[10] In respect to wildlife habitat, for instance, it is asserted that a desert habitat supporting an endangered lizard species is comparable to a forest habitat supporting a similarly endangered bird species. The fact that one may be located in Nevada and the other in Alaska is not as relevant as the motivation behind the acquisition, which in each instance is to protect the endangered species' habitat.

data sets providing the most number of independent cases were analyzed. In each case, the coefficient of determination and the R^2 statistic revealed only slight correlation with no statistical significance. The results of these analyses are also included in the appropriate data set subsections and in the appendix. Based on these analyses, no value adjustments for sales date were made to the comparable properties.

Comparable Sales Evidence

The approach we have taken in examining other transactions in which the value of preservation lands has been directly or indirectly considered is multifold. Six different comparables sales data sets have been considered. In each case, a market-supported value range for lands having significant scenic, recreational and/or wildlife resources has been determined. In all, some 28 land sales or exchanges were individually considered and analyzed in addition to aggregate analysis made of dozens of National Wildlife Refuge (NWR) parcel sales and United States Forest Service (USFS) acquisitions throughout the country.

The valuation analysis first concentrates on federal acquisitions made between 1980 and 1988 by the U.S. Fish & Wildlife Service (USFWS) and USFS throughout the Pacific Northwest and the country. These data have been used as a means to determine the Federal Government's willingness to pay for the preservation of distinctive wildlife habitat, recreational, or wilderness areas.

The analysis then focuses on transactions made in the State of Alaska. Acquisitions made by the United States National Park Service (NPS) and state sponsored acquisitions under the federal Land and Water Conservation Fund (LWCF) are presented. Also considered are a number of large land exchanges between various Alaska Native organizations and the state or federal government that have been consummated with the public's interest in mind.

Finally, ten other acquisitions in Alaska and elsewhere made by public agencies or private conservation groups for preservation purposes are presented and analyzed for comparability with the subject property.

The six data sets are then summarized, evaluated for their relative merit and comparability, and reconciled to determine the most probable value for the subject property.

Pacific Northwest Region NWR Acquisition of Fee Interest Lands, 1980-1988

Table 13 summarized all the fee interest parcels over 100 acres purchased by wildlife refuges in the Pacific Northwest region of the USFWS between 1980 and 1988. This data was compiled from a list of individual tract sales and is summarized by state and refuge unit. The average price per acre for all these lands, after the extreme high and low refuge units were excluded (Tijuana Slough, CA and Hart Mountain, OR, respectively) is $1,439. The weighted average is $904 per acre and the median is $1,075.

In examing these acquisitions further, several factors relative to their per acre values become apparent. The first and seemingly most apparent is the effect of the parcel's size. If the refuge acquisitions are categorized by size, they result in the following per acre values:

[11]The two exceptions were located in Alaska and were included for locational comparability and completeness.

3rd par. p.44

Table 13

Pacific Northwest Region National Wildlife Refuge Acquisitions
Parcels Over 100 Acres, 1980-1988

	Refuge, State	Tract ID	Attribute Score	Date	Cost	Acreage	Price/Acre	Average/ Wtd Aver
Superior:	Willapa, WA	9	14.25	12/83	$5,000,000	1,624.94	$3,077	
	San Joaquin, CA	20	14.00	12/87	$1,000,000	777.00	$1,287	
	Coachella Valley, CA	10	13.00	08/85	$4,793,224	1,364.18	$3,514	
	Coachella Valley, CA	10	13.00	09/80	$109,000	342.00	$319	high
	Coachella Valley, CA	11	13.00	02/86	$1,042,440	260.61	$4,000	
	Coachella Valley, CA	10	13.00	11/86	$621,000	180.00	$3,450	
	Coachella Valley, CA	21	13.00	04/86	$563,395	160.97	$3,500	
	Coachella Valley, CA	10	13.00	02/86	$585,000	130.00	$4,500	
	Ash Meadows, NV	10	12.00	06/84	$5,000,000	11,176.53	$447	
	Ash Meadows, NV	010pt	12.00	12/84	$576,000	1,440.00	$400	
	Bear Valley, OR	10	12.00	02/80	$370,000	692.03	$535	
	Bear Valley, OR	54	12.00	05/87	$211,700	399.50	$530	
	Bear Valley, OR	23	12.00	09/83	$812,000	396.00	$2,051	
	Bear Valley, OR	14	12.00	08/84	$170,000	201.08	$845	$2,032
	Bear Valley, OR	22	12.00	08/84	$190,000	162.95	$1,166	$1,090
Comparable:	Ridgefield, WA	23	11.50	02/85	$2,525,000	1,609.97	$1,568	
	Humboldt Bay, CA	48	11.25	06/88	$1,507,749	655.47	$2,300	
	Humboldt Bay, CA	10	11.25	06/88	$1,192,923	519.96	$2,294	
	Humboldt Bay, CA	21	11.25	06/81	$325,000	160.44	$2,026	
	Humboldt Bay, CA	043b	11.25	06/88	$307,889	134.20	$2,294	
	Humboldt Bay, CA	43	11.25	06/88	$298,965	130.31	$2,294	
	Humboldt Bay, CA	12	11.25	11/80	$300,000	117.18	$2,560	
	Humboldt Bay, CA	11	11.25	11/81	$374,945	103.14	$3,635	
	Hakalua, HI	10	11.00	10/85	$2,800,000	4,994.00	$561	
	Hakalua, HI	14	11.00	10/85	$1,000,000	3,300.00	$303	
	Hakalua, HI	11	11.00	06/86	$1,090,000	3,249.76	$335	
	Blueridge, CA	10	11.00	12/82	$346,000	577.08	$600	
	Blueridge, CA	11	11.00	02/83	$284,000	317.50	$894	
	Bandon Marsh, OR	101	11.00	02/83	$235,000	289.37	$812	
	Conboy Lake, WA	30	11.00	08/88	$135,000	145.00	$931	$1,616
	Grays Lake, ID	41	11.00	08/86	$60,000	120.00	$500	$954
Inferior:	Klammath Forest, OR	33	10.00	01/80	$319,700	1,190.49	$269	
	SF Bay, CA	12	10.00	08/83	$610,710	450.72	$1,355	
	Pixley, CA	237	9.75	12/80	$801,000	696.43	$1,150	
	Pixley, CA	203	9.75	02/81	$320,000	320.00	$1,000	low
	Oxford Slough, ID	10	9.50	05/85	$518,996	1,850.76	$280	
	Butte Sink, CA	028c	9.50	08/88	$1,005,000	1,005.00	$1,000	
	Butte Sink, CA	41	9.50	04/80	$1,100,700	439.98	$2,502	
	Butte Sink, CA	051c	9.50	03/88	$476,430	317.62	$1,500	
	Bear Lake, ID	42	7.50	08/86	$51,400	151.00	$340	$965
	Bear Lake, ID	43	7.50	10/86	$30,300	120.00	$253	$800
Attributes Unknown:	Bitter Crk, CA	29		03/87	$424,000	1,304.07	$325	
	Bitter Crk, CA	16		11/85	$194,000	360.00	$539	
	Bitter Crk, CA	15	attributes	08/85	$258,000	314.85	$819	
	Willow Crk, CA	112c	unknown	10/87	$221,520	184.60	$1,200	
	Willow Crk, CA	071c		01/88	$161,040	134.20	$1,200	
	Bitter Crk, CA	18		07/85	$73,200	122.00	$600	
	Willow Crk, CA	111c		09/88	$120,000	100.00	$1,200	
	Total				$40,512,226	44,792.89	$1,439	average
	Subject		11.50					

Source: U.S. Fish & Wildlife Service, Realty Division
Mundy Day Bunn

Acreage Added	Average Price Per Acre
over 10,000	$447 (one case only)
1,000 to 9,999	$1,057
500 to 999	$1,361
100 to 499	$1,627

A correlation analysis was performed in order to determine the extent of the relationship between a parcel's size and per acre selling price. The complete National Wildlife Refuge data set including acquisitions of all sizes was used in this analysis which resulted in a correlation coefficient of -.151 indicating a very weak negative relationship between the two variables (correlation coefficient ranges from 1.0 to -1.0). The R^2 statistic indicated that only 2.3% of the variation in a parcel's unit value could be explained by the parcel's size, and the confidence level was considerably lower than the accepted standard for statistical significance of 90%. These results are tabled and a scattergram of all cases is presented in Appendix E. In the absence of any statistical significance and proven correlation, no adjustments were made for the refuge parcels' size.

Sale date is a second factor normally apparent in affecting property value. Correlation analysis was also used to test the relationship between the refuge parcel's selling dates and per acre values. The results were similarly insignificant with a correlation coefficient of -.155, R^2 of .024 (2.4% of the variation in per acre value can be explained by selling date), and a confidence level of less than 90% (Please refer to Appendix E for summary and scattergram.).

Other factors taken into consideration in making value comparisons include the location of the refuge in respect to metropolitan areas and public access to the refuge; the types of economic activity the properties can currently sustain, ranging from prime residential or recreational development, grazing or agricultural uses, to undevelopable swamp or tidelands; the quality and diversity of wildlife found on the properties; and the natural integrity of the parcel's ecosystem (ranging from highly disturbed to pristine). Each refuge parcel of over 100 acres was analyzed in respect to these four attributes (location, developability, wildlife habitat, and natural integrity), and compared to the subject land. Parcels were categorized as a refuge unit as superior, comparable, or inferior to the subject lands based on an aggregate scoring of the four attributes (higher scores indicate superiority). The summary of this analysis is also presented in Table 13.

The value range for the inferior acquisitions is $253 per acre to $2,500 per acre, with an overall average of $965 per acre, and a weighted average of $800 per acre. Those properties that were deemed comparable to the subject range from $303 per acre to $3,635 per acre, with an overall average and weighted average of $1,146 and $954 per acre, respectively. The median for the comparable properties is $1,250 per acre. Superior properties indicate a range from $319 to $4,500 per acre, with an average and weighted average of $2,032 and $1,090 per acre, respectively.

Collectively, this evidence suggests a value range of $950 to $1,250 per acre for the subject property.

U.S. Forest Service Acquisitions

A list of acquisitions made by the U.S. Forest Service (USFS) using the LWCF between 1980 and 1985 was obtained. Data after 1985 were not available in summary form. The LWCF was established as a means to acquire and manage sensitive lands for preservation purposes. By Federal mandate, lands acquired via this fund are to be used as natural, scenic, recreational, wilderness or wild and scenic river areas, and not as harvestable timber. Forest Services units

("projects") which acquired over 100 acres in a given year were included in the analysis. The number of acres acquired over the five year period, the total dollar amount obligated for acquisition, and the resulting price per acre values are aggregated by project for the five year period in Table 14. Indicated values range from $161 per acre to $5,643 per acre (excluding Lake Tahoe Basin, which exceeded $72,000 per acre), with an average of $1,295 per acre, a weighted average of $1,065 per acre, and a median of $737 per acre.

As with the previous data set, correlation analyses were performed to identify and assess the relationship between the acquisitions' size and sale dates and their unit values. In both instances, the analyses failed to identify any significant correlation between the variables. In respect to sale date, the resulting correlation coefficient of -.063 indicates an extremely weak relationship (range between 1.0 and -1.0) with less than .1% of the variation in per acre values explained by the independent variable. The effect of a project's size revealed only marginally better results with a correlation coefficient of -.185 and a R^2 of .034 (3.4% of variation in unit value explained by independent variable). In neither case was the confidence level high enough to assert statistical significance. Please refer to Appendix for summary statistics and scattergrams.

Though no further analysis was made of these acquisitions in respect to their comparability to the subject and to their representing arm's length transactions, this data set also serves to indicate the Federal government's willingness to pay for lands with a similar purpose as that intended for the subject property. Because these acquisitions were not researched on an individual parcel basis, they are given less weight in the final reconciliation as is other sales evidence.

U.S. National Park Service Acquisitions in Alaska

Master deed listings of all acquisitions made by the NPS in Alaska were obtained in order to identify possible comparable properties. These acquisitions were made from 1942 to 1988. Only six properties were over 100 acres in size, and two of these were purchased in the 1940's. Two other properties were between 50 and 100 acres, though one of these was also too old to consider comparable. The majority of the rest of the acquisitions were under ten acres in size and were not considered in this comparative analysis. The remaining five acquisitions are summarized in Table 15. Information pertaining to these five acquisitions was confirmed with the NPS in Anchorage and Seattle.

The three most recent sales (No. 2, No. 4, and No. 5) were investigated to determine relative comparability and whether the sale represented an arm's length transaction. Summary information on these is presented below and in the Appendix.

Sale No. 2 is an approximate 160 acre parcel in the Wrangell-St. Elias National Park & Preserve. This is the largest unit in the national park system and is characterized by remote mountains, valleys, wild rivers, and abundant wildlife. The property is mostly flat with rolling hills, averaging 1,500 to 1,700 feet above sea level, with stands of willow, aspen, alder, white spruce and cottonwood. It was sold to the NPS by Francine Gagnon in September, 1985, for $420,000. This yields a per acre value of $2,627. According to the NPS, the property had been leased by the Park Service as an administrative site. The seller first offered to sell the property to the NPS before putting it on the open market.

Sale No. 4 was a 160 acre Native allotment within the Gates of the Arctic National Park. The NPS purchased it for $108,000 cash in June of 1988. A cabin valued at $5,000 was included in the sale. This yields value for the land only of $644 per acre. The property is gently sloping alpine and arctic tundra. Some of the property fronts the Upper Noatak River, and there is an approximate 30 to 40 acre lake on this site. The property provides scenic views of the surrounding mountain ranges. The only access to the property is by floatplane onto the lake.

Table 14
U.S. Forest Service Acquisitions
Land & Water Conservation Fund 1980 -1985
Projects Over 100 Acres

Project Name	Total Acres	Total Obligation	Price/Acre
Hells Canyon	698	$226,500	$324
Mt Rogers	1,290	$980,602	$760
Sawtooth	10,714	$19,004,897	$1,774
Spruce Knob	4,432	$3,159,808	$713
Whiskeytown-Shasta	571	$792,000	$1,387
Cascade Head	456	$2,573,200	$5,643
Flathead	1,415	$2,457,212	$1,737
Appalachian Trail	25,197	$9,181,202	$364
Pacific Crest Trail	280	$154,000	$550
Boundary Waters	5,369	$9,767,903	$1,819
Santini-Burton	7,764	$23,114,855	$2,977
Gila	591	$269,710	$456
California Condor	918	$622,000	$678
Nicolet N.F.	415	$159,670	$385
Walkingshaw Wetlands	1,035	$300,800	$291
Huron-Manistee	3,165	$2,000,000	$632
Columbia River Gorge	711	$1,011,000	$1,422
Alpine Lakes	279	$507,000	$1,817
Hickory Creek	7,923	$1,278,000	$161
Maroon Bells-Snowmas	472	$950,000	$2,013
Totals :	73,695	$78,510,359	$1,295 (average) $1,065 (wtd aver.)

low

high.

Take Basin sale omitted.

Source: Parks & Recreation: Obligations and Outlays From the Land & Water Conservation Fund., U.S. General Accounting Office, May, 1986.
Mundy Day Bunn

Table 15

National Park Service Land Acquisitions
Purchases Over 50 Acres

	Park Unit	Grantor	Sale Date	Purchase Amount		Acres	Price/Acre	Average/ Wtd Aver.
1	Klondike Gold Rush NHP	Noyd	1/30/78	$646,000		335.89	$1,923	
2	**Wrangell-St Elias**	Gagnon	9/30/85	$420,258		159.99	$2,627	
3	Klondike Gold Rush NHP	Patterson	7/25/77	$203,475		83.12	$2,448	
4	**Gates of the Arctic**	Walker	June, 1988	$103,000	*	160.00	$644	
5	**Denali**	Lloyd, Cook, Lloyd	Mar, 1989	$665,000		121.00	$5,496	
	Totals & Averages:			$2,037,733		860.00	$2,628 $2,369	(average) (wtd aver)

* Note: indicates land value only; total sale price was $108,000

Source: U.S. National Park Service

Sale No. 5 was a 121 acre inholding in Denali National Park and Preserve. This park contains Mount McKinley, North America's highest peak, as well as numerous glaciers, scenic vistas and abundant wildlife to include moose, Dahl sheep, grizzly bears, and timber wolves. The property consists of numerous patented mining claims with no improvements. According to the seller, the appraised value of the property on which the selling price was based did not attribute any value to the subsurface estate. The property was sold to the NPS in March, 1989 for $665,000 ($5,496 per acre). The seller claimed that he was not under duress to sell his property and that he felt it represented an arm's length transaction.

These three comparables have a relatively wide range in value of between $644 and $5,496 per acre. The average is $2,922 per acre and the weighted average is $2,694 per acre.

State of Alaska Acquisitions, Land and Water Conservation Fund

A list of acquisition projects sponsored by the State of Alaska using matching funds from the LWCF was obtained from the National Park Service. This list summarized the sponsoring agency, dates of acquisition, acreage approved and total dollar amount approved for each project. Projects sponsored by the State Division of Parks in which a total of over 100 acres were acquired were initially identified. These acquisitions were made to enhance the state's scenic and recreational park areas, and are felt to represent comparable buyer motivation and probable use with respect to the subject property.

From this list, individual parcels of over 100 acres in size were further investigated. The resulting seven acquisitions are summarized in Table 16. It will be noted that four of the seven sales occurred prior to 1980. Since the state has made so few purchases of land intended for state parks and recreational areas, the appraiser deemed it appropriate to include the older sales in the analysis.

Acquisitions were confirmed with the State Division of Parks and NPS records. Summary information on each acquisition is included in the Appendix.

The sales range in size from 128 acres to 320 acres and range in selling price from $450 to $3,000 per acre. The average selling price for the seven properties is $1,570 per acre, the weighted average is $1,632 per acre and the median is $1,139 per acre.

Alaska Land Exchanges

Several large land exchanges involving Native Corporation holdings and state and federal land in Alaska have occurred since 1980. Since the purpose of this appraisal is to determine a value which is to serve as a basis for another such exchange, and because each of the exchanges were deemed to be "in the public interest" by the acquiring agency, their examination here is considered to be appropriate.

Table 17 outlines eight such exchanges with information on the parties involved, location, date, size of land exchanged by each party and approximate land values determined in the exchange process. More detailed information regarding these transactions is included in the Appendix.

In researching the exchanges and in talking with the parties involved, several issues regarding the transactions have become apparent. Whereas in each case, both parties expressed willingness to exchange land on a value-for-value basis, the actual per acre value placed on some of the lands was not always agreed upon. In other words, though parties may have agreed that a certain 25,000 acre parcel was worth approximately the same as a second 25,000 acre parcel in a value-for-value exchange, the dollar value for each acre was not negotiated. In many instances, relevant values were not determined by a formal appraisal, but merely a Memorandum of Opinion.

Table 16
State of Alaska Sponsored Acquisitions
Under the Land & Water Conservation Fund
Parcels Over 100 Acres

Project Name	Parcel #	Acquisition Date	Size (Acres)	Land Cost	Price/Acre	Averages
Nancy Lake	13	Sep., 1973	137.81	$82,700	$600	
Nancy Lake II	1	Apr., 1980	128.41	$127,000	$989	
Chilkat Eagle Preserve	1	Jan., 1986	320.00	$144,000	$450	
Kenai Peninsula	9 & 10	Jan., 1981	158.03	$180,000	$1,139	
Denali	2	Nov., 1977	159.60	$435,000	$2,726	
Chugach State Park	3	Aug., 1977	150.00	$313,000	$2,087	
Chugach State Park	9	Apr., 1978	320.00	$960,000	$3,000	
Total:			1,373.85	$2,241,700	$1,570	(average)
					$1,632	(wtd. aver)

Source: State of Alaska Division of Parks & Outdoor Recreation
U.S. National Park Service
Mundy Day Bunn

Table 17
Alaska Land Exchanges

	Grantor/Grantee	Location	Date	Land Exchanged	Value	Value/Acre	Comments
1	Seldovia Native Association State of Alaska	Kachemak Bay S.P.	Mar., 1983	3,578.00 1,967.80	$3,303,500 $3,303,500	$923 $1,679	negotiated value
2	Seldovia Native Association State of Alaska	Kachemak Bay S.P.	1985	960.00 680.00	$900,000 $900,000	$938 $1,324	negotiated value
3	Arctic Slope Regional Corp. Bureau of Land Management	Arctic Coastal Plain	Oct., 1986	37,634.00 37,972.00		$80-$100 $80-$100	land was not appraised; values were not negotiated.
4	NANA Regional Corp. U.S. National Park Service	Cape Krusenstern N.M.	Jan., 1985	66,959.00 63,999.00	$4,198,400 $3,840,000	$63 $60	determination of & agreement over values unknown
5	Arctic Slope Regional Corp. U.S. National Park Service	Gates of the Arctic N.P.	Dec., 1981	6,137.75 5,586.00	$409-$584,000 $447-$614,000	$65-$93 $80-$110	land was not appraised; values were not negotiated.
6	Arctic Slope Regional Corp U.S. National Park Service	Gates of the Arctic N.P.	Aug., 1983	101,272.00 93,960.00	$5,001,500 $5,900,000	$49 $63	determination of & agreement over values unknown
7	Haida Native Village Corp U.S. Forest Service	Goat & South Pass Is. Se Alaska	Jul., 1988	4,222.00 ?	values undetermined	values undetermined	See Haida land sales in preceding section of report.
8	Various Native Corps. U.S.Fish & Wildlife Service	Various Ntl. Wildlife Refuges	pending	897,866.00 subsurface rights		$500-$700	land values negotiated between Native Corps. & D.O.I.

Source: Mundy Day Bunn

For these reasons, the three exchanges involving Arctic Slope Regional Corporation have not been used here as indicators of value. Specific details regarding the per acre values in the NANA Regional Corporation–NPS and Haida exchanges were not able to be confirmed, so they too have been dismissed as potential evidence. Only the two previous Seldovia Native Association—state exchanges in Kachemak Bay and the Native Corporations—USFWS exchanges (commonly known as the "Mega Exchange") are known to have involved negotiations and mutual agreements over the value of properties being exchanged. The latter "Mega Exchange," however, is currently pending awaiting congressional decision regarding the opening of the Arctic National Wildlife Refuge to oil and gas exploration and development. Since this exchange has not yet consummated, it has also been dismissed from the analysis.

This leaves the two previous exchanges involving SNA and the state. Under the terms of these exchanges the state acquired 3,578 acres in 1983 and another 960 acres in 1985 for $923.00 per acre and $938.00 per acre respectively. The locations of the land exchanged is adjacent to the subject property and has been identified in Figure 2 (see Introduction). Discussions with SNA revealed that the values had been negotiated and mutually agreed upon as representing the market value of the exchanged lands. The appraiser feels that given the similar physical attributes, location, buyer, and intended use for the exchanged land, these two previous cases represent strong comparables to the subject property.

Miscellaneous Acquisitions

Finally, ten other sales of natural land made by public agencies or land conservation organizations were considered. These sales vary considerably in their size, location and physical characteristics, though the motivations behind their purchases are consistent. The ten sales are outlined in Table 18. Four of the ten sales occurred in Alaska and are considered comparable for that reason in addition to other factors. Three other sales were considered comparable in respect to their size, relative accessibility, and landscape type. These seven sales are briefly described in the paragraphs below.

Cypress Island is the last large undeveloped island in the San Juan archipelago of Washington State. The state recently acquired 3,176 acres of the island's total 5,500 acres, placing a major portion of the island into public ownership. The purchase agreement was signed in May, 1989 for $5.4 million, yielding a per acre value of $1,700. The island is predominantly undeveloped with the exception of a few waterfront homes. There is a gravel airstrip on the property, which is otherwise accessible only by boat. The island is mostly wooded with forests containing 40 to 120 year old timber. The future management of the park is currently undetermined, though one option is for it to be managed by the State Park System or the National Park Service.

Four parcels totaling 22,457 acres in the **Alpine Lakes Wilderness** area of Washington were sold to the U.S. Forest Service in 1982. In 1981 the USFS appraisal determined the value of a larger 23,400 acre tract which encompassed all of the subject acreage to be $17.5 million based on the parcel's havestable timber ($740 per acre). A second appraisal contracted by the owners determined a value of $37.0 million based on the property's highest and best use as wilderness. After long protracted negotiations involving congress as well as the two parties, a settlement value of $28.98 million for the 22,456 acres was agreed upon, yielding a weighted average per acre value of $1,290 for the four parcels. Following the Alpine Lakes Wilderness bill, the land was sold to the federal government for inclusion to the wilderness area. By definition, the property does not have road access.

Table 18

Acquisitions made by Public & Conservation Agencies
for Preservation Purposes

	Location	Grantor/ Grantee	Sale Date	Price	Size	Price/Acre	Notes
1	Woodland Bay, WA	Weyerhauser WA DNR	10/88	$2,700,000	450	$6,000	(261 acres upland, 191 acres tideland), 40-120 year old timber
2	**Cypress Island, WA**	R. Hanson WA DNR	4/89	$5,400,000	3,176	$1,700	last undeveloped island in San Juans; 40-80+ year old timber
3	**Alpine Lakes Wild., WA**	Pack River Co. U.S.F.S.	12/82	$28,983,000	22,457	$1,291	negotiated settlement in excess of timber value; part of Alpine Lakes Wilderness
4A	**Goat & South Pass Is. Prince of Wales, AK**	Haida Native Corp U.S.F.S.	7/88	$9,000,000	4,750	$1,895	value determined as part of Congressional Act to purchase & exchange lands
4B	**Goat & South Pass Is. Prince of Wales, AK**	Haida Native Corp U.S.F.S.	7/88	$2,031,000	677	$3,000	value determined as part of Congressional Act to purchase & exchange lands
5	**Admiralty Island, AK**	Trust for Public Land U.S.F.S.	7/88	$520,000	63	$8,215	property was part of a residential/rec subdivision
6	**Big Sur, CA**	Big Sur Land Trust Monterey Parks Dist.	6/89	$1,200,000	1,200	$1,000	redwood property previosly purchased by Land Trust, for public day use.
7	Niawacom, WA	Weyerhauser Nature Cons.	12/88	$1,013,000	701	$1,445	wetlands with negligable timber
8	Willapa Divide, WA	Weyerhauser Nature Cons.	1/89	$2,300,000	275	$8,364	last remaining old growth Cedar stand in region
9	**Pribilof Islands, AK**	Native Corps. USFWS	1984	$5,120,000	8,000	$640	seabird cliff habitat; price set by legislation
	Totals & Averages:			$58,267,000	41,749	$3,355 $1,396	(average) (wtd average)

Source: Mundy Day Bunn

The **Haida Land** Exchange Act of 1986 actually allowed for two sales of 4,750 and 677 acres on Goat and South Pass Islands, in southeastern Alaska. The approximate 4,750 acres on and surrounding Goat Island sold for $9 million ($1,895 per acre), while a discontiguous 677 acre parcel within the Tongas National Forest sold for $2,031,000 or $3,000 per acre. The values were set by Congress as part of the legislation. The legislation was enacted as a means to compensate Haida Village Native Corporation for lands they were not able to select under their ANCSA entitlement. According to a source at the USFS, a second motivation behind the legislation was to bail the Native Corporation out of potential bankruptcy. Though the congressional determination of value in accordance with the native corporation's financial circumstances might suggest the influences of non-market forces, the transaction meets strict definition of market value outlined on page 3, and we have included it here.

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See my item 10-

The USFS purchased a 63.33 acre tract on **Admiralty Island**, Alaska from the Trust for Public Lands in April of 1988. The property was part of a mineral survey which was subsequently subdivided. The Trust for Public Lands originally purchased it as a means to inhibit its development into private homesites. The property fronts Wheeler Creek and is within the Admiralty Island Wilderness Area. The parcel is timbered, and has never been logged. There are no roads on or adjacent to the property. Because of the size (under 100 acres) and platting, this sale is not considered as comparable to the subject as the other six sales.

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possessed extensive timber valu

The **Big Sur** Land Trust, a private land trust in the Big Sur country of California, sold 1,200 acres of redwood forest to the Monterey Peninsula Regional Park District for $1.2 million in June, 1989. The property is located along the scenic California coast roughly 15 miles south of Carmel, and has significant stands of old growth redwood. The land trust had previously obtained the land from the Federal Land Bank after a Ukiah based timber company defaulted on its permit to log. The land trust was founded in 1977 to conserve open space and significant natural resources for public benefit in coastal Monterey County. The property is accessible via an unimproved county road, and is intended for a day use recreation area.

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The **Pribilof Islands** in Alaska's Bering Sea are probably the most important location for marine bird and mammal life in the northern hemisphere. The archipelago contains huge numbers of many seabird species, including most of the world's population of red legged kittiwakes. The largest northern fur seal hauling ground is located on these islands with over one million seals. There are also large numbers of Stellar sea lions and arctic foxes on the islands. Eight thousand acres of high density seabird cliff habitat were purchased by the Department of the Interior in 1984 for a total price of $5,120,000 or $640 per acre. A subsequent appraisal performed by the Fish & Wildlife Service established a market value for 3,000 of the acquired acres of $83 per acre. The highest and best use on which their valuation was based was for marginal cabin sites and reindeer grazing. In this instance Congress placed a value on wildlife habitat well in excess of that based on a lesser use of the property.

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If the Admiralty Island purchase is excluded, the six comparable properties indicate a range in value between $640 per acre and $3,000 per acre. The average of the six sales is $1,587 per acre, the weighted average is $1,285 per acre and the median is $1,496 per acre.

Value Summary and Reconciliation

In summary, six distinct sets of comparable sales data have been presented as evidence of the value placed on high amenity natural land for preservation. Table 19 outlines the range of value for each set of evidence, applies a weighting factor to reflect the probability that each represents the true value of the subject property, and indicates a resulting high and low value range for the subject.

Table 19
Valuation Summary

Evidence		Summary Analysis	Value Indication (low)	Value Indication (high)	probability	Value (low)	Value (high)
Pacific Northwest NWRs	av:	1,150	950	1,250	0.10	95	125
	wtd:	950					
	med:	1,250					
State of AK Acq.	av:	1,570	1,150	1,600	0.25	288	400
	wtd:	1,632					
	med	1,139					
Alaska NPS Acq.	av:	2,922	2,700	2,900	0.10	270	290
	wtd:	2,694					
USFS Acquisitions	av:	1,295	900	1,200	0.05	45	60
	wtd:	1,065					
	med:	737					
AK Exchanges (SNA only)	#1:	923	925	940	0.30	278	282
	#2:	938					
Miscellaneous Acq. (most comparable group)	av:	1,587	1,150	1,170	0.20	230	234
	wtd:	1,285					
TOTAL:					1.00	1,205	1,391
Rounded:						1,200	1,400
Estimated Value		**$1,300**					

Tahoe Basin sale omitted $781,000 p/a.

Wheeler creek sale omitted $8200 p/a

Total Acres:
19,367
Total Value:
$25,177,100

Average of the averages = $1575 p/a.

In analyzing this evidence we feel that the most weight (30%) should be given to the previous SNA-State exchanges in Kachemak Bay State Park because of their obvious comparability with the currently proposed exchange lands. Relatively higher weighting was also given to the State of Alaska acquisitions because of the buyer motivation behind these acquisitions and because of the use to which these properties were put. The miscellaneous acquisitions by public agencies and private conservation groups, of which half were in Alaska, was assigned a 20% probability, followed by the National Park Service acquisitions. The two largest data sets repesenting Pacific Northwest Region National Wildlife Refuges and U.S. Forest Service purchases throughout the country were given the lowest rating because their values were based on more aggregate data and sales were not investigated individually. Also, it is recognized that though the subject lands have abundant wildlife and contain vital habitat areas, the state does not wish to acquire it for a wildlife refuge.

This valuation scheme results in a range in value for the subject property of between $1,200 and $1,400 per acre. Based on this combined evidence, we estimate the most probable value to be $1,300 per acre.

In conclusion, our opinion of the total value of the 19,367 acres being offered for exchange is:

TWENTY-FIVE MILLION, ONE HUNDRED SEVENTY-FIVE THOUSAND DOLLARS

($25,175,000)

CERTIFICATION

I certify that, to the best of my knowledge and belief, ...

- the statements of fact contained in this report are true and correct.
- the reported analyses, opinions, and conclusions are limited only by the reported assumptions and limiting conditions, and are my personal, unbiased professional analyses, opinions, and conclusions.
- I have no personal interest or bias with respect to the parties involved.
- my compensation is not contingent on an action or event resulting from the analyses, opinions, or conclusions in, or the use of, this report.
- my analyses, opinions, and conclusions were developed, and this report has been prepared, in conformity with the requirements of the Code of Professional Ethics and the Standards of Professional Practice of the American Institute of Real Estate Appraisers.
- the use of this report is subject to the requirements of the American Institute of Real Estate Appraisers relating to review by its duly authorized representatives.
- I am currently certified under the voluntary continuing education program of the American Institute of Real Estate Appraisers.
- Vicki Adams and I have made a personal inspection of the property that is the subject of this report.
- Vicki Adams provided significant professional assistance to the person signing this report.

MUNDY-DAY-BUNN

Bill Mundy

Bill Mundy, Ph.D., CRE, MAI

APPENDIX A

SUBJECT LEGAL DESCRIPTION

ATTACHMENT A

SNA LANDS TO BE ACQUIRED BY STATE

* All land described below is within Seward Meridian and is identified in BLM Interim Conveyances 139, 304, 372

Parcel	Legal Description	Approximate Acreage
1	Township 7 South, Range 12 West Sec. 13 (fractional): W½ NE¼ NW¼ NE¼, SE¼ NW¼ NE¼, W½ NW¼ NE¼, S½ NE¼ NW¼, S½	575
2	Sections 22 (fractional): excluding Lot 1 of USS 3606	370
	Sec. 21 (fractional): excluding ADL 47665 located in the SW¼ NW¼, ADL 41036 located in the N½, SW¼, ADL 41300 located in S½, SW¼	495
3	Section 29: excluding USS 4738, ADL 41084-41085 located in NW¼ SW¼	410
4	Section 30: excluding USS 3912, USS 3977 Tracts A, C, D, ASLS 76-114, ADL 41704, located in SW¼ SW¼	408
5	Sections 19 (fractional), 20 (fractional), 21 (fractional), 23 (fractional), 24 (fractional), 25 (fractional), 26, 27, 28, 31, 32, 33, 34, 35, 36: All	7,629
6	Township 8 South, Range 12 West Sections 1, 2, 3, 4, 7, (fractional), 8 (fractional) 9, 10, 11, 12, 13, 14, 15, 22, 23, 24, 25,26, 27, 28: All	12,385
7	Section 5 (fractional): excluding ADL 49431 located in the W½ W½ SW¼	615
8	Section 6 (fractional): excluding ADL 48787 and ADL 49431 located in the E½ SW¼; ADL 46149, ADL 46150, ADL 46151, ADL 46152, ADL 46153, and ADL 46650 located in the N½ SE¼; and ADL 41043 located in the SW¼ NE¼ and NW¼ SE¼	300

ATTACHMENT A

SNA LANDS TO BE ACQUIRED BY STATE

*All land described below is within Seward Meridian and is identified in BLM Interim Conveyances 139, 304, 372

:cel	Legal Description	Approximate Acreage
9	Section 16 (fractional): excluding ADL 46773 located in the SW¼ SW¼	615
10	Section 21 (fractional): excluding ADL 47665 located in the SW¼ NW¼, ADL 41036 located in the N½ SW¼, ADL 41300 located in the S½ SW¼	495
	Cumulative Total	23,802

APPENDIX B

STATISTICAL AREAS USED IN FISH & WILDLIFE ANALYSES

DESCRIPTIONS OF GAME MANAGEMENT UNITS

5 AAC 90.010 General provisions.

The taking of game shall be limited to the respective open seasons, bag limits and other applicable provisions as prescribed in relation to twenty-six geographical areas of the state designated as Game Management Units as described in this part.

1. Unit 1, Southeast Mainland.

The Southeast Alaska mainland from Dixon Entrance to Cape Fairweather and those islands lying east of Clarence Strait from Dixon Entrance to Camano Point and all islands in Stephens Passage and Lynn Canal north of Taku Inlet.

A. Subunit 1(A)—That portion of Unit 1 lying south of Lemesurier Point, including all drainages into Behm Canal and excluding all drainages into Ernest Sound.

B. Subunit 1(B)—That portion of Unit 1 lying between Lemesurier Point and Cape Fanshaw, including all drainages into Ernest Sound and Farragut Bay, including adjacent islands easterly of the center lines of Frederick Sound, Dry Straits (between Sergief and Kadin Islands), Eastern Passage, Blake Channel (excluding Blake Island), Ernest Sound and Seward Passage.

C. Subunit 1(C)—That portion of Unit 1 lying between Cape Fanshaw and the latitude of Eldred Rock, including Sullivan Island and the drainages into Berners Bay and excluding the drainages into Farragut Bay.

D. Subunit 1(D)—That portion of Unit 1 lying north of the latitude of Eldred Rock, excluding Sullivan Island and the drainages into Berners Bay.

west of Yakutat Bay, Disenchantment Bay and the eastern edge of the Hubbard Glacier.

6. Unit 6, Cordova-Valdez.

That area draining into the Gulf of Alaska and Prince William Sound from the middle of Icy Bay and the west side of the Guyot Hills to Cape Fairfield excluding the Nellie Juan and Kings River drainages, but not extending above Miles Glacier on the Copper River; and Kayak, Hinchinbrook, Montague and adjacent islands and Middleton Island.

A. Subunit 6(A)—That portion of Unit 6 with drainages into the Gulf of Alaska east of Palm Point (near Katalla) including Kanak, Wingham and Kayak Islands.

B. Subunit 6(B)—That portion of Unit 6 lying east of the west bank of the Copper River and a line between Flag Point and Cottonwood Point; and the drainages into the Copper River or Gulf of Alaska west of Palm Point (near Katalla).

C. Subunit 6(C)—That portion of Unit 6 lying east of the east bank of Rude River and along the eastern shore of Nelson Bay and Orca Inlet and west of the west bank of the Copper River including that area west of a line between Flag Point and Cottonwood Point.

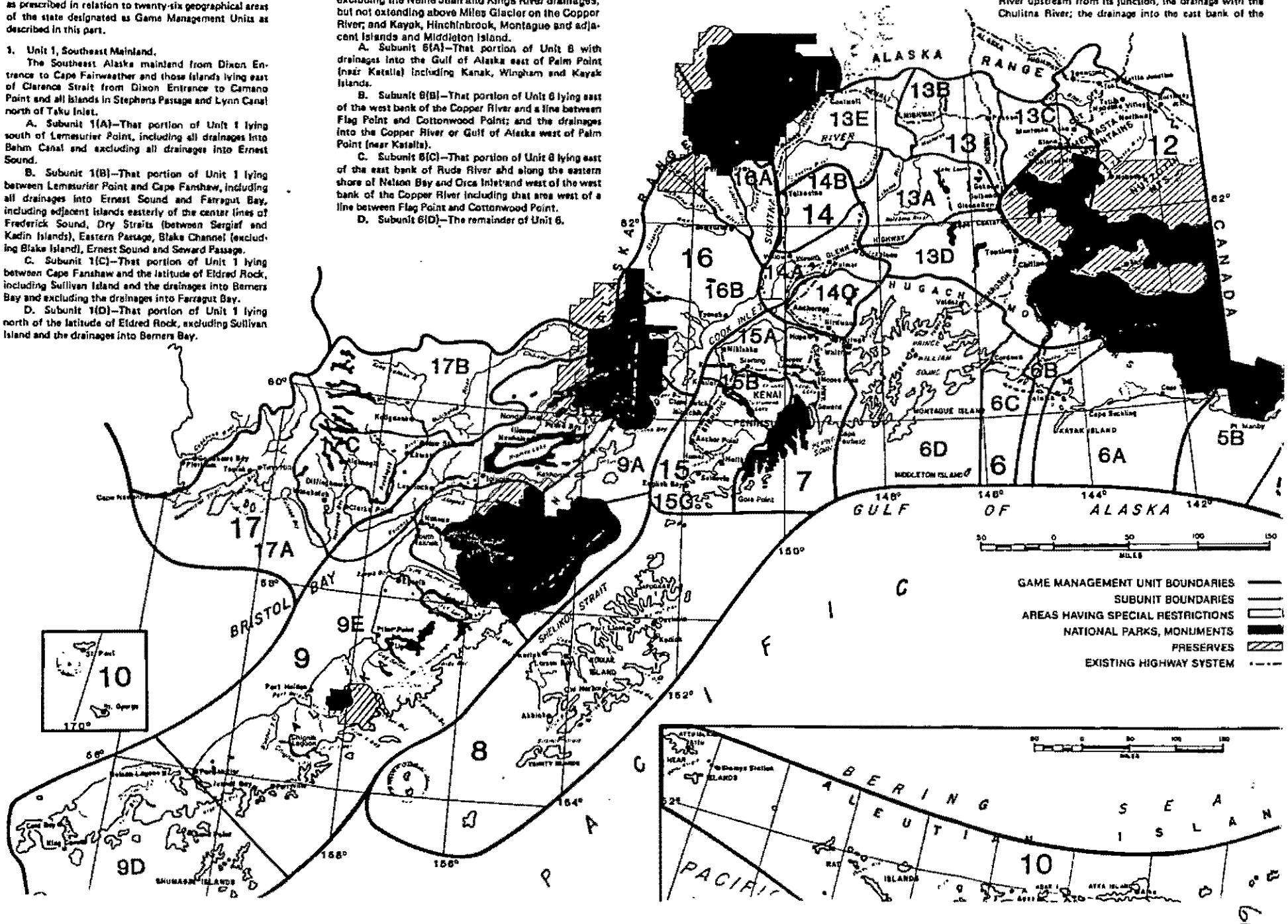
D. Subunit 6(D)—The remainder of Unit 6.

Katmai National Park & Preserve.

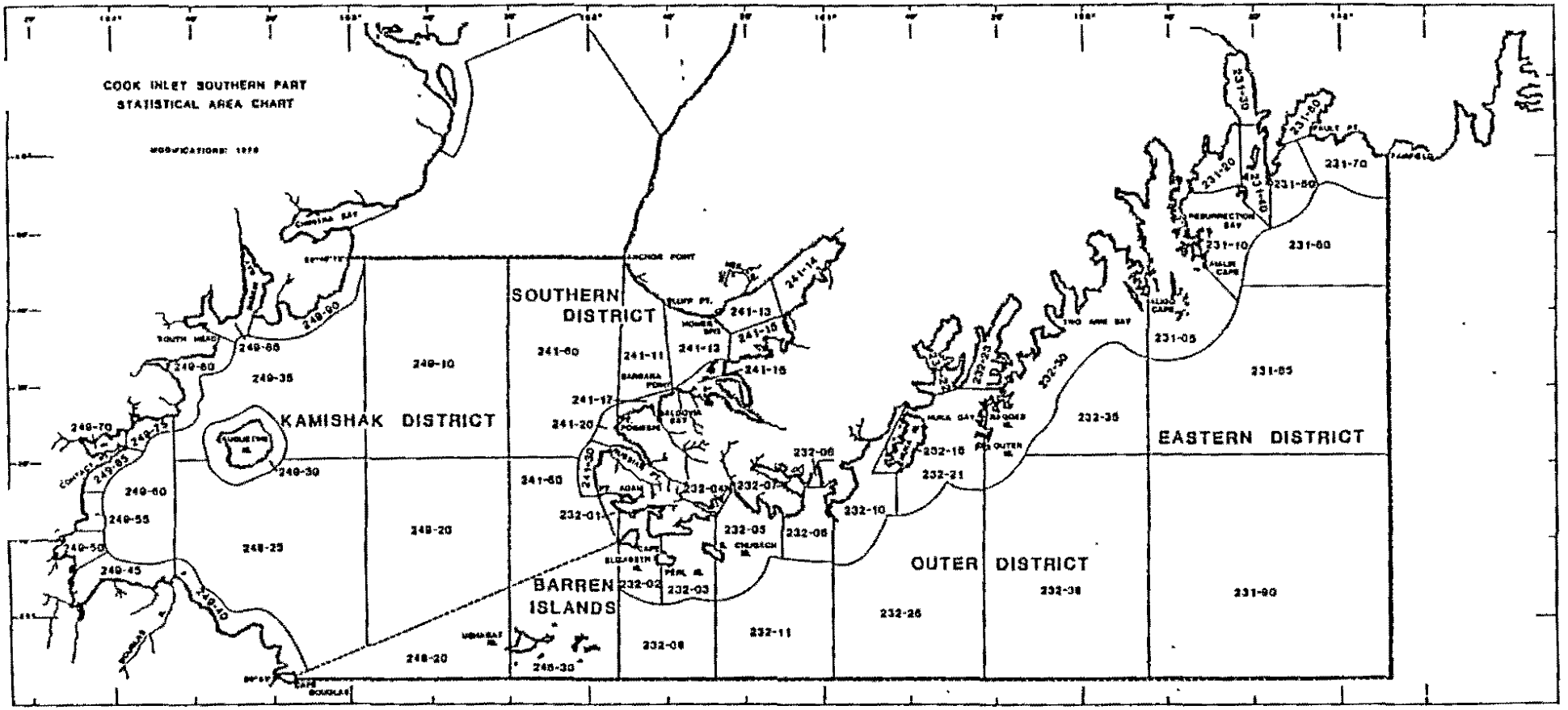
B. Subunit 9(B)—That portion of Unit 9 drained by the Kvichak River.

C. Subunit 9(C)—That portion of Unit 9 drained by Alagnak (Branch) and Naknek Rivers, and including all lands within Katmai National Park & Preserve.

the Copper River from Miles Glacier and including the Slana River drainages north of Suslota Creek; the drainages into the Delta River upstream from Clear Creek and Black Rapids Glacier; the drainage into the Nenana River upstream from the southeast corner of Mt. McKinley National Park at Windy; the drainage into the Susitna River upstream from its junction, the drainage with the Chulitna River; the drainage into the east bank of the



Statistical Areas Used in Commercial Fisheries Analyses



Source: Alaska Dept. of Fish & Game, Commercial Fisheries Division, Lower Cook Inlet Region

Salmon: Area 241-15 &1/2 of Area 241-16

Crab: Southern District

APPENDIX C

KACHEMAK BAY BIRD SPECIES LIST

Bird Species of Kachemak Bay

GEND

A Abundant—species occurs consistently in proper habitat, with available habitat densely occupied, and/or the region regularly hosts great numbers of the species.

C Common—species occurs in all or nearly all proper habitats, but some areas of presumed suitable habitat are occupied sparsely or not at all, and/or the region regularly hosts large numbers of the species.

U Uncommon—species occurs regularly, but utilizes only some or very little of the suitable habitat, and/or the region regularly hosts relatively small numbers; species not observed regularly, even in proper habitat.

R Rare—species occurs, or probably occurs, regularly in the region, but in very small numbers.

AC Accidental—species has been recorded no more than a few times, but irregular observations are likely over a period of years.

TATUS

r - resident
wr - winter resident
B - confirmed breeder
b - probable breeder
v - visitant: non-breeding species, also a species not directly en route between breeding and winter range.
sr - summer resident
m - migrant
n - nomadic

Sp - spring: March–May
Su - summer: June–Aug.
F - fall: Sept.–Nov.
W - winter: Dec.–Feb.

ECIES	Sp	Su	F	W	Status
Red-throated Loon	C	U	C	U	r/m b
Pacific Loon	C	U	C	C	wr/m
Common Loon	C	C	C	C	r B
Yellow-billed Loon	R	R	R	R	wr
Horned Grebe	C	U	C	C	r/m b
Red-necked Grebe	C	C	C	C	r/m B
Northern Fulmar	U	C	C		sr
Pink-footed Shearwater		R			v
Flesh-footed Shearwater			R		v
Sooty Shearwater	U	C	C		v
Short-tailed Shearwater	C	C-A	C		v
Forked-tailed Storm-petrel	R	U	U		sr
Leach's Storm-petrel			R		sr
Double-crested Cormorant	U	U	U	R	r b
Brandt's Cormorant		R			v
Pelagic Cormorant	C	C	C	C	r B
Red-faced Cormorant	C	C	C	R	r B
Great Blue Heron	R	R	R	R	v
Tundra Swan	U		U		m
Trumpeter Swan	U	R	U		sr/m B
Greater White-fronted Goose	U	U	U		m
Snow Goose	R		U		m
Emperor Goose				AC	v
Brant	U		R		m
Canada Goose	C	U	C		m
Green-winged Teal	C	C	C	R	sr B
Mallard	C	C	C	C	r/m B

SPECIES	Sp	Su	F	W	Status
Northern Pintail	C	U	C		sr/m B
Blue-winged Teal	R		R		m
Northern Shoveler	C	U	U	R	m
Gadwall	U	R	R		m
Eurasian Wigeon	U				v
American Wigeon	C	C	C		sr/m B
Common Pochard	AC				v
Canvasback	U				m
Redhead	U		R		m
Ring-necked Duck	R				m
Tufted Duck	AC				v
Greater Scaup	C	C	C	C	r/m B
Lesser Scaup	R				m
Common Eider	C	C	C	C	r B
King Eider	U		R	R	wr
Steller's Eider	R		C	C	wr
Spectacled Eider				AC	v
Harlequin Duck	C	C	C	C	r B
Oldsquaw	C	R	C	C	wr
Black Scoter	C	C	C	C	r/m B
Surf Scoter	C	C	C	C	r/m
White-winged Scoter	C	C	C	A	r/m
Common Goldeneye	C	C	C	C	r B
Barrow's Goldeneye	C	C	C	C	r/m B
Bufflehead	C	R	C	C	r/m b
Common Merganser	C	C	C	C	r B
Red-breasted Merganser	U	U	U	U	r B
Osprey	R	R	R		m
Bald Eagle	C	C	C	A	r B
Northern Harrier	U	U	U	R	sr b
Sharp-shined Hawk	C	C	C	C	r B
Northern Goshawk	C	C	C	C	r B
Swainson's Hawk	R		R		m
Red-tailed Hawk	U	U	U		sr B
Rough-legged Hawk	U	U	U		sr B
Golden Eagle	R	R	R		sr b
American Kestrel	R	R	R		m
Merlin	R	R	R	R	m
Peregrine Falcon	U	R	R	R	m
Gyrfalcon	R	R	R	R	wr
Ring-necked Pheasant	R	R	R	R	r B
Spruce Grouse	C	C	C	C	r B
Willow Ptarmigan	C	C	C	C	r B
Rock Ptarmigan	C	C	C	C	r B
White-tailed Ptarmigan	U	U	U	U	r b
American Coot			AC		v
Sandhill Crane	C	C	C		sr/m B
Black-bellied Plover	C	C	C		m
Lesser Golden Plover	C	C	C		m
Semipalmated Plover	C	C	C		sr/m B
Killdeer		R	R		v
Black Oystercatcher	R				sr
Greater Yellowlegs	C	C	C		sr B
Lesser Yellowlegs	U	U	U		sr b
Solitary Sandpiper	R	R	R		m
Wandering Tattler	C	C	C		sr
Spotted Sandpiper	C	C	C		sr B
Whimbrel	C	C	C		sr/m
Bristle-thighed Curlew	R	R			v
Hudsonian Godwit	R				m
Bar-tailed Godwit	U				m
Marbled Godwit	AC				m
Ruddy Turnstone	C	R	R		m
Black Turnstone	C	U	U		m
Surfbird	C	C	C		sr/m
Red Knot	R	R	R		m

SPECIES	Sp	Su	F	W	Status
Sanderling	U	U	U		m
Semipalmated Sandpiper	C	C	C		m
Western Sandpiper	A	A	C		m
Rufous-necked Stint		AC			v
Least Sandpiper	C	U	U		sr/m b
Baird's Sandpiper	R	R	R		m
Pectoral Sandpiper	U	U	C		m
Sharp-tailed Sandpiper			U		m
Rock Sandpiper	U		U	C	wr
Dunlin	C	U	U	R	m
Short-billed Dowitcher	U	U	U		m
Long-billed Dowitcher	C	C	C		sr/m
Common Snipe	C	C	C	R	sr B
Red-necked Phalarope	C	C	C		sr B
Red Phalarope	R	R	R		v
Pomarine Jaeger	U	U	R		m
Parasitic Jaeger	R	R	R		m
Long-tailed Jaeger	R	R	R		v
Common Black-headed Gull		AC			v
Bonaparte's Gull	C	C	C		sr b
Mew Gull	C	C	C		r B
Ring-billed Gull	R	R	R	R	v
Herring Gull	C	U	C	C	r
Thayer's Gull				AC	v
Slaty-backed Gull				AC	v
Glaucous-winged Gull	A	A	A	A	r B
Glaucous Gull	U	R	U	C	wr
Black-legged Kittiwake	C	C	C	U	sr B
Red-legged Kittiwake		AC			v
Ross' Gull		AC			v
Sabine's Gull			R		v
Ivory Gull				AC	v
Caspian Tern		AC			v
Royal Tern		AC			v
Arctic Tern	C	C	R		sr B
Aleutian Tern	C	C	R		sr B
Common Murre	A	A	C	C	r B
Thick-billed Murre				R	wr
Pigeon Guillemot	C	C	C	C	r B
Marbled Murrelet	C	C	C	C	r b
Kittlitz's Murrelet	C	C	C	R	r b
Ancient Murrelet	R	R	R	R	sr b
Cassin's Auklet		R	R		v
Parakeet Auklet		R			v
Crested Auklet			R	R	v
Rhinoceros Auklet		R			v
Tufted Puffin	C	C	C		sr B
Horned Puffin	C	C	C	R	sr B
Mourning Dove			AC	AC	v
Great Horned Owl	C	C	C	C	r B
Snowy Owl				R	wr
Northern Hawk-Owl	R	R	R	R	sr b
Great Grey Owl	R	R	R	R	r b
Short-eared Owl	U	U	R	R	sr B
Boreal Owl	U	U	U	U	r b
Northern Saw-whet Owl	U	U	U	R	r B
Common Nighthawk	R	R			v
Rufous Hummingbird		R	U		v
Belted Kingfisher	C	C	C	C	r B
Red-breasted Sapsucker				R	v
Downy Woodpecker	U	U	U	U	r B
Hairy Woodpecker	R	R	R	R	r b
Three-toed Woodpecker	U	U	U	U	r b
Black-backed Woodpecker				R	r

SPECIES	Sp	Su	F	W	Status
Northern Flicker	R	R	U	U	r
Olive-sided Flycatcher	R	U	U		sr B
Alder Flycatcher	U	C	C		sr B
Say's Phoebe	R	R	R		m
Horned Lark	R	U	U	R	sr b
Tree Swallow	C	C	C		sr B
Violet-green Swallow	C	C	C		sr B
Bank Swallow	C	C	C		sr B
Cliff Swallow	C	C	C		sr B
Gray Jay	C	C	C	C	sr B
Steller's Jay	C	C	C	C	r B
Black-billed Magpie	C	C	C	C	r B
Northwestern Crow	C	C	C	C	r B
Common Raven	C	C	C	C	r B
Black-capped Chickadee	C	C	C	C	r B
Boreal Chickadee	C	C	C	C	r B
Chestnut-backed Chickadee				R	v
Red-breasted Nuthatch	C	C	C	C	r b
Brown Creeper	C	C	C	C	r b
Winter Wren	C	C	C	C	r B
American Dipper	C	C	C	C	r B
Golden-crowned Kinglet	C	C	C	C	r B
Ruby-crowned Kinglet	C	C	C	R	r B
Northern Wheatear	R	R	R		B
Gray-cheeked Thrush	U	C	U		B
Swainson's Thrush	C	C	C		B
Hermit Thrush	C	C	C		B
American Robin	C	C	A	U	sr B
Varied Thrush	C	A	C	U	sr B
Yellow Wagtail		R			v
Water Pipit	C	R	C	R	sr b
Bohemian Waxwing		R	C	C	m
Northern Shrike	U	U	U	U	r B
European Starling				R	v
Orange-crowned Warbler	C	C	C		sr B
Yellow Warbler	C	C	C		sr B
Yellow-rumped Warbler	C	C	C		sr B
Townsend's Warbler	C	C	C		sr B
Blackpoll Warbler	U	U	U		sr b
Northern Waterthrush	U	U	U		sr b
Wilson's Warbler	C	C	U	R	sr B
Western Tanager	AC				v
American Tree Sparrow	U	R	U	U	wr
Savannah Sparrow	A	A	C		sr B
Fox Sparrow	C	C	C	R	sr B
Song Sparrow	C	C	C	C	r B
Lincoln's Sparrow	C	C	C	R	sr B
White-throated Sparrow				AC	v
Golden-crowned Sparrow	C	C	C	C	r/m B
White-crowned Sparrow	C	C	C	C	r/m B
Harris' Sparrow				AC	v
Dark-eyed Junco	C	C	C	R	r/m B
Lapland Longspur	C	R	C	R	m
Rustic Bunting	AC				v
Snow Bunting	U			U	wr
McKay's Bunting					
Red-winged Blackbird	R	R			
Rusty Blackbird	C	C	C		
Brown-headed Cowbird					
Rosy Finch	C		C	C	wr
Pine Grosbeak	C	C	C	C	r B
Purple Finch	C			R	v
Cassin's Finch	R	AC			v
Red Crossbill	R	C	R	R	r b
White-winged Crossbill	C	C-A	C	C-A	r b
Common Redpoll	C	C-A	C	C-A	r/m B
Hoary Redpoll	R	C	R	R	wr
Pine Siskin	C	C	C	C-A	r/m B

Source: Center for Alaskan Coastal Studies; May, 1989

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APPENDIX D

COMPARABLE SALES EVIDENCE

NATIONAL PARK SERVICE ACQUISITIONS

Location:	Wrangell St. Elias National Park & Preserve
Legal:	Lots 1 & 2, U.S. Survey 7205
Grantor:	Francine Gagnon
Grantee:	U.S. National Park Service
Date:	September 27, 1985
Size:	159.99 acres
Sale Price:	$420,500 Price/Acre: $2,627

Description: Sale No. 2 is an approximate 160 acre parcel in the Wrangell-St. Elias National Park & Preserve. This is the largest unit in the national park system and is characterized by remote mountains, valleys, wild rivers, and abundant wildlife. The property is mostly flat with rolling hills, averaging 1,500 to 1,700 feet above sea level, with stands of willow, aspen, alder, white spruce and cottonwood. It was sold to the NPS by Francine Gagnon in September, 1985, for $420,000. This yields a per acre value of $2,627. According to the NPS, the property had been leased by the Park Service as an administrative site. The seller first offered to sell the property to the NPS before putting it on the open market.

Source: U.S. National Park Service

$229,500 via Mundy/Tew

NATIONAL PARK SERVICE ACQUISITIONS

Location: Kantishna Region, Denali National Park

Legal: Not available

Grantor: Lloyd, Cook, Lloyd
Grantee: U.S. National Park Service
Date: March, 1989
Size: 121 acre
Sale Price: $665,000 Price/Acre: $5,495

Description: Sale No. 5 was a 121 acre inholding in Denali National Park and Preserve. This park contains Mount McKinley, North America's highest peak, as well as numerous glaciers, scenic vistas and abundant wildlife to include moose, Dahl sheep, grizzly bears, and timber wolves. The property consists of numerous patented mining claims with no improvements. According to the seller, the appraised value of the property on which the selling price was based did not attribute any value to the subsurface estate. The property was sold to the NPS in March, 1989 for $665,000 ($5,496 per acre). The seller claimed that he was not under duress to sell his property and that he felt it represented an arm's length transaction.

Source: U.S. National Park Service; S. Cook

Sale was contingent upon
donation subsurface rights
$6,000,000 appraised valuation
FMV
$ 80,000,000 ± large

NATIONAL PARK SERVICE ACQUISITIONS

Location:	Upper Noatak River Drainage, south of its confluence with Otkurah Creek, the Gates of the Arctic National Park, Alaska
Legal:	Allotment F-19203, unsurveyed parcel within Section 17, T. 26N, R.16E, Kateel River Meridian
Grantor:	Myra Walker
Grantee:	U.S. National Parks Service
Date:	June, 1988
Size:	160± acres
Sale Price:	$108,000
Land Cost:	$103,000 Price/Acre: $644.00
Description:	Sale No. 4 was a 160 acre Native allotment within the Gates of the Arctic National Park. The NPS purchased it for $108,000 cash in June of 1988. A cabin valued at $5,000 was included in the sale. This yields value for the land only of $644 per acre. The property is gently sloping alpine and arctic tundra. Some of the property fronts the Upper Noatak River, and there is an approximate 30 to 40 acre lake on this site. The property provides scenic views of the surrounding mountain ranges. The only access to the property is by floatplane onto the lake.
Source:	U.S. National Park Service

STATE OF ALASKA ACQUISITION

Project Name:	Chugach State Park (#227)
Parcel No.:	9
Location:	Chugach State Park, Alaska
Legal:	S1/2 of the NE1/4; N1/2 of the SE1/4; S1/2 of the NW1/4 of Section 9, T.11N, R.2W, Seward Meridian and the S1/2 of the NE1/4 of Sect. 8, T.11 N, R. 2W
Grantor:	Jerry & Paula Burton
Grantee:	State of Alaska Division of Parks
Acquisition Date:	April, 1978
Size:	320.0 acres
Land Cost:	$960,000 Cost/Acre: $3,000

Source: Alaska State Division of Parks

STATE OF ALASKA ACQUISITION

Project Name:	Chugach State Park (#227)
Parcel No.:	3
Location:	Chugach State Park, Alaska
Legal:	Portion of Section 6, T.13N, R.1E, Seward Meridian, Anchorage Recording District, Third Judicial District, State of Alaska
Grantor:	The Nature Conservancy
Grantee:	Alaska Division of Parks
Acquisition Date:	August, 1977
Size:	150.00
Land Cost:	$313,000 Cost/Acre: $2,087

Source: Alaska State Division of Parks

STATE OF ALASKA ACQUISITION

Project Name:	Denali (#228)
Parcel No.:	2
Location:	Denali National Park & Reserve
Legal:	Lot 2 of U.S. Survey 5500 located in the Talkeetna recording district, 3rd Judicial District
Grantor:	Parkland Investments
Grantee:	State of Alaska Division of Parks
Acquisition Date:	November, 1977
Size:	159.60
Land Cost:	$435,000 Cost/Acre: $2,726

Source: Alaska State Division of Parks

STATE OF ALASKA ACQUISITION

Project Name:	Kenai Peninsula State Park (#289)
Parcel No.:	9 and 10
Location:	Kenai State Park, Alaska
Legal:	SE 1/4 of the NE 1/4, Sec. 29, T.2N, R.12W, Seward Meridian
Grantor:	Childs, C.I.H. Investments
Grantee:	State of Alaska Division of Parks
Acquisition Date:	January, 1981
Size:	158.03 acres
Land Cost:	$180,000 Cost/Acre: $1,139

Source: Alaska State Division of Parks

STATE OF ALASKA ACQUISITION

Project Name:	Chilkat Eagle Preserve (#318)
Parcel No.:	1
Location:	70 miles northwest of Haines, Alaska
Legal:	U.S. Survey 786, T.29S, R. 57E, Copper River Meridian
Grantor:	The Nature Conservancy
Grantee:	State of Alaska Division of Parks
Acquisition Date:	January 7, 1986
Size:	320 acres
Land Cost:	$144,000 Cost/Acre: $450.00

Comments: The property was initially acquired by the Nature Conservancy as a donation with no title restrictions. The Nature Conservancy subsequently donated 50% of teh appraised value of the property to the state, with the balance contributed by LWCF. Total value of prpoerty, including donation = $144,000.

Source: Alaska State Division of Parks

MUNDY-DAY-BUNN

STATE OF ALASKA ACQUISITION

Project Name:	Nancy Lake II (#254
Parcel No.:	1
Location:	Nancy Lake State Recreation Area, 70 miles north of Anchorage on George Parks Highway
Legal:	Lot 3, U.S. Survey 4640, Palmer recording district
Grantor:	Anne Connolly
Grantee:	State of Alaska Division of Parks
Acquisition Date:	April, 1980
Size:	128.41 acres
Land Cost:	$127,000 Cost/Acre: $989.00

Source: Alaska State Division of Parks

MUNDY-DAY-BUNN

STATE OF ALASKA ACQUISITION

Project Name:	Nancy Lake (#126)
Parcel No.:	13
Location:	Nancy Lake State Recreation Area, 70 miles north of Anchorage on George Parks Highway
Legal:	See attached
Grantor:	Vernon & Pauline Johnson
Grantee:	State of Alaska Division of Parks
Acquisition Date:	September, 1973
Size:	137.81 acres
Land Cost:	$82,700 Cost/Acre = $600.00

Source: Alaska State Division of Parks

LWCF Project # 02-00126

Parcel #13 - Johnson

A tract of land situated in U.S. Survey 3869, in unsurveyed Sections 26 and 27, Township 18 North, Range 5 West, Seward Meridian, in the Palmer Recording District, Third Judicial District, State of Alaska, more particularly described as follows, to wit:

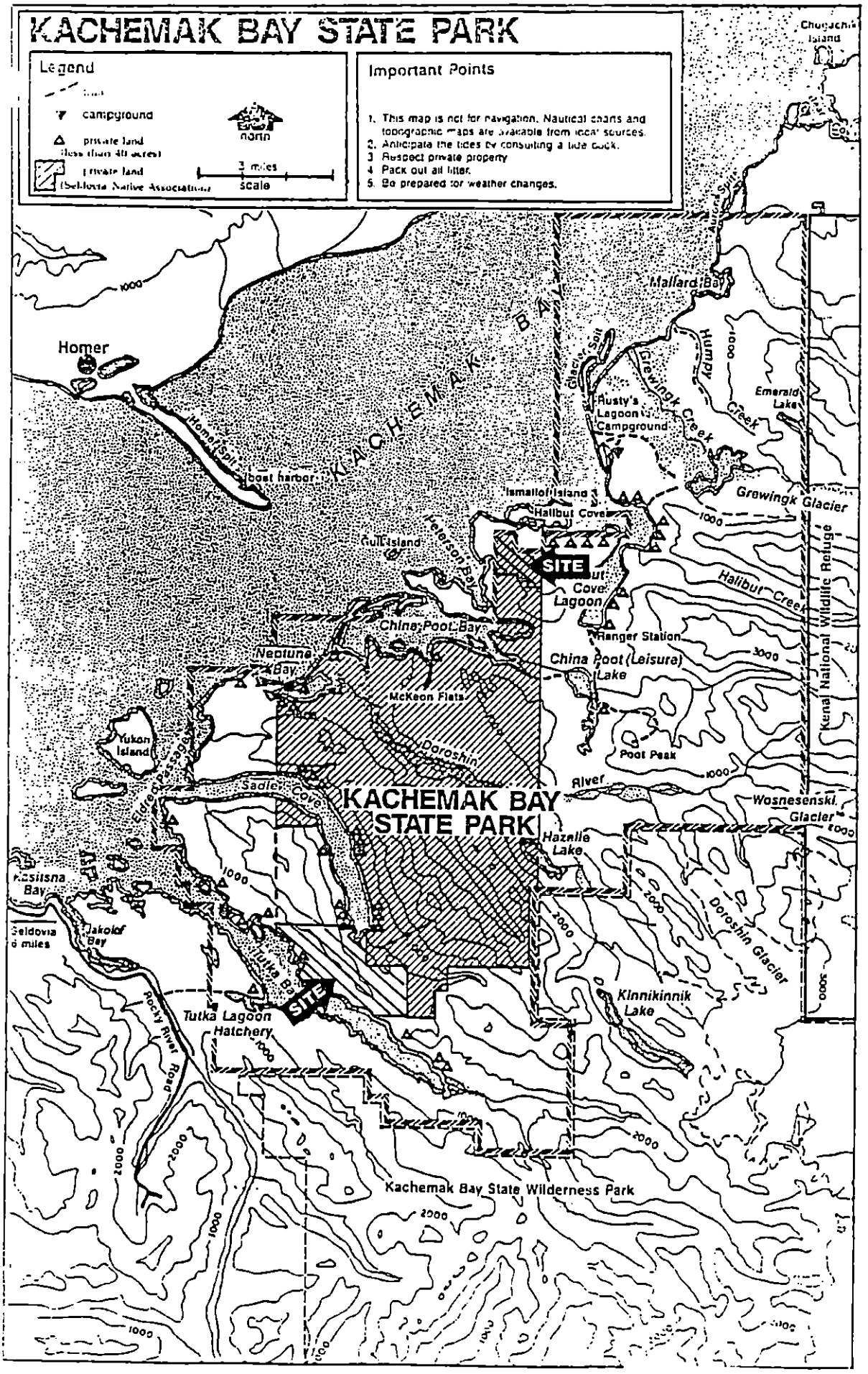
Beginning at Corner No. 2 of said U.S.S. 3869; thence southeasterly along the easterly line of said U.S.S. 3869 a distance of 1320.0 feet to Corner No. 3 of said U.S.S. 3869; thence northwesterly along the southerly line of said U.S.S. 3869 a distance of 4547.31 feet, more or less, to the unsurveyed easterly 1/16 line of said unsurveyed Section 27, said line designated as State of Alaska Nancy Lake Park Boundary; thence northwesterly along said unsurveyed 1/16 line and said designated Park Boundary 1317.97 feet to the northerly line of said U.S.S. 3869; thence easterly along said northerly line 4547.40 feet to the Point of Beginning.

Parcel # 51 - Simonds

[illegible] Seward Meridian, A. B. L. M. Small Tract, described as follows: On the West shore of Nancy Lake about 2 1/2 miles [illegible] Willow, Alaska, and about 2 miles [illegible] corner of B. L. M. Lot 50, thence 200 feet west to a corner; then north to a corner located on the shore of Nancy Lake; thence southeasterly along the shore line to the point of beginning, situated in the Palmer Recording District, Third Judicial District, State of Alaska.

SELDOVIA LAND EXCHANGE I

Location:	Kachemak Bay State Park, Alaska T 8S, R12W, Section 29, 30, 31, 32, 33, 34 T 9S, R13W, Section 1, 2, 11
Grantor/Grantee:	Exchange between Seldovia Native Association and State of Alaska
Terms of Exchange:	Exchange of 3,578 acres of SNA's inholdings, valued at $3,303,500 ($923/acre), to the state of Alaska in return for 1,967.8 acres, valued at $3,303,500 ($1,679/acre), of state land located elsewhere.
Transaction Date:	March 15, 1983, as per 1979 Memorandum of Understanding
Conveyed Land Status:	Lands received by the State of Alaska are currently managed as part of Kachemak Bay State Park, established by the Alaska State legislature for protection of the unique wildlife, recreational and scenic values contained in those lands and waters.


KACHEMAK BAY STATE PARK
Legend
campground
north
private land
(less than 40 acres)
private land
(Seldovia Native Association)
3 miles
scale
Important Points
1. This map is not for navigation. Nautical charts and topographic maps are available from local sources.
2. Anticipate the tides by consulting a tide book.
3. Respect private property
4. Pack out all litter.
5. Be prepared for weather changes.
Homer
Homer Spit
boat harbor
KACHEMAK BAY
Gull Island
Peterson Bay
China Poot Bay
Neptune Bay
McKeon Flats
Doroshin
Yukon Island
Eldred Passage
Sadie Cove
KACHEMAK BAY STATE PARK
SITE
Halibut Cove
Ismailof Island
Halibut Cove Lagoon
Ranger Station
China Poot (Leisure) Lake
Poot Peak
River
Hazelle Lake
Mallard Bay
Glacier Spit
Grewingk Creek
Humpy Creek
Rusty's Lagoon Campground
Emerald Lake
Grewingk Glacier
Halibut Creek
Kenai National Wildlife Refuge
Wosnesenski Glacier
Doroshin Glacier
Kinnikinnik Lake
Aurora Spit
Chugachik Island
Kasilsna Bay
Seldovia 6 miles
Jakolof Bay
Tutka Bay
Tutka Lagoon Hatchery
Rocky River Road
Kachemak Bay State Wilderness Park
1000
2000
3000

SELDOVIA LAND EXCHANGE II

Location:	Kachemak Bay State Park, Alaska T 7S, R12W, Sections 12, 13
Grantor/Grantee:	Exchange between Seldovia Native Association and State of Alaska
Terms of Exchange:	Exchange of 960 acres of SNA's inholdings, valued at $900,000 ($937.5/acre), to the State of Alaska for 680 acres of state land, valued at $900,000 ($1,324/acre) located elsewhere.
Transaction Date:	1985, as per 1979 Memorandum of Understanding
Conveyed Land Status:	Lands received by the State of Alaska are currently managed as part of Kachemak Bay State Park, established by the Alaska State legislature for protection of the unique wildlife, recreational and scenic values contained in those lands and waters.

ALASKA NATIONAL WILDLIFE REFUGES
INHOLDINGS PROPOSED EXCHANGE

Location:	Various Native owned inholdings in Kodiak, Kenai, Yukon Delta, Alaska Maritime, Innoko, Nowitna and Kanuti National Wildlife Refuges, Alaska
Grantor/Grantee:	Various Native organizations (see attached) and the U.S. Department of Interior
Terms of Exchange:	Exchange of 897,866 acres located in seven Alaskan National Wildlife Refuges for limited oil and gas interests on the coastal plain of the Arctic Refuge (1002 area). Negotiated values of Native Corporation exchange lands are summarized in the attached table. Value of limited oil and gas interests have been appraised based upon potential for oil and gas development. Exchange is on an equal value basis. Current negotiated value for the 897,866 acres, in aggregate, is $539,085,739 ($600/acre).
Transaction Date:	Exchange is contingent on Congressional approval to open the Arctic National Wildlife Refuge for oil and gas exploration, development, and production. Negotiated values were determined as of July, 1988.
Conveyed Land Status:	Lands acquired by the Department of Interior will be managed by the U.S. Fish and Wildlife Service as part of the National Wildlife Refuge System.

DRAFT

ATTACHMENT 5

NEGOTIATED VALUE OF NATIVE CORPORATION LANDS OFFERED IN EXCHANGE

Tract Description	Acreage	Value/Acre	Total Value ($)
KONIAG, INC.			
Karluk Lake & River	37,808	850	32,136,800
Sturgeon River	25,747	765	19,696,455
Brown's Lagoon	6,530	574	3,748,220
Grant Lagoon/ Halibut Bay	20,533	552	11,334,216
Larsen Bay - North	10,395	552	5,738,040
Upper Uyak Bay	2,000	510	1,020,000
Carlsen Point	1,579	510	805,290
Larsen Bay Village	2,527	510	1,288,770
Walcott Reef Strip	4,485	340	1,524,900
Uyak Bay - West	960	170	163,200
SUBTOTALS	112,564		77,455,891
AKHIOK-KAGUYAK, INC.			
Olga Lake	29,921	727	21,752,168
Horse Marine Lagoon	10,284	808	8,309,472
Olga Bay	4,690	765	3,587,850
Kaiugnak Bay	5,762	574	3,307,388
Kiavik Bay	4,212	574	2,417,688
Portage/Sulua Bay	9,168	574	5,262,432
Sukhoi Lagoon	11,156	574	6,403,544
Lower Aliulik Peninsula	7,457	574	4,280,318
Kaguyak	21,019	574	12,064,906
Jap Bay	5,396	510	2,751,960
Moser Peninsula	9,629	510	4,910,790
SUBTOTALS	118,694		75,048,516
OLD HARBOR NATIVE CORPORATION			
Midway Bay	7,409	574	4,252,766
Barling Bay	5,425	552	2,994,600
Three Saints Bay	5,495	340	1,868,300
Kiliuda Bay	16,792	342	5,747,364
Sitkalidak Island	54,784	564	30,870,784
SUBTOTALS	89,905		45,733,814

DRAFT

ATTACHMENT 5 (CONTINUED)

NEGOTIATED VALUE OF NATIVE CORPORATION LANDS OFFERED IN EXCHANGE

Tract Description	Acreage	Value/Acre	Total Value ($)
NATIVE LANDS GROUP			
Scammon Bay	19,616	754	14,790,944
Kakechik/Hooper Bay	69,068	805	55,613,821
Hazen Bay	24,598	827	20,333,591
Kalavainarak River	11,941	744	8,884,104
Dall Lake	107,524	301	32,364,724
Tyonek	8,000	547	4,376,000
Elephant Lake	3,200	621	3,145,600
Sunken Island Lake	13,932	1711	8,651,772
Cook Inlet Region, Inc.*	8,086		13,835,715
Aleut Corp. Shumagin Islands	32,850	673	22,116,932
SUBTOTALS	298,815		184,113,203
DOYON LIMITED			
Kaiyuh Slough	67,797	647	43,864,659
Kokrines	27,978	610	17,066,580
Northern Nowitna	49,778	610	30,364,580
Kanuti River Lowlands	21,952	660	14,488,320
Sithylemenkat Lake	53,040	300	15,912,000
SUBTOTALS	220,545		121,696,139
GANA-A'YOO, LIMITED			
Galena	57,397		35,031,356
TOTALS	897,866		539,085,739

* Kenai/Russian River/Tustemena Lake/Skilak Lake-Hidden Creek/Russian Lakes Trail/Swanson River

Source:

ACQUISITION OF INHOLDINGS IN ALASKA NATIONAL WILDLIFE REFUGE, DRAFT LEGISLATIVE ENVIRONMENTAL IMPACT STATEMENT, July, 1988

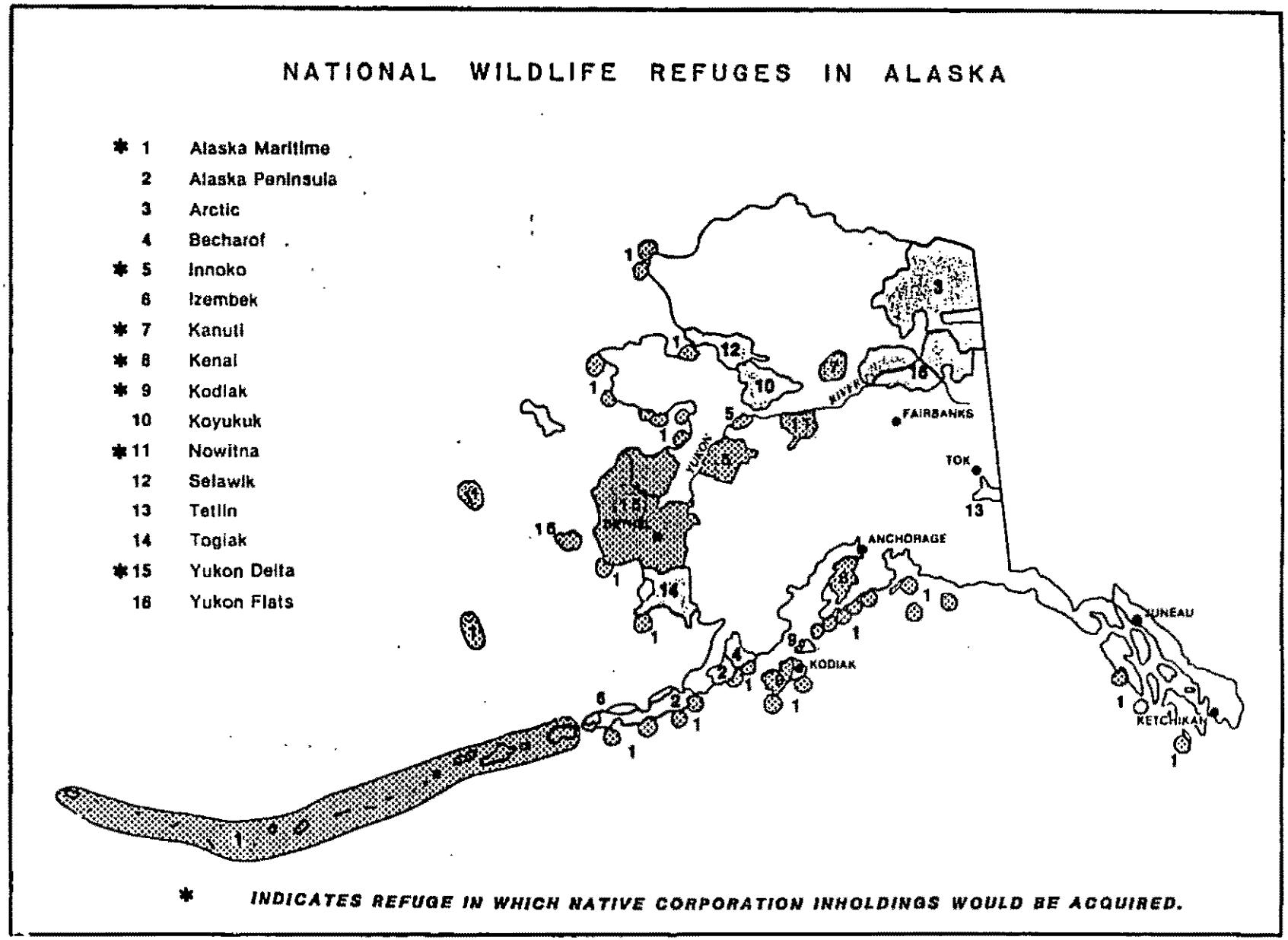


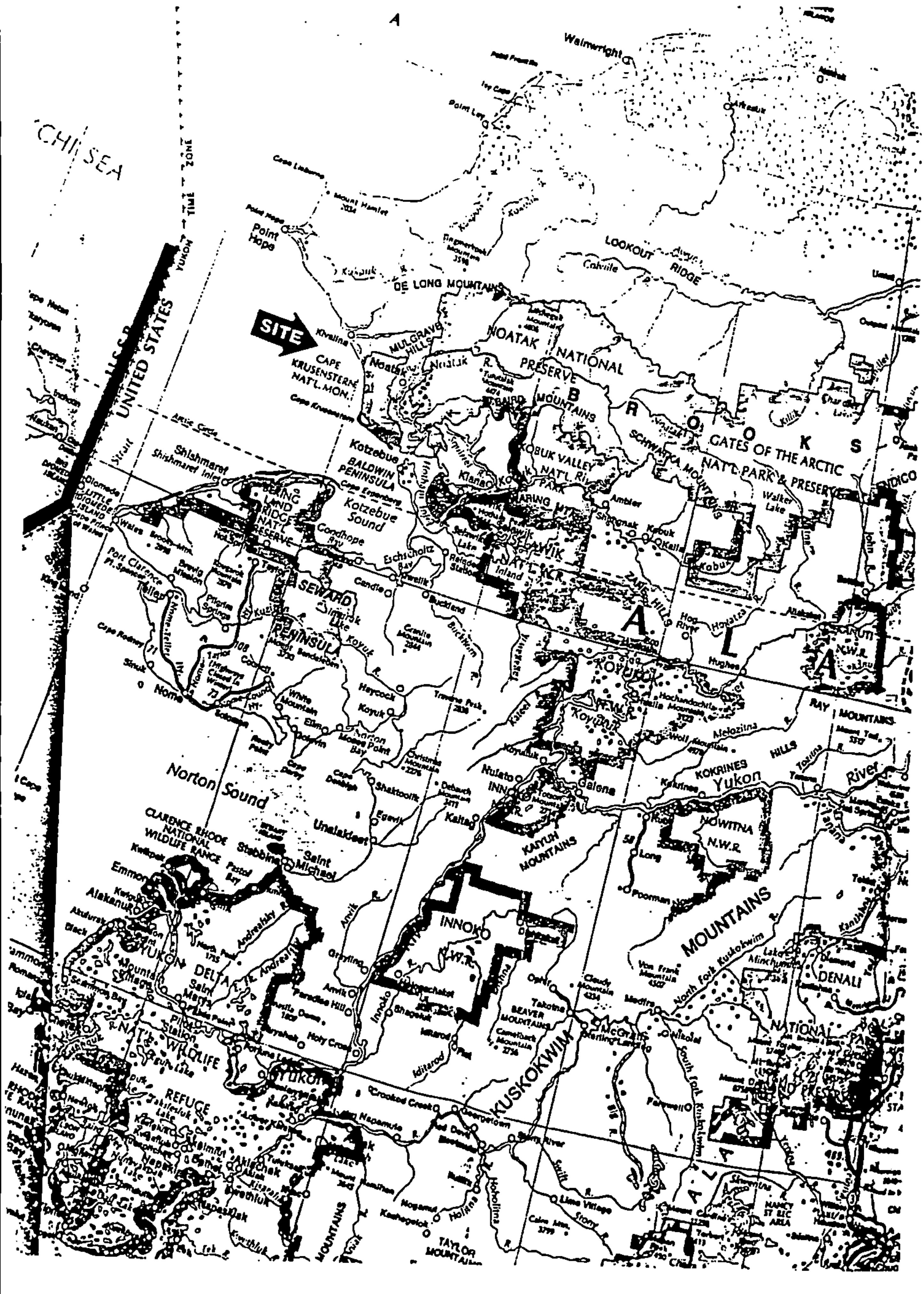
Figure 2-1. Location of refuges with inholdings proposed for acquisition.

PINGA EXCHANGE

Location:	Arctic Coastal Plains between the Colville River and the Brooks Range, approximately 350 miles north of Fairbanks, Alaska. T 8S, R12W, Section 7-9, 16-21 T 8S, R13W, Section 1-4, 9-16, 21-24 T 7S, R13W, Section 1-28, 33-36 T 6S, R13W, Sections 25, 36
Grantor/Grantee:	Exchange between Arctic Slope Regional Corporation (ASRC) and the Bureau of Land Management (BLM)
Terms of Exchange:	Relinquishment and transfer of fee simple surface estate of 37,634 acres of ASRC land in exchange for 37,972 acres of BLM land. Exchange was based on a BLM prepared "Memorandum of Opinion" which estimated land values for both parcels to be in the $80 to $100/acre range. Values were assessed to determine equal value in exchange, and were not agreed upon by ASRC as representing the true value of their exchange land.
Transaction Date:	October 15, 1986
Motivation for Exchange:	The purpose of the exchange was to consolidate land ownership for both parties, resulting in increased management and administrative efficiency. Highest and best use of exchange lands was determined to be for wildlife habitat, watershed protection and subsistence use.

NANA/CAPE KRUSENSTERN EXCHANGE

Location:	Cape Krusenstern National Monument, 60 miles NW of Kotzebue, Alaska
Grantor/Grantee:	Land exchange between NANA Regional Corporation and the National Park Service
Terms of Exchange:	Relinquishment to the U.S. of 64,974 acres of NANA owned land within Cape Krusenstern National Monument along with a 1,985 acre coastal parcel and a five acre administrative site in the Kobuk Valley valued at a total of $4,216,200 ($62.97/acre) in exchange for 62,089 acres of surface and subsurface estate in the northcentral portion of the monument, and 600 acres of limited subsurface estate (rock and gravel) with a total value of $3,990,000 ($60/acre for surface estate portion only)
Transaction Date:	January, 1985
Motivation for Exchange:	The purpose for the exchange was to consolidate National Park Service holdings in Cape Krusenstern National Monument, and provide NANA with fee simple title to a right-of-way road to the Red Dog Mine.


A
Wainwright
Point Hope
LOOKOUT RIDGE
DE LONG MOUNTAINS
SITE
Kivalina
MULGRAVE HILLS
NOATAK NATIONAL PRESERVE
CAPE KRUSENSTERN NAT'L. MON.
BAIRD MOUNTAINS
B R O O K S
GATES OF THE ARCTIC NAT'L PARK & PRESERVE
SCHWATKA MOUNTAINS
UNITED STATES
YUKON TIME ZONE
Kotzebue
BALDWIN PENINSULA
Kotzebue Sound
Shishmaref
KOBUK VALLEY NAT'L PARK
Ambler
Shungnak
Kobuk
Walker Lake
SELAWIK NAT'L W.R.
Selawik
Candle
Buckland
SEWARD PENINSULA
Nome
Koyuk
Haycock
Elim
Norton Sound
Unalakleet
Kaltag
Nulato
Galena
Koyukuk
Ruby
Yukon River
KOKRINES HILLS
NOWITNA N.W.R.
KAIYUH MOUNTAINS
INNOKO N.W.R.
Grayling
Anvik
Holy Cross
Long
Poorman
MOUNTAINS
North Fork Kuskokwim
McGrath
Takotna
Ophir
BEAVER MOUNTAINS
Medfra
Nikolai
CLARENCE RHODE NATIONAL WILDLIFE RANGE
Stebbins
Saint Michael
Emmonak
Alakanuk
YUKON DELTA
Saint Marys
Pilot Station
NAT'L WILDLIFE REFUGE
Crooked Creek
Georgetown
Sleetmute
KUSKOKWIM
Stony River
Bethel
Akiachak
Kwethluk
Napaskiak
Aniak
DENALI NATIONAL PARK & PRESERVE
Farewell
Lime Village
TAYLOR MOUNTAINS
Nome
Hughes
Allakaket
Bettles
Walker Lake
Tanana
RAY MOUNTAINS
Candle
CHI SEA

KURUPA LAKE/CAPE HALKETT EXCHANGE

Location:	Karupa Lake, Brooks Range, in the Gates of the Arctic National Park, Alaska
Grantor/Grantee:	Land exchange between Arctic Slope Regional Corporation (ASRC) and National Park Service
Terms of Exchange:	Relinquishment of 6,137.75 acres of ASRC land in and near Karupa Lake valued between $409,000 and $584,000 ($65-$93/acre) in exchange for 5,586 acres of U.S. land at Cape Halkett valued between $447,000 and $614,000 ($80-$110/acre).
Transaction Date:	December, 1981 (Exchange Agreement signed)
Motivation for Exchange:	NPS determined that the acquisition of the Kurupa Lake parcel would ensure the protection of the outstanding natural values of the area for inclusion in Gates of the Arctic National Park.
Note:	Land values were not determined by an appraisal, but a special advisory report produced by the NPS. According to sources from both parties to the exchange, there is controversy over whether the estimated value ranges were agreed upon by both sides.

CHANDLER LAKE EXCHANGE

Location: Chandler Lake within the Gates of the Arctic National Park, Brooks Range, Alaska and Arctic National Wildlife Refuge, Alaska

Grantor/Grantee: Land exchange between the U.S. Dept. of the Interior and the Arctic Slope Regional Corporation

Terms of Exchange: Under the terms of the agreement, the Department of Interior acquired 101,272 acres of surface estate within the Gates of Arctic National Park in exchange for approximately 93,960 acres of subsurface estate within the Arctic National Wildlife Refuge conveyed to the Arctic Slope Regional Corporation (ASRC). The values of acreage and other interests involved in the exchange were appraised as follows:

Value to U.S.:

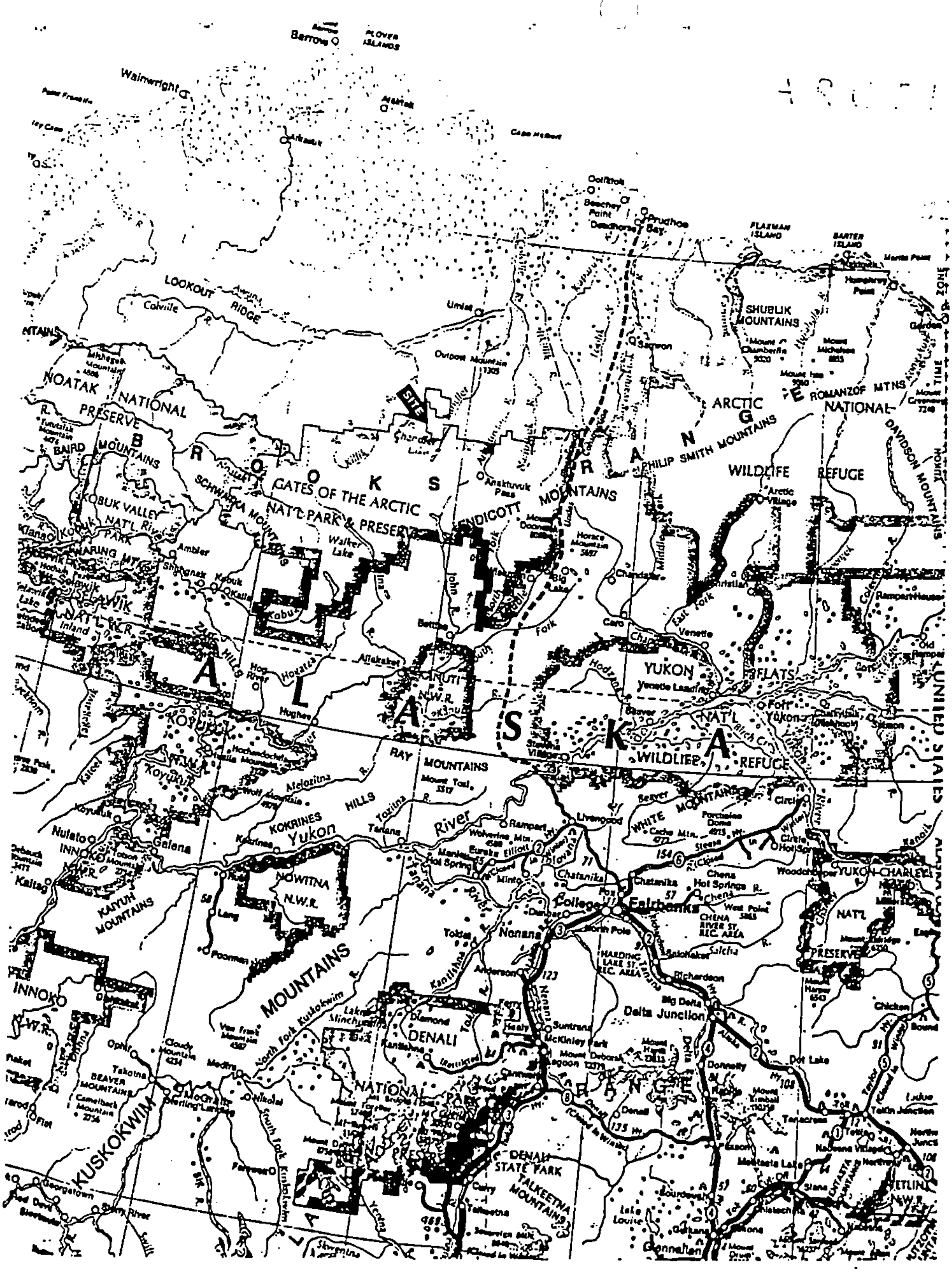
a) 101,272 acres of surface, recreational land (subsurface retained by ASRC), ($49.4/acre)	$5,001,500
b) Access and recreational easements in adjacent areas	100,000
	$5,101,500

Value to ASRC:

a) 93,960 acres of subsurface lands ($62.8/acre)	$5,900,000

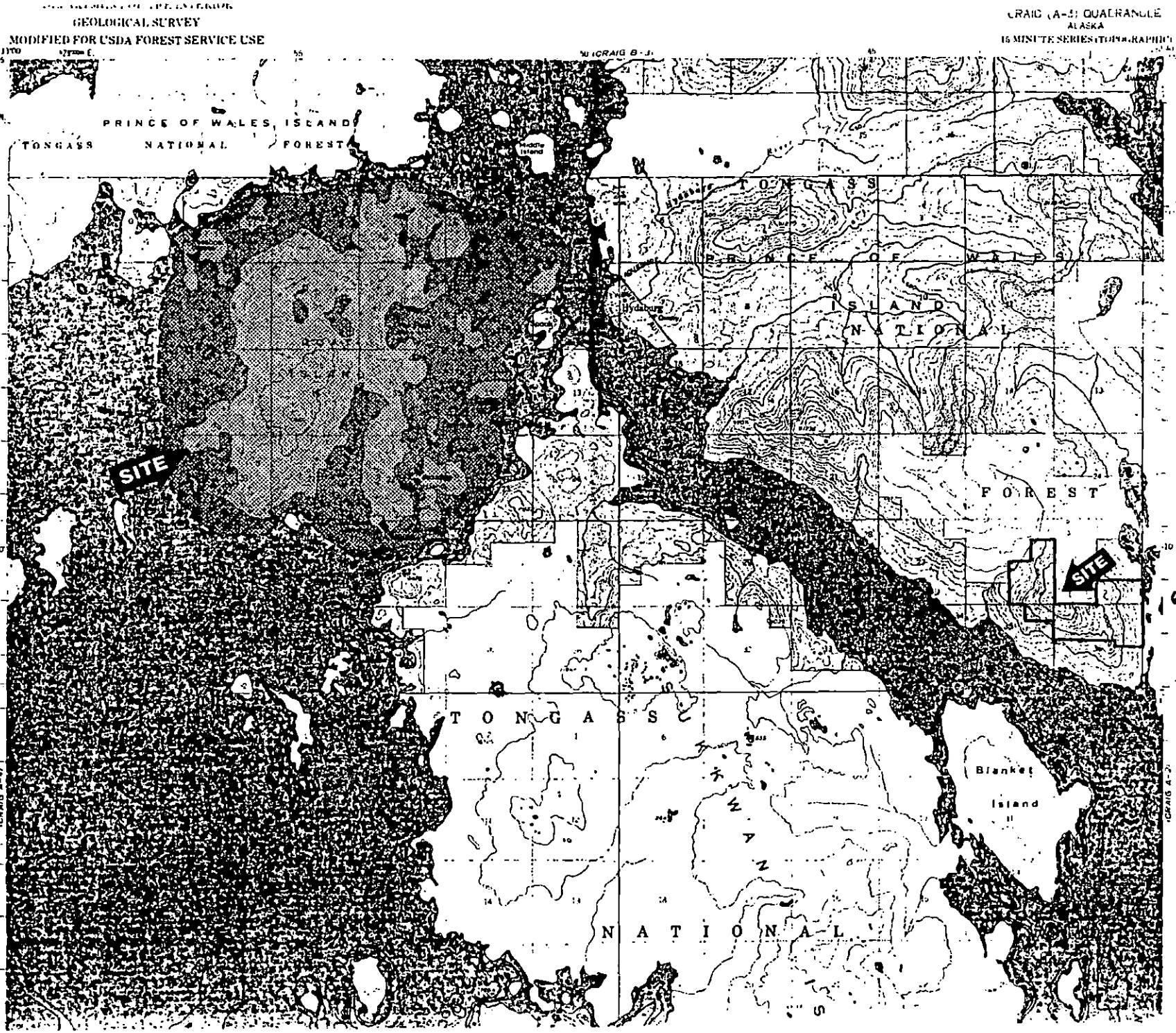
Note: The appraised value of the subsurface interest in the lands acquired by ASRC were "highly speculative" and were in consideration of the current restrictions placed on oil and gas development within national wildlife refuges. If restrictions on oil and gas exploration and development were ever to be lisfted, the economic value of the subsurface estate and interests could be substantially higher than the estimated $5.9 million.

Transaction Date: August, 1983


Barrow
Wainwright
Prudhoe Bay
Beechey Point
Deadhorse
Umiat
LOOKOUT RIDGE
Colville R.
SHUBLIK MOUNTAINS
Humphrey Point
Sagwon
Outpost Mountain
SITE
ARCTIC
NATIONAL
WILDLIFE
REFUGE
ROMANZOF MTNS
DAVIDSON MOUNTAINS
PHILIP SMITH MOUNTAINS
BROOKS RANGE
NOATAK NATIONAL PRESERVE
BAIRD MOUNTAINS
GATES OF THE ARCTIC NAT'L PARK & PRESERVE
SCHWATKA MOUNTAINS
ENDICOTT MOUNTAINS
KOBUK VALLEY NAT'L PARK
Anaktuvuk Pass
Walker Lake
Horace Mountain
Ambler
Shungnak
Kobuk
Bettles
Big Lake
Chandalar
Christian
Arctic Village
Venetie
Allakaket
Hughes
Hog River
YUKON FLATS NAT'L WILDLIFE REFUGE
Venetie Landing
Beaver
Fort Yukon
Stevens Village
ALASKA
RAY MOUNTAINS
Mount Tozi
KOKRINES HILLS
Yukon River
Tanana
Rampart
Livengood
Wolverine Mtn.
Eureka
Elliott
Manley Hot Springs
Minto
WHITE MOUNTAINS
Circle
Circle Hot Springs
Steese
Chatanika
Chena Hot Springs
Fox
College
Fairbanks
North Pole
CHENA RIVER ST. REC. AREA
Nenana
Dunbar
NOWITNA N.W.R.
Galena
Koyukuk
Nulato
Kaltag
INNOKO N.W.R.
KAIYUH MOUNTAINS
Lang
Poorman
Tolovana
Anderson
Healy
MOUNTAINS
Diamond
DENALI NATIONAL PARK
Kantishna
McKinley Park
Suntrana
Cantwell
Delta Junction
Big Delta
Richardson
Salchaket
HARDING LAKE ST. REC. AREA
Donnelly
Dot Lake
YUKON-CHARLEY NAT'L PRESERVE
Woodchopper
Chicken
Ophir
Takotna
BEAVER MOUNTAINS
McGrath
Sterling Landing
Medfra
Nikolai
Farewell
KUSKOKWIM
Georgetown
Red Devil
Sleetmute
Stony River
Flat
DENALI STATE PARK
TALKEETNA MOUNTAINS
Talkeetna
Curry
Tanacross
Tok Junction
Tetlin
TETLIN N.W.R.
Nabesna Village
Northway
Mentasta Lake
Slana
Gulkana
Glennallen
Lake Louise
Sourdough
Paxson
UNITED STATES

HAIDA LAND EXCHANGE ACT OF 1986
Public Law 99-664 (H.R. 5730); Nov. 17, 1986

Location:	Goat & South Pass Islands, near Prince of Wales Island, S.E. Alaska T775, R82E, Section 2, 3, 4, 5, 8, 9, 10, 15, 16, 17, 20, 21, 22
Grantor:	Haida Corporation
Grantee:	United States Forest Service
Terms of Exchange:	a) Relinquishment and conveyance to the U.S. of all Haida Corporation's right, title and interest in 4,222 acres in exchange for all right, title and interest of the U.S. in the surface estate of the Haida Traditional Use Sites. (Note: The value of the exchanged lands was not formally established.) b) Sale of 4,750 acres on Goat Island, South Pass Island to the U.S. Forest Service for $9,000,000. This results in a sale value of $1,895/acre. c) Sale of 677 acres within Tongass National Forest to the U.S. Forest Service for $2,031,000. This results in a sale value of $3,000/acre.
Transaction Date:	Haida Land Exchange Act passed, November, 1986
Transaction Closed:	July, 1988
Motivation for Exchange:	Legislation was enacted as a means to compensate Haida Village Native Corporation for lands they were not able to select under their ANCSA entitlements. Sources claimed Haida Corporation was facing bankruptcy.
Conveyed Land Status:	Lands received by U.S. will be managed as a part of the Tongass National Forest.


GEOLOGICAL SURVEY
MODIFIED FOR USDA FOREST SERVICE USE
CRAIG (A-5) QUADRANGLE
ALASKA
15 MINUTE SERIES (TOPOGRAPHIC)
PRINCE OF WALES ISLAND
TONGASS NATIONAL FOREST
TONGASS
PRINCE OF WALES
ISLAND
NATIONAL
FOREST
SITE
SITE
667 ACRES
Blanket Island
NATIONAL
ICRAIG A-4
ICRAIG A-5

COMPARABLE SALE

Location: Chelan County, Washington. Part of the Alpine Lakes Wilderness Area. Lies between I-90 and U.S. Hwy. 2

Legal: Unavailable

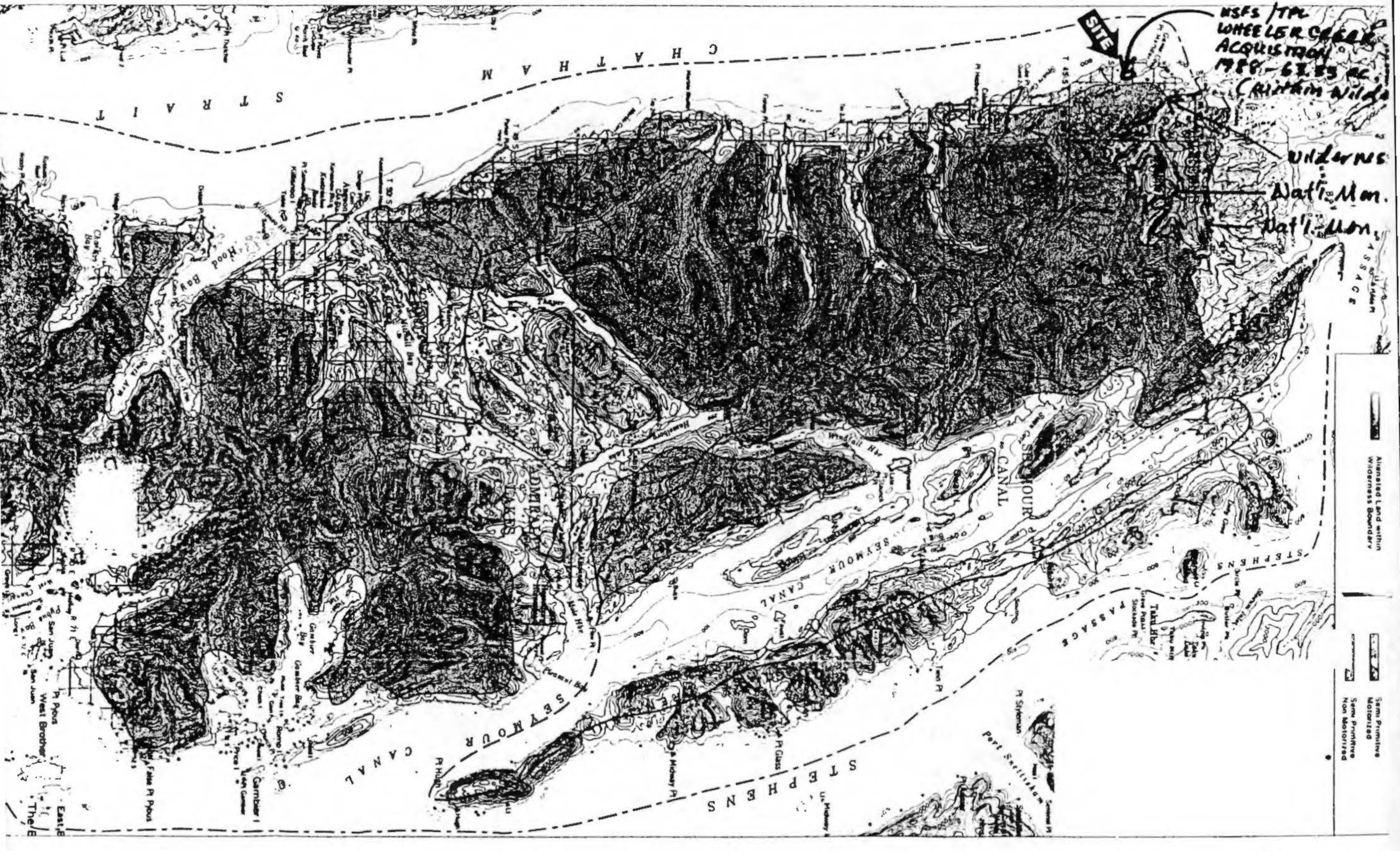
Grantor: Chastek et al
Grantee: U.S. Forest Service
Date: December, 1982
Size: 63.33 acres
Acres & Purchase Price: ?

Parcel 1	2,549 acres	3,337,554
Parcel 2	1,028 acres	1,483,167
Parcel 3	3,697 acres	4,545,229
Parcel 4	15,183 acres	19,617,293
	22,457 acres	$28,983,243

Description: Four parcels totaling 22,457 acres in the **Alpine Lakes Wilderness** area of Washington were sold to the U.S. Forest Service in 1982. In 1981 the USFS appraisal determined the value of a larger 23,400 acre tract which encompassed all of the subject acreage to be $17.5 million based on the parcel's havestable timber ($740 per acre). A second appraisal contracted by the owners determined a value of $37.0 million based on the property's highest and best use as wilderness. After long protracted negotiations involving congress as well as the two parties, a settlement value of $28.98 million for the 22,456 acres was agreed upon, yielding a weighted average per acre value of $1,290 for the four parcels. Following the Alpine Lakes Wilderness bill, the land was sold to the federal government for inclusion to the wilderness area. By definition, the property does not have road access.

COMPARABLE SALE

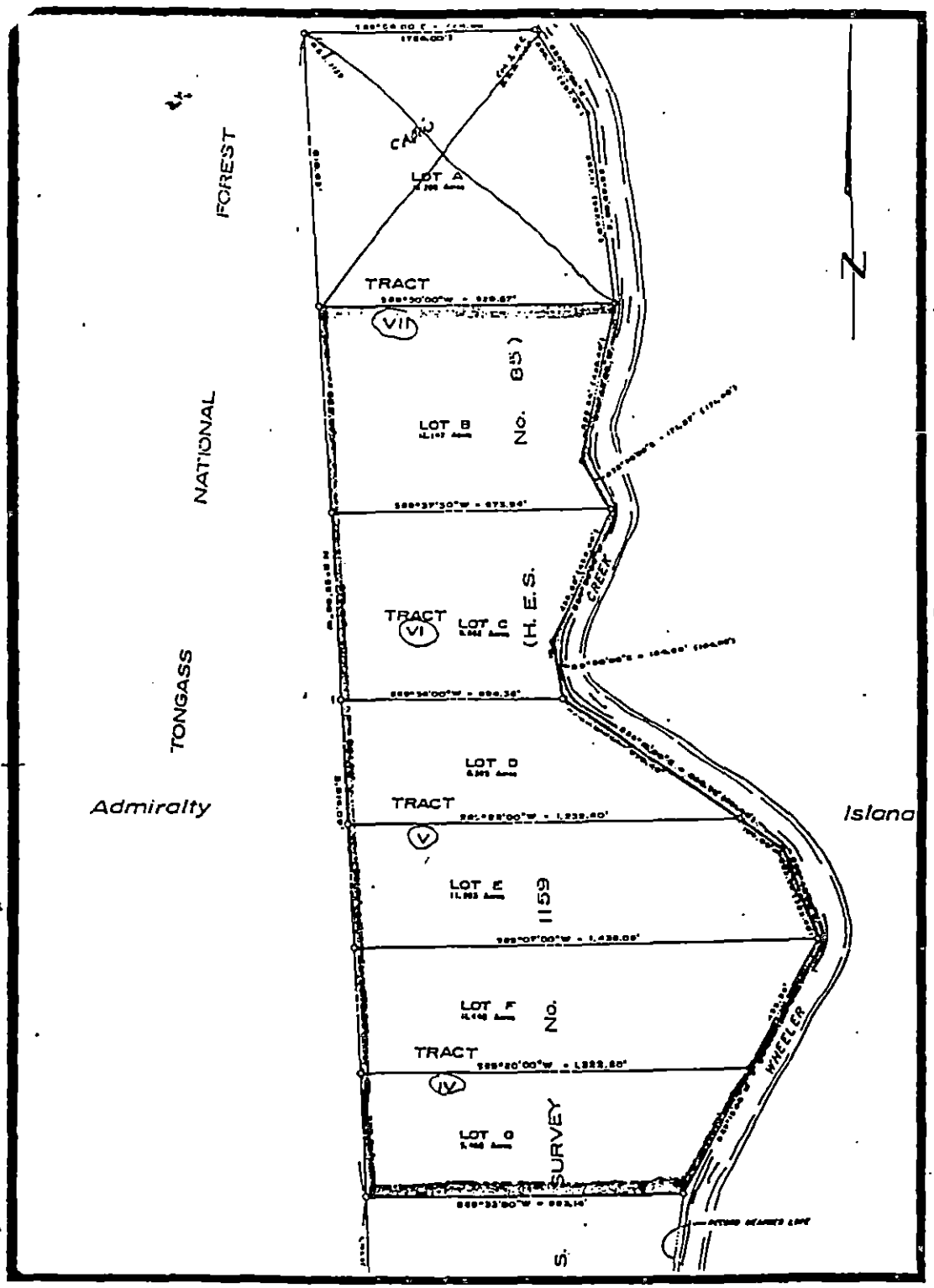
Location:	Wheeler Creek, Admiralty Island, National Monument/Wilderness, Alaska
Legal:	Lots B-G, U.S. Government Survey No. 1159, T. 44S, R 66#.
Grantor:	The Trust for Public Lands
Grantee:	U.S. Forest Service
Date:	July 1, 1988
Size:	63.33 acres
Purchase Price:	$520,000 Price/Acre: $8,215
Description:	The USFS purchased a 63.33 acre tract on **Admiralty Island**, Alaska from the Trust for Public Lands in April of 1988. The property was part of a mineral survey which was subsequently subdivided. The Trust for Public Lands originally purchased it as a means to inhibit its development into private homesites. The property fronts Wheeler Creek and is within the Admiralty Island Wilderness Area. The parcel is timbered, and has never been logged. There are no roads on or adjacent to the property. Because of the size (under 100 acres) and platting, this sale is not considered as comparable to the subject as the other six sales.
Source:	The Trust for Public Lands, U.S. Forest Service


SITE
USFS / TPL
WHEELER CREEK
ACQUISITION
1988 - 67.85 AC.
Chatham Wild
Wilderness
Nat'l. Mon.
Nat'l. Mon.
CHATHAM STRAIT
SEYMOUR CANAL
STEPHENS PASSAGE
Alienated Land within Wilderness Boundary
Semi Primitive Motorized
Semi Primitive Non Motorized

94

Plat Map

TRUST FOR PUBLIC LAND



POMTIER, DUVERNAY & HORAN

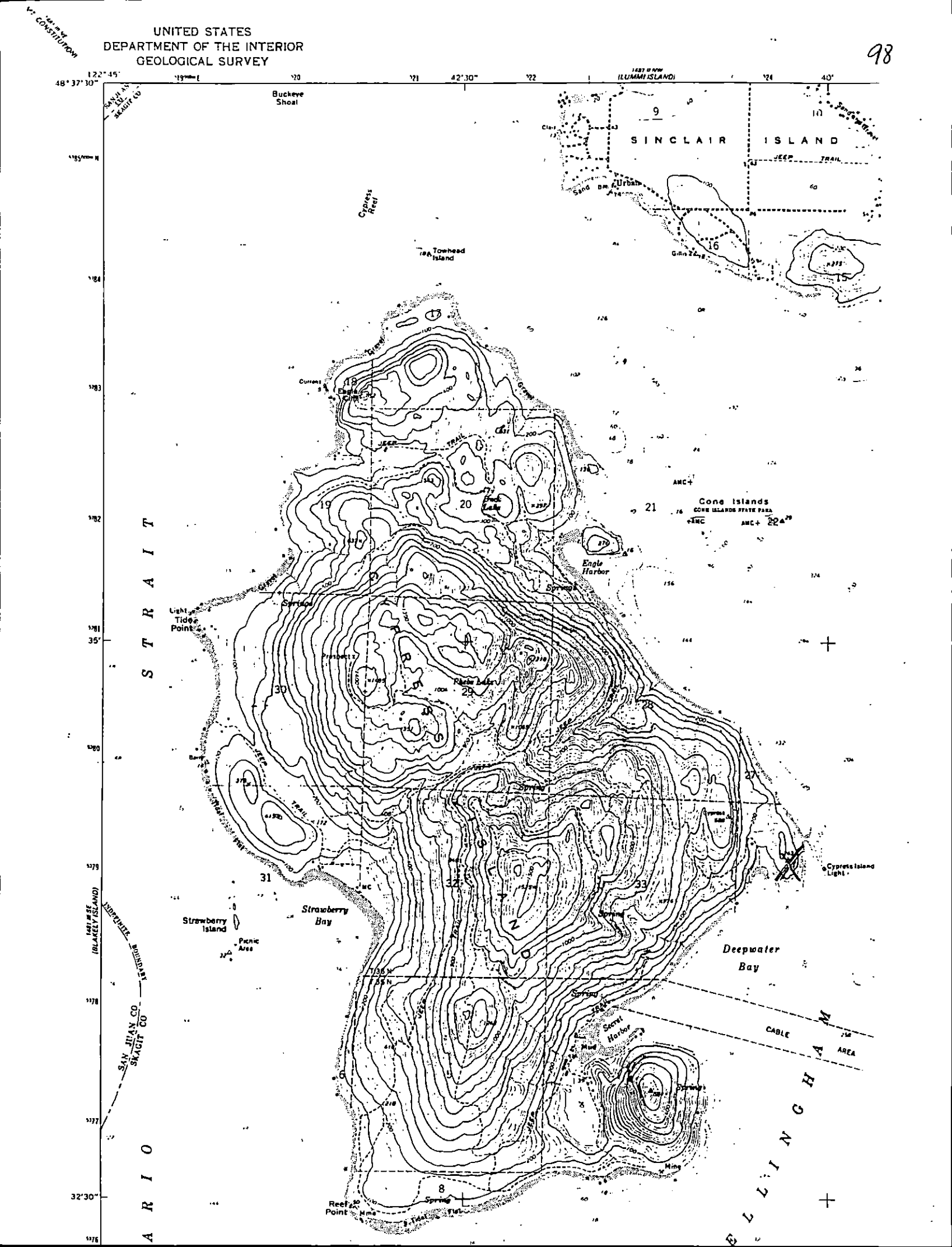
COMPARABLE SALE

Location:	Pribilof Islands, Alaska
Legal:	Not available
Grantor:	Tanadguisix Native Corporation, St. George Tanaz Native Corporation
Grantee:	U.S. Federal Government
Date:	1984
Size:	7,998 acres
Purchase Price:	$5,120,000 Price/Acre: $640

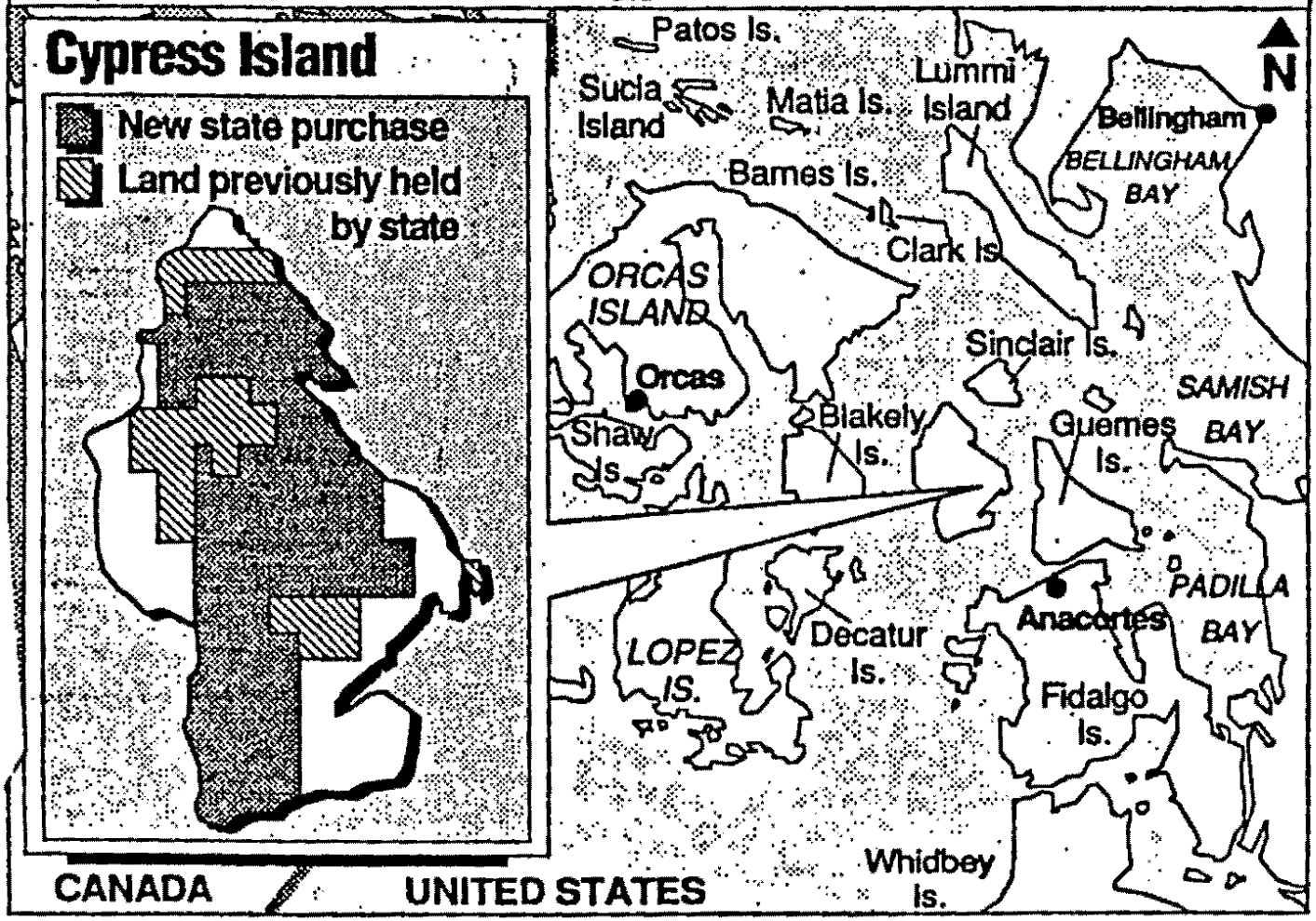
Description: The **Pribilof Islands** in Alaska's Bering Sea are probably the most important location for marine bird and mammal life in the northern hemisphere. The archipelago contains huge numbers of many seabird species, including most of the world's population of red legged kittiwakes. The largest northern fur seal hauling ground is located on these islands with over one million seals. There are also large numbers of Stellar sea lions and arctic foxes on the islands. Eight thousand acres of high density seabird cliff habitat were purchased by the Department of the Interior in 1984 for a total price of $5,120,000 or $640 per acre. A subsequent appraisal performed by the Fish & Wildlife Service established a market value for 3,000 of the acquired acres of $83 per acre. The highest and best use on which their valuation was based was for marginal cabin sites and reindeer grazing. In this instance Congress placed a value on wildlife habitat well in excess of that based on a lesser use of the property.

COMPARABLE SALE

Location:	Cypress Island in the San Juan Archipelago, Washington
Legal:	Portions of Sections 19, 20, 21, 27, 28, 29, 30, 31, 32, 33. T. 36 N, R. 1E; and Portion of Sections 5, 6, 8, T. 35 N, R. 1E
Grantor:	Raymond Hanson
Grantee:	State of Washington Department of Natural Resources
Date:	May, 1989
Size:	3,176 acres
Purchase Price:	$5,400,000 Price/Acre: $1,700
Description:	Cypress Island represents the last large undeveloped island in the San Juans. The property is forested with 40 to 120 year old timber and includes Puget Sound waterfront and several lakes. There is a gravel airstrip on the property and a jeep trail on adjacent property. Otherwise, property is only accessible by boat.
Source:	Dept. of Natural Resources, Division of Land and Water Conservation

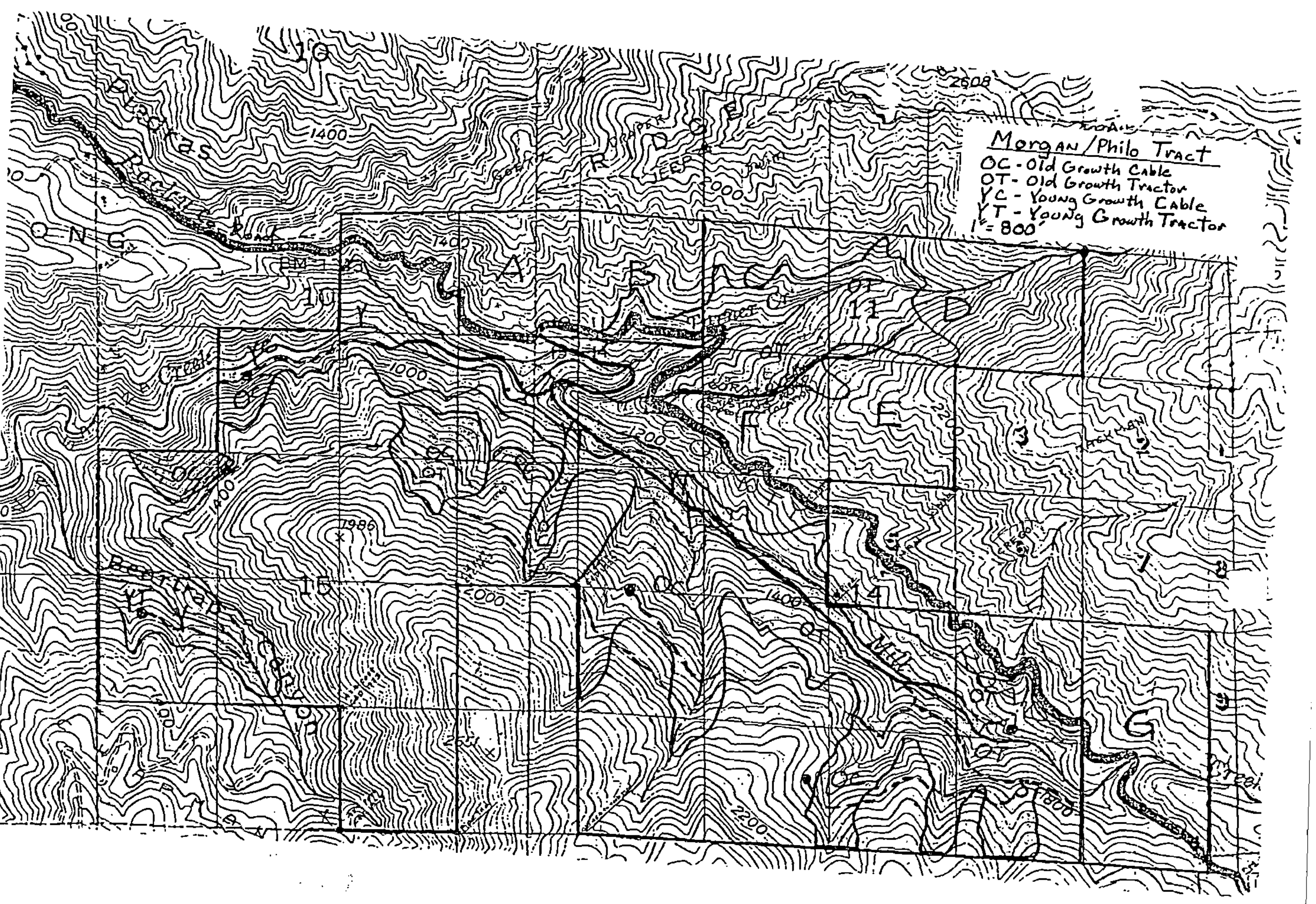

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
SINCLAIR ISLAND
Cone Islands
Buckeye Shoal
Cypress Reef
Townhead Island
Eagle Cliff
Eagle Harbor
Light
Tide Point
Strawberry Island
Picnic Area
Strawberry Bay
Deepwater Bay
Secret Harbor
Cypress Island Light
Reef Point
CABLE AREA
SAN JUAN CO
SKAGIT CO
INDETERMINATE BOUNDARY
STRAIT OF GEORGIA
BELLINGHAM

State buys most of Cypress Island



COMPARABLE SALE

Location:	15 miles south of Carmel, Big Sur, California
Legal:	The NW 1/4, the SW 1/4, lots 4, 11, 12, 13 and 14 of Section 14; NE 1/4, W 1/2 of SE 1/4, N 1/2 of the SW 1/4, S 1/2 of NW 1/4 and NE 1/4 of NW 1/4 of seciton 15; S 1/2 of SW 1/4, lots 13 and 14 of Section 11; S 1/2 of SE 1/4 of Section 10, all in Township 18 S, Range 1 E, MDM, in the County of Monterey, State of California, according to the Official Plat thereof.
Grantor:	Big Sur Land Trust
Grantee:	Monterey Peninsula Regional Park District
Date:	June, 1989
Size:	1,200 acres
Purchase Price:	$1,200,000 Price/Acre: $1,000
Description:	The **Big Sur** Land Trust, a private land trust in the Big Sur country of California, sold 1,200 acres of redwood forest to the Monterey Peninsula Regional Park District for $1.2 million in June, 1989. The property is located along the scenic California coast roughly 15 miles south of Carmel, and has significant stands of old growth redwood. The land trust had previously obtained the land from the Federal Land Bank after a Ukiah based timber company defaulted on its permit to log. The land trust was founded in 1977 to conserve open space and significant natural resources for public benefit in coastal Monterey County. The property is accessible via an unimproved county road, and is intended for a day use recreation area.
Source:	Big Sur Land Trust



Morgan/Philo Tract
OC - Old Growth Cable
OT - Old Growth Tractor
YC - Young Growth Cable
YT - Young Growth Tractor
1" = 800'

101

COMPARABLE SALE

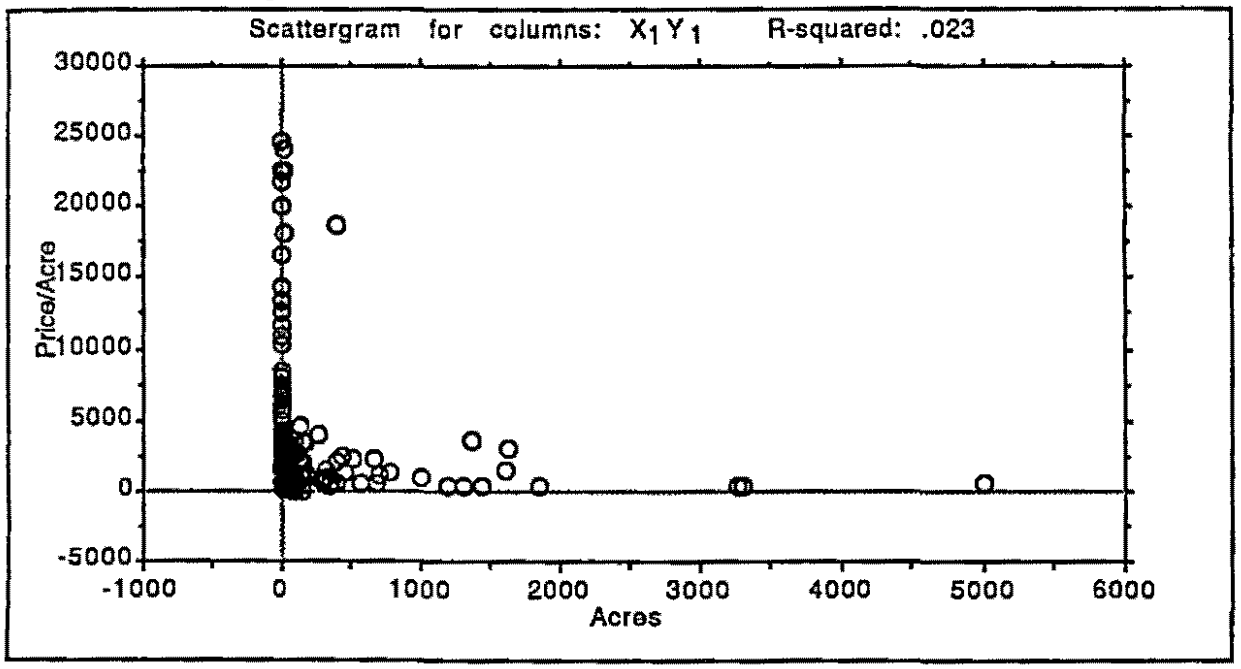
Location: Goat & South Pass Islands near Prince of Wales Island, Alaska

Note: Please refer to summary under Alaska Land Exchange Comparables.

APPENDIX E

STATISTICAL ANALYSES & SCATTERGRAMS

Correlation Analysis: Size & Price/acre

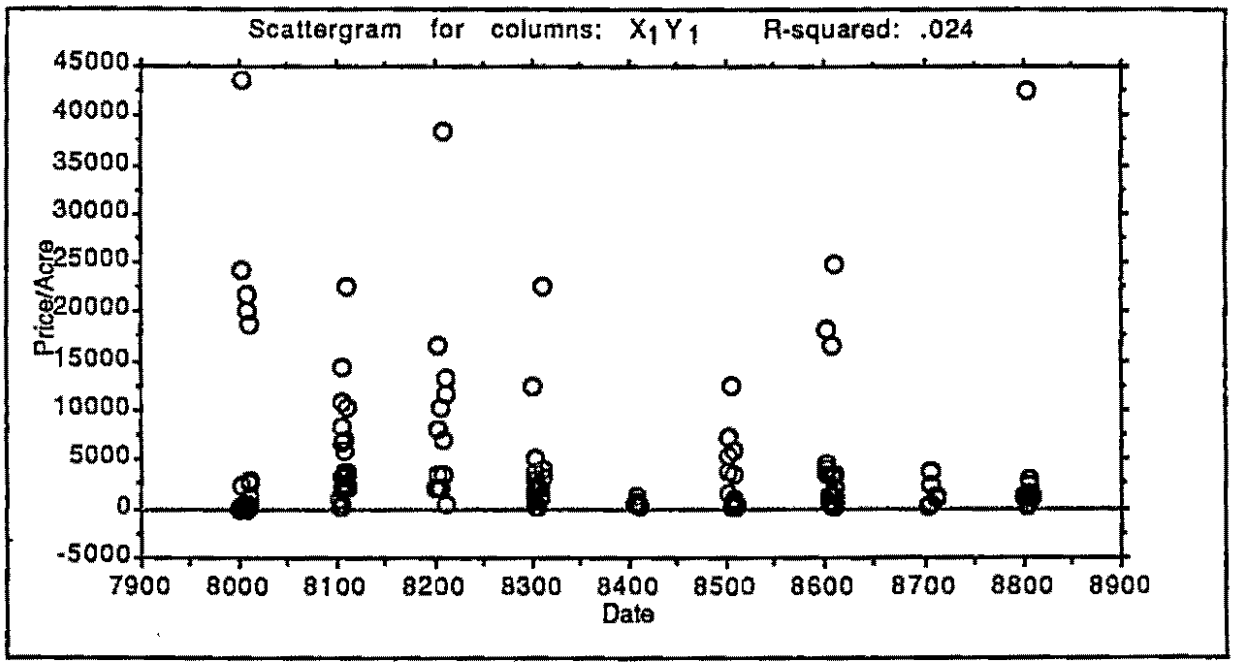


Corr. Coeff. X_1: Acres Y_1: Price/Acre

Count:	Covariance:	Correlation:	R-squared:
181	-447256.109	-.151	.023

Note: 1 case deleted with missing values.

Correlation Analysis: Date & Price/Acre



Corr. Coeff. X_1: Date Y_1: Price/Acre

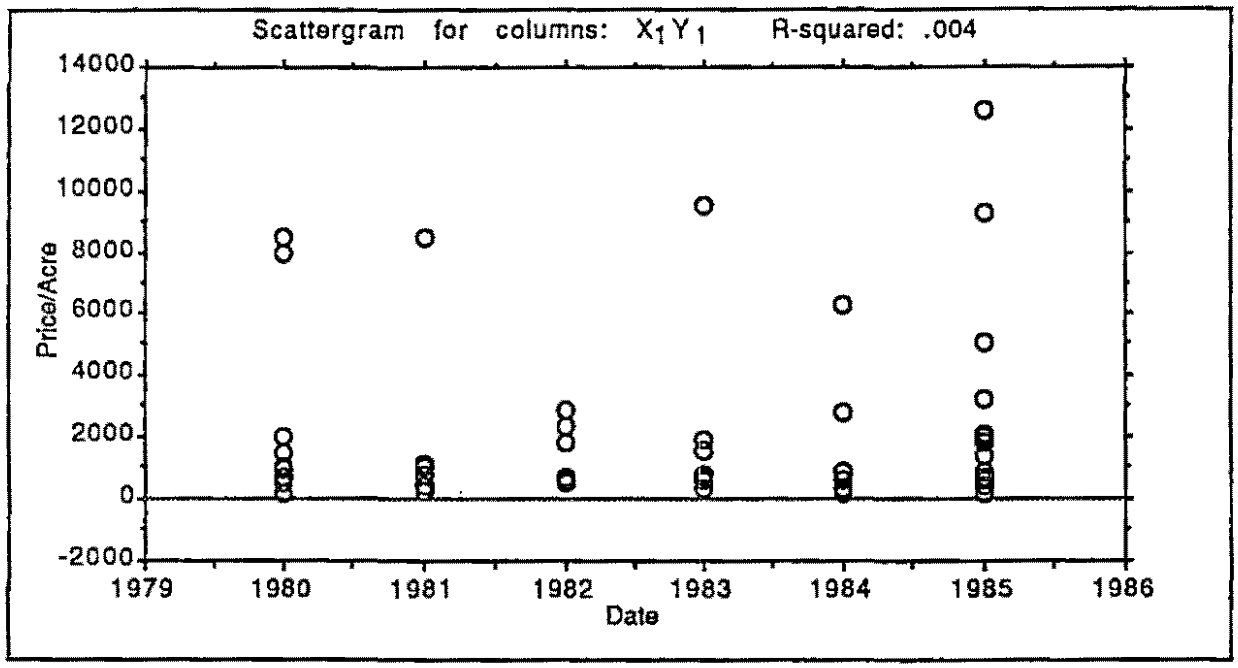
Count:	Covariance:	Correlation:	R-squared:
186	-324982.896	-.155	.024

Note: 1 case deleted with missing values.

U. S. FORES :RVICE ACQUISITION LIST

1980-1985

Correlation Analysis: Date & Price/Acre



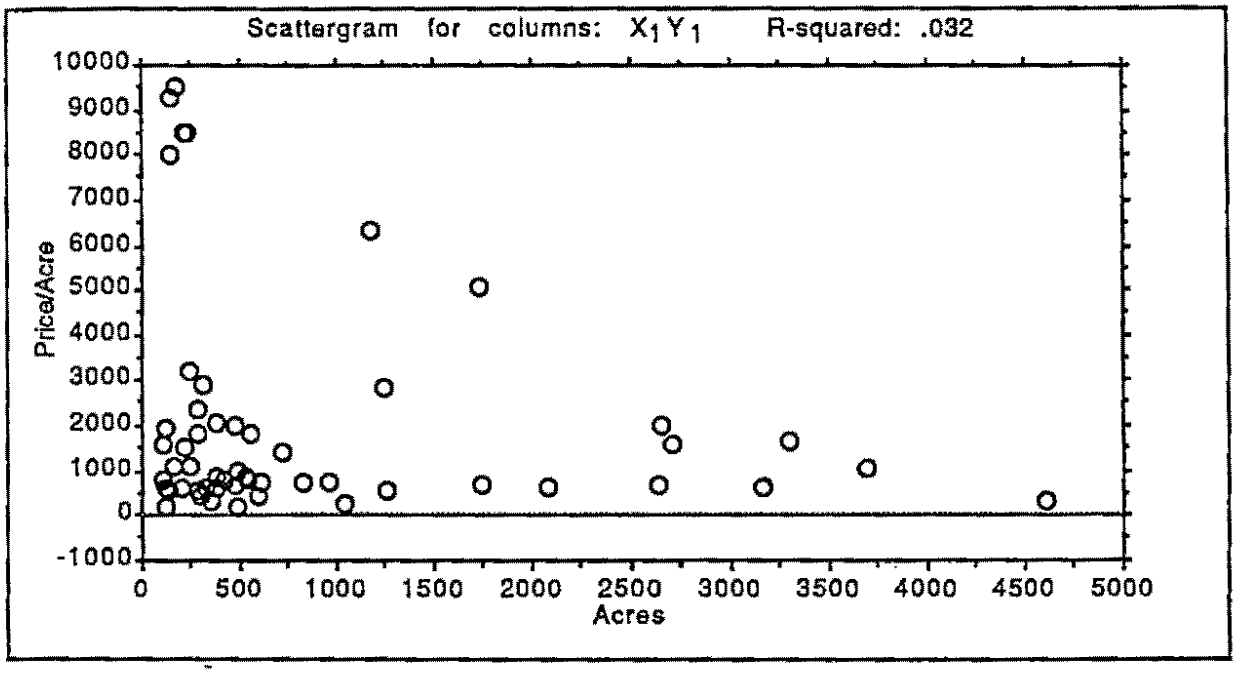
Corr. Coeff. X_1: Date Y_1: Price/Acre

Count:	Covariance:	Correlation:	R-squared:
56	327.404	.063	.004

U. S. FOREST SERVICE ACQUI ION LIST

1980-1985

Correlation Analysis: Size & Price/Acre



Corr. Coeff. X_1: Acres Y_1: Price/Acre

Count:	Covariance:	Correlation:	R-squared:
53	-473148.616	-.18	.032

APPENDIX F

BIBLIOGRAPHY

BIBLIOGRAPHY

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Dorfman, Robert and Nancy S. Dorfman. *Economics of the Environment*, New York: W.W. Norton and Company, Inc., 1977.

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Penning-Rowsell, Edmund. "Fluctuating Fortunes in Gauging Landscape Value." *Progress in Human Geography*. vol. 5, No. 1, (March 1981), pp. 25-41.

Pigram, John. *Outdoor Recreation and Resource Management*. Croom Helm LTD: Beckenham, Kent. 1983.

Zube, E.H., R.O. Brush, and J.G. Fabos, eds. *Landscape Assessment: Values, Perceptions and Resources*. Strouldsburg, PA: Dowden, Hutchinson and Ross, 1975.

APPENDIX G

COVER LETTER TO APPRAISAL OF TIMBER TRADING COMPANY OWNED TIMBERIN KACHEMAK BAY STATE PARK

CRONK & HOLMES
Consulting Foresters

Alton G. Cronk
Richard W. Holmes

6936 N.E. Halsey Street
Portland, Oregon 97213
Telephone (503) 256-3840

August 22, 1989

Mr. Charlie Nash
Timber Trading Company
3501 Denali, Suite 202
Anchorage, Alaska 99503

Dear Mr. Nash:

You have requested my opinion of the fair market value of timber owned by Timber Trading Company in the Kachemak Bay area as of June 30, 1989.

The fair market value is described as the price that would be paid for the subject timber that is exposed to the market for a reasonable length of time, and that price which would be agreed upon by a seller and buyer, both of whom are equally informed and have reasonable knowledge of the facts concerning the subject timber and both of whom are willing, but under no compulsion, to buy or sell.

You have furnished me with certain records concerning the subject timber including indications of quality and type as well as logging conditions. In arriving at the opinion of fair market value, I have personally inspected the area. My general knowledge of the area, timber types, terrain, local conditions and markets was also of value in arriving at this opinion of value.

After taking into account all of the timber valuation factors herein mentioned, as well as other factors not specifically mentioned, it is my opinion that the fair market value of the Timber Trading Company timber in the Kachemak Bay area at June 30, 1989 is:

Species	Volume MBF	$/MBF	Total Value
Spruce	44,987	$165	$7,422,855

Sincerely;
CRONK & HOLMES

Alton G. Cronk

Alton G. Cronk

APPENDIX H

QUALIFICATIONS

BILL MUNDY
PROFESSIONAL QUALIFICATIONS

EXPERIENCE

Bill Mundy has over twenty years of experience in real estate market, economic and valuation research. Over this time span he has held the following positions:

- Doane Agricultural Service (1965-67). Farm Manager and rural appraiser.
- Fenton, Conger & Ballaine (1967-68). Real estate appraiser and market analyst.
- Weyerhaeuser Real Estate Company (1971-73). Land economist and housing market analyst.
- Bill Mundy & Associates (1976-present). Owner. Real estate development.
- Mundy, Jarvis & Associates, Inc. dba Mundy & Associates (1976-present). President. Real estate market, economic and valuation (appraisal) analysts and consultants.

Dr. Mundy has been and continues to be heavily involved in the educational community. He has taught at the University of Washington and for the American Institute of Real Estate Appraisers (AIREA). He developed a real estate and urban economics curriculum for Seattle University. Professional education development activities for AIREA include membership on the continuing education committee, instructor of the Market Analysis course and developer of the Market Analysis seminar.

Bill has a broad range of analytical experience, including benefit-cost, economic base, market and survey research, and real estate appraisal throughout a significant part of the United States: the Midwest, South, Southwest, Pacific Northwest, Alaska and Hawaii. Several important areas of concentration include market research involving litigation matters and radioactive, hazardous and toxic waste. He has also developed, for his own account, residential, office, retail and rehabilitation properties in the Seattle and Anchorage metropolitan areas.

EDUCATION

Bachelor of Science, Agriculture (Business Option), 1965
Washington State University, Pullman, Washington

Master of Arts, Urban Economics, 1971
University of Washington, Seattle, Washington

Doctor of Philosophy, Marketing, Urban Economics and Survey Research, 1977
University of Washington, Seattle, Washington

SCHOLASTIC HONORS

Beta Gamma Sigma

American Institute of Real Estate Appraisers Scholarship Recipient, 1970-71, 1975-76.

University of Washington representative to doctoral consortium and American Marketing Association Meetings, 1976.

Fellow Invitation, Homer Hoyt Institute, 1987, 1988

Arthur A. May Memorial Award, 1988, American Institute of Real Estate Appraisers, for developing the seminar "Market Analysis."

PUBLICATIONS

"A Methodology to Optimize Building Rent," Bill Mundy & Associates, Inc., 1977, Seattle, Washington.

A Partial Test of a Multi-Stage Theory of Homebuyer Behavior: A Methodological and Substantive Approach Using Judgmental and Behavioral Data, Ph.D. Dissertation, University of Washington, 1977.

"Natural Resource Scarcities and the Cost of Housing" monograph, University of Washington, 1976, Seattle, Washington.

The Seattle Metropolitan Area Economic Base with Population and Housing Projections, 1984, Bill Mundy & Associates, Inc., Seattle, Washington.

Urban Obsolescence —A Case History of Obsolescence-Renewal, Masters Thesis, University of Washington, 1970.

Contributor: *The Mundy Insider.*

PROFESSIONAL AFFILIATIONS

American Arbitration Association.

American Institute of Real Estate Appraisers (MAI #5439).

- Member, Division of Faculty
- Course and seminar instructor
- Curriculum developer

American Society of Real Estate Counselors (CRE #1011).

National Association of Business Economists

Lambda Alpha (National Real Estate Honorary)

ACADEMIC AFFILIATION

Member, Real Estate Curriculum Advisory Board, and Chairman, Finance Committee, Washington State University.

EDUCATIONAL CERTIFICATION

The American Institute of Real Estate Appraisers conducts a voluntary program of continuing education for its designated members. Dr. Mundy is certified under this program through September 15, 1992.

TEACHING EXPERIENCE

American Institute of Real Estate Appraisers 5 day courses.

Memphis State University:	Principles, Procedures
University of Houston:	Principles, Procedures
University of Portland:	Market Analysis
University of San Diego:	Market Analysis
University of Colorado:	Market Analysis
Arizona State University:	Market Analysis
University of Oklahoma:	Market Analysis
University of North Carolina:	Market Analysis

AIREA—seminars (Market Analysis)

Chicago, IL	Houston, TX
Omaha, NB	Albuquerque, NM
Anchorage, AK	San Diego, CA
Knoxville, TN	

WRITING/CURRICULUM DEVELOPMENT

AIREA Terminology Handbook, Reviewer
The Appraisal of Real Estate, 8th Edition, Reviewer
Real Estate Market Analysis, forthcoming, Reviewer
AIREA Market Analysis Course, Contributor
AIREA Market Analysis Seminar, Developer
AIREA Survey Research Seminar, Developer
The Mundy Insider, frequent contributor

LICENSES

State of Oregon—Broker, Appraiser
State of Washington—Broker
State of Alaska—Broker

EXPERT WITNESS

Various courts in:
- Alaska
- Oregon
- Washington

JOHN P. DAY, MAI
PROFESSIONAL QUALIFICATIONS

EXPERIENCE

In 1963, employed by Cawdrey & Vemo, Inc., General Contractors, Inc., Seattle, as an estimator and project manager. From 1965 to 1974, owned and operated a mechanical subcontracting company and a retail appliance store, along with developing an office building, industrial park and a real estate subdivision. In 1975, completed the American Institute of Real Estate Appraisers Course 1-A, and became associated with the firm of Shorett & Riely. The period from 1976 through 1978, became Resident Manager—Appraiser of the Anchorage, Alaska branch office of Shorett & Riely. In 1978, was appointed to the Board of Equalization, Anchorage Borough. In 1979, completed all requirements of the American Institute of Real Estate Appraisers and was awarded the M.A.I. designation, Certificate No. 5986.

In 1982, was employed by Quadrant Development Company as their Executive Vice President in charge of new acquisitions and projects. In 1982, concurrent with employment with the Quadrant Companies, the appraisal firm of John P. Day, M.A.I. & Associates Company, Inc. was formed.

1983-84 served as co-chairman for the Alaska Railway Transfer Committee in which I supervised and represented the State of Alaska in the evaluation and subsequent acquisition of the Alaska Railway System.

1985 formed the firm of Mundy-Day Associates which is an affiliation with Bill Mundy, Ph.D., CRE, MAI, of Seattle for the purpose of conducting appraisals, consulting and market research throughout the State of Alaska.

Served as an instructor for the American Institute of Real Estate Appraisers and as a national grader for examinations given in their various educational courses. Served on the American Institute of Real Estate Appraisers Educational Committee.

The American Institute of Real Estate Appraisers conducts a voluntary program of continuing education for its designated members. MAI and RM Members who meet the minimum standards of this program are awarded periodic educational certification. I am currently certified under the AIREA Volunteer Certification Continuing Education Program.

The types of properties on which full appraisals have been prepared include warehouses, industrial plants, office buildings, motels, apartments, shopping centers, condominiums, and vacant land. The following is a partial list of clients for whom appraisal reports have been written:

Northland Shopping Center (JAFCO)
Seattle First National Bank
Washington Mutual Savings Bank
Security Savings & Loan Association
Pacific Mortgage Corporation
National Bank of Alaska
Alaska Pacific Bank
Alaska National Bank of the North
Alaska Mutual Bank
First Federal Bank
Puget Sound Mutual Savings Bank
Washington Mortgage Company
Rainier Mortgage
Transamerica Investment Services
Blackwell North American
Drever McIntosh Company
Alaska Airlines
Dimond Shopping Center
Northwest Pipeline Company
Bethel Native Corporation
Bureau of Land Management
Department of Interior
Department of the Army, Corps of Engineers
Portland Development Comm.
Sealand Services, Inc.
Vacation Internationale, Ltd.
International Longshoremen's Union
Kaiser Cement & Gypsum/Columbia
Ounalashka Native Corporation
Paug-Vik Native Corporation
Bering Straits Native Corporation
Akutan Native Corporation
Royal Krest Homes
Yarmon Investment Co.
Carr-Gottstein Properties
Alaska Brick Company (Division of Sea-Alaska Native Corporation)

Expert Witness in the following:

Federal Bankruptcy Court: Anchorage, Tacoma
Superior Court: King Country, Pierce County, Anchorage Borough

EDUCATION

M.B.A., Business Administration, 1963
Harvard Business School, Cambridge, Massachusetts

B.S., Civil and Industrial Engineering, 1961
University of Washington, Seattle, Washington

Appraiser's Experience Data
Ronald W. Bunn, MAI

Office

The Frontier Building
Resolution Plaza
Anglo Energy Building
Denali Towers North and South
4201 Tudor Centre
3111 "C" Street
Fifth Avenue Building
Goldbelt Plaza, Juneau
Resolution Tower
Alaska Mutual Bank
Chugach Alaska Building
Anchorage Business Park
First Interstate Bank at Tudor Centre
101 Benson
Peterson Towers
Sealaska Plaza, Juneau

Industrial

Anchorage Distribution Center
MarkAir Office & Cargo Building
ARCO Warehouse
Alaska International Air Freight Terminal
Air Cargo Center Nos I & II

Retail

Anchorage Fifth Avenue Mall
Northway Mall
Valley River Center
Dimond Center, Phases I, II & III
Cottonwood Creek Mall
Various other store front retail centers throughout Southcentral Alaska

Hotel Properties

Anchorage Hilton
Sheraton Anchorage
Captain Bartlett Inn, Fairbanks
Plaza Inn, Anchorage
Voyager Hotel, Anchorage
Juneau Hilton (Cape Fox)
Breakwater Inn, Juneau
Barratt Inn, Anchorage
Anchorage International Inn

Special Purpose Properties

Alyeska Resort
West Douglas Island & Echo Cove Properties, Juneau, Alaska
Sheldon Jackson College, Sitka
Zachar Bay Processing Plant, Kodiak Is.
Happy Horse Camp & Industrial Buildings, Deadhorse, Alaska

VICTORIA B. ADAMS
PROFESSIONAL QUALIFICATIONS

RECENT EXPERIENCE AT MUNDY & ASSOCIATES

- Public Interest Valuation of State Park land addition, Seaside, Oregon, January, 1989.
- Appraisal Assistance, Westmark Hotels, Alaska, January, 1989.
- Public Interest Value Appraisal Review, Alaska, December, 1988.
- Highest and best use analysis, Sitkalidak Island, Alaska, November, 1988
- Public Interest Valuation of Wildlife Lands, Karluk, Alaska, October, 1988.
- Elderly Housing market analysis, Kitsap County, Washington, October, 1988.
- Public Interest Valuation of Wildlife Lands, Afognak Island, Alaska, April, 1988.
- Fairbanks, Nenana, Delta Junction, Nome, Kotzebue and Barrow Communities social and economic analyses, Alaska, December 1987.
- Alaska State Economy annual update, November 1987.
- Downtown J.C. Penneys site retail market analysis, Seattle, Washington, November 1987.
- Lakewood-Tacoma Industrial Park Expansion market analysis, Tacoma, Washington, September 1987.
- Active Retirement and Congregate Housing market analysis, Bellevue, Washington, June 1987.
- Elderly Housing market analysis, Winslow, Washington, June 1987.
- Public Interest Valuation of Wildlife Lands, Sitkalidak Island, Alaska, April 1987.
- Review and critique of Economic Feasibility Analysis, Early Winters Ski Resort, April 1987.
- Impact analysis of Hazardous and Solid Waste Disposal Facilities on Residential Property Values, February 1987.
- Public Interest Valuation of Wildlife Lands, Kodiak Island, Alaska, January 1987.
- Elderly Housing market analysis, Grays Harbor and Pacific counties, Washington, October 1986.

RELATED EXPERIENCE

- Attitudinal survey of second home owners and permanent residents, Priest Lake, Idaho.
- The Effects of Recreational Development on Rural Land Uses and Community Structure (M.A. Thesis, 1986).
- Valuation methodologies for assessing aesthetic and recreational resources.
- Optimal location analysis of public health facilities in Idaho counties.
- Carrying Capacity Analysis of natural resources, environmental thresholds and public services, Lake Tahoe, California.
- Historical research: California Theatre in the Gold Rush Era, for Knotts Berry Farm, Inc.

EDUCATION

M.A. Geography/Resource Analysis, 1986
University of Washington, Seattle, Washington

B.A. Interdisciplinary Studies, 1979
University of the Pacific, Stockton, California

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RECENT EXPERIENCE AT MUNDY & ASSOCIATES

- Block 2, Seattle Central Business District, retail and residential market study, December, 1988.
- Condemnation appraisal research, Salem, Oregon, November, 1988.
- Highest and best use study, Normandy Park, Washington, October, 1988.
- Land appraisal, Union Pacific Railroad, October, 1988.
- Valuation update, Brooks Range Supply, Deadhorse, Alaska, October, 1988.
- Golf and Country Club market analysis and survey, Gig Harbor, Washington, September, 1988.
- Key Bank appraisal, Fairbanks, Alaska, September, 1988.
- Multi-family market study, Krug/Blakely Development, Issaquah, Washington, September, 1988.
- Kent Valley Industrial market study, August, 1988.
- Downtown Seattle office market study, August, 1988.

EDUCATION

M.B.A. , Marketing/Finance
University of Washington, Seattle, Washington

B.A. , Sociology/Anthropology
Western Washington University, Bellingham, Washington