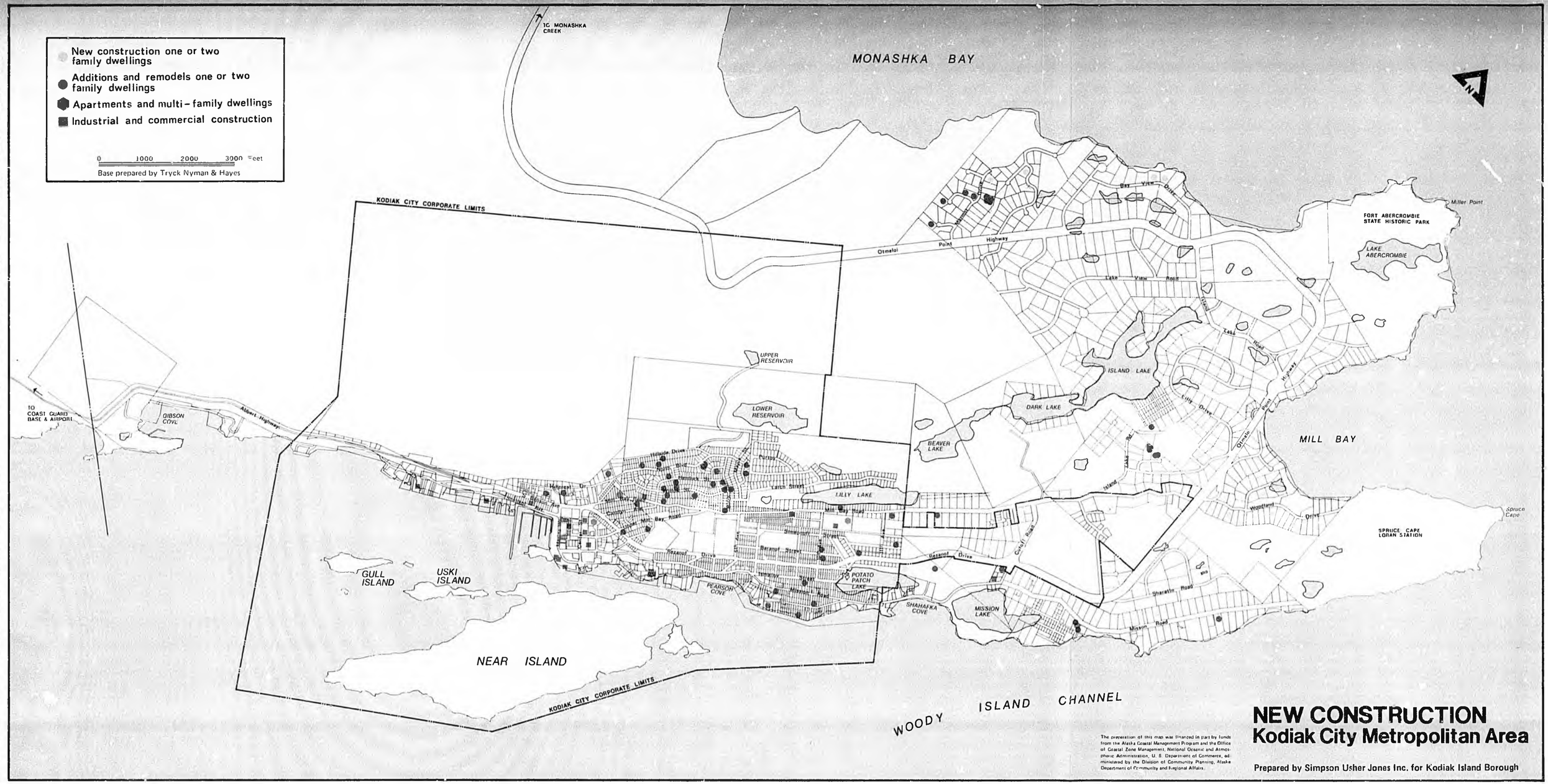
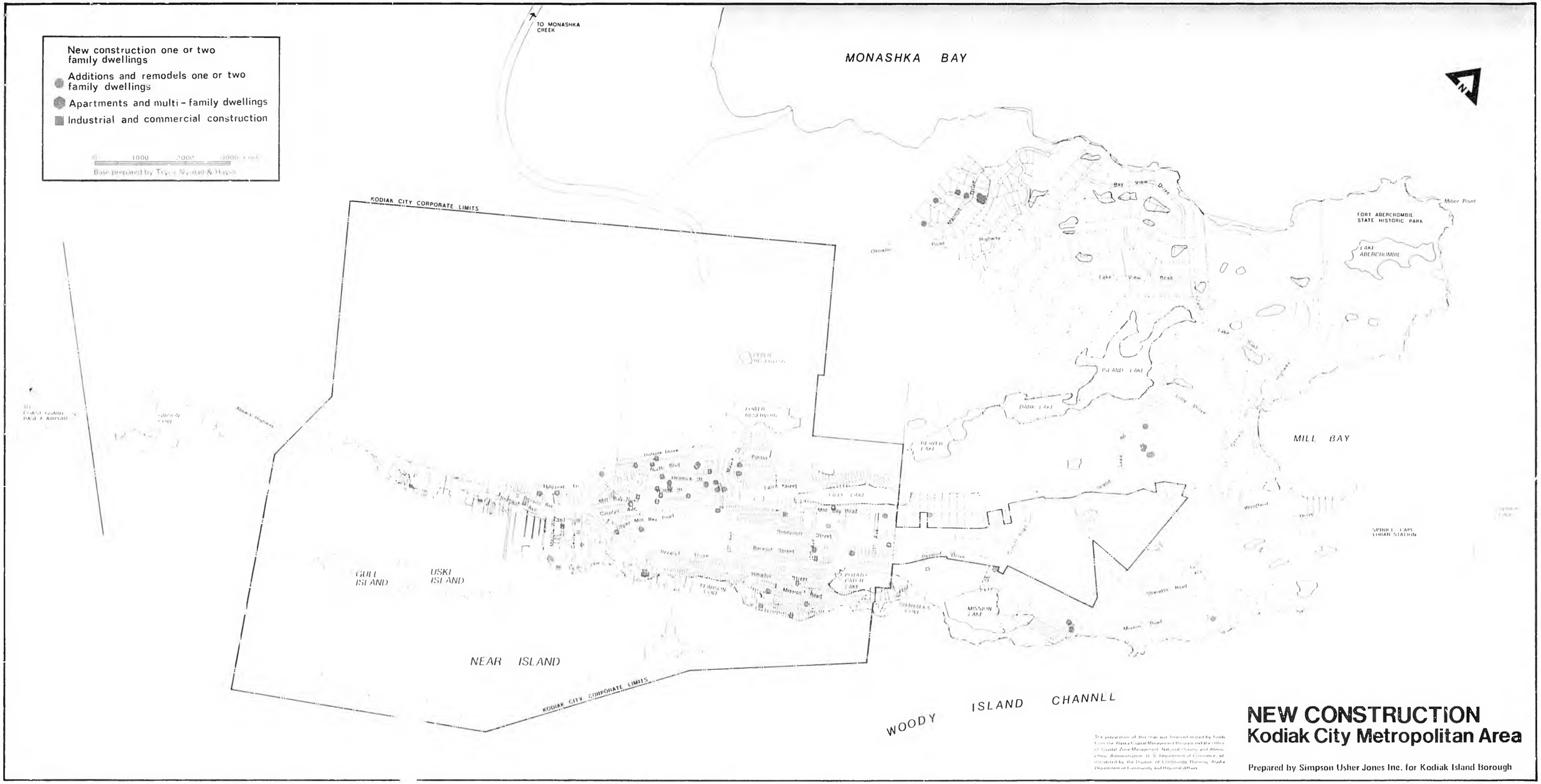


NEW CONSTRUCTION
Kodiak City Metropolitan Area

The preparation of this map was financed in part by funds from the Alaska Coastal Management Program and the Office of Coastal Zone Management, National Oceanic and Atmospheric Administration, U. S. Department of Commerce, administered by the Division of Community Planning, Alaska Department of Community and Regional Affairs.

Prepared by Simpson Usher Jones Inc. for Kodiak Island Borough



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MAP 10

purchase an average new home in Kodiak, under conventional financing the mortgage payments on that house would be approximately $650 to $700 per month. According to a formula preferred by financial institutions, it would take a family with an income in excess of $30,000 to afford such a house.

These costs put the purchase of a new home out of reach for many residents in the Kodiak area. It has become increasing difficult to build houses in the $50,000 range throughout Alaska, including Kodiak. This is due to rising construction costs, land costs, financing costs, and labor costs. One way to avoid this is to allow and encourage construction of higher density residential units of a townhouse or condominium type. Such construction should result in a more efficient use of land, lower utility and street costs, and lower overall per unit construction cost. This can allow the development of owner occupied residential units in a price range affordable by a majority of the public.

RENTS

Rental costs are also relatively high in Kodiak. Average apartment rents range from $350 to $500 for a two-bedroom unit without covered parking. Although there are no definitive records available, all information indicates that apartment rents have been going up in the last few months in anticipation of the demands that will be created by the potential OCS development. According to apartment owners, vacancy rates are currently at zero, and even at normal growth rates they are not expected to be much above zero in the near future.

FUTURE HOUSING NEEDS WITHOUT OCS DEVELOPMENT

Impending development of the Outer Continental Shelf will obviously generate increased demand for housing in Kodiak. As indicated, existing housing is already in short supply. To judge the impact of that increased demand, one must predict future new housing needs without OCS development.

As explained in the Demographic Inventory of this report, future housing needs are estimated by comparing population projections with average family size. Utilizing this method, Figure 20 gives Kodiak's housing demands through 1995. The rate of housing demand increase is slightly higher than population increases due to the history of diminishing family size, both nationally and in Kodiak.

Estimated housing requirements indicate a need for constructing an average 188 units per year for the next 20 years. This construction will not occur evenly, but will come in sporadic bursts in response to economic conditions and population pressures.

Clearly a long-term increase in residential construction is necessary. The average rate of increase required would be 40 percent higher than the level of construction indicated in 1975 and 1976.

Fig. 20: Estimated Housing Required Without OCS Development

Year	Estimated Population	Estimated Family Size[1]	Estimated Housing Need
1975	9,620	3.30	2,665[2]
1980	11,370	3.20	3,553
1985	13,439	3.10	4,335
1990	15,884	3.04	5,225
1995	18,773	2.92	6,429

1. It is assumed that family size will continue to drop as it has in the past (See the Demographic Inventory for explanation.)

2. Unlike Figure 14, this figure includes 250 Coast Guard Base Barrack units since the people occupying those units are included in the total population.

Source: Simpson Usher Jones, 1976 (Ann Sontag)

CONCLUSION

Housing has the potential for being the most serious problem facing Kodiak within the next five years. The dilemma facing the community is how to meet short term demands for increased OCS related housing without over building permanent units in the long run. Such over-building far in advance of the demands shown in Figure 20 would have serious effects on the community, including a reduction in the value of existing homes, the potential vacancy rates far above what is economically acceptable, a subsequent reduction in rent and associated lack of maintenance and upkeep of apartment buildings, wasteful use of land, and reduced tax base. In order to avoid these problems, the community must find a way to provide the housing necessary to accommodate OCS development on a temporary basis without creating a situtaiton that is either aesthetically or socially unacceptable. At the same time the housing industry must be encouraged to maintain a relatively high level of activity in Kodiak during the next 20 years in order to keep abreast of demands caused by normal growth trends. These concerns must be addressed as soon as possible.

ECONOMIC INVENTORY

An area's economy is an important determinant of what happens in the community. The economy both constrains and provides opportunities for the community. An expanding economy provides jobs for the residents of the community and also attracts migrants to the community. Expansion of the economy is an important determinant of population growth. This population growth effects the community by increasing the demand for public services, but it also increases the community tax base which often means an expansion of opportunities. In the following section we will examine the changes in the Kodiak economy which have occurred in the recent past. Estimates will also be made of what the economy will do in the near future without the additional impact of OCS development.

The analysis in this section will be based on the Economic Base Theory of regional growth. This theory assumes that the economy can be divided into basic and nonbasic sectors. The basic sector consists of those industries which sell their goods and services outside the region. The fishing industry is the best example of a basic industry in Kodiak. State and Federal government employment are also examples of basic industries, since the funds that pay for these services come from outside the island. Industries in the nonbasic sector are those which exist primarily to serve the population generated by the basic sector. An example of a nonbasic industry is retail trade. Economic base theory states that the only reason for growth in the economy is the growth in the basic sector. Growth in this sector has a multiple effect on the economy because it also generates growth in the nonbasic sector to serve the population increase in the basic sector. What follows is an analysis of the important sectors of the Kodiak economy, and a projection of the future growth.

ECONOMY: PAST AND PRESENT

The most important industry to the Kodiak economy has traditionally been the fishing industry. It includes not only the fishing fleet which Kodiak services as a main port, but also the processing industry. The fishing industry also impacts the economy through the docking and re-supplying of ships not registered in Kodiak during fishing season. Kodiak serves as home port for the biggest fishing fleet in Alaska and this has been the major determinant of economic activity.

The second major sector of the economy is government, primarily Federal government. The Coast Guard base on Kodiak is the most important part of the Federal government sector. State government has also shown a recent strong growth in Kodiak. Government employment has the same effect in Kodiak as it has throughout the remainder of the State; it serves as a stabilizing force which counteracts any cyclical shifts in seasonal industries. Fishing and government are the two most important sectors of Kodiak's economic base.

Fig. 21: Proportion Of Total Employment By Industry

	1970	1974
Self Employed & Miscellaneous	21.4%	15.0%
Mining	---	---
Construction	1.5%	5.2%
Manufacturing	23.9%	32.4%
Transportation, Communications & Public Utilities	7.0%	6.6%
Trade	11.1%	10.8%
Finance, Insurance, Real Estate	---	2%
Service	6.1%	7.7%
Federal Government	12.4%	6.1%
State & Local Government	14.5%	14.2%

Source: Alaska Department of Labor, Statistical Quarterly, 1970 and 1974.

By examining the proportion of total employment in each industry (Figure 21), it can be seen that the most important industry is the fishing industry. The fishing industry accounts for the majority of employment

in the miscellaneous self-employed and manufacturing sectors (food processing accounts for almost 100% of the total manufacturing employment). The most important change in the ranking of industries was the drop in Federal Government from the fourth to the eighth most important employer. The combined effect of Federal, State, and Local Government makes the government sector the second most important industry, employing about 20% of the labor force in 1974. The addition of military employment would increase the importance of the governmental sector.

The same relationships can be seen in wages and salaries paid. Figure 22 shows the breakdown of wages and salaries by industry in 1973 and 1974. The fishing, which includes almost all of the workers in agriculture, foresting, and fisheries categories, as well as the manufacturing category, is the most important employer, paying almost 46% of total wages and salaries in 1974. Government is the second most important employer, paying about 24% of civilian wages and salaries. This underestimates fishing incomes by leaving out the incomes of of the self employed fishermen and those that are based out of locations other than Kodiak. The distribution of labor in the fishing industry, between fishing and manufacturing, is reversed in wages and salaries. The average monthly wage in fisheries in 1974 is $2013. This is more than twice that of $851 per month in manufacturing.

Fig. 22: Percent Of Total Civilian Wage/Salary Payments By Industry

	1973	1974
Agriculture, fisheries, forestry	17.8%	15.7%
Construction	6.4%	8.9%
Manufacturing	30.4%	30.0%
Transportation	6.4%	7.1%
Trade	8.3%	8.2%
Finance	1.5%	1.7%
Services	4.8%	4.8%
Federal Government	9.8%	8.7%
State & Local Government	14.7%	14.9%

Source: Alaska Department of Labor, Statistical Quarterly, 1973, 1974.

Figures 23 and 24 illustrate the recent changes in civilian employment and its sectoral makeup. Between 1970 and 1974 civilian employment increased by approximately 26%. Three industries increased faster than the rate of civilian employment growth; they were construction, which more than tripled in the time period, manufacturing, and service. Even the industries below the average growth rate grew at acceptable rates, between 20% and 25%. Only Federal government civilian employment decreased

during this time period by 37%. Federal government civilian employment has experienced a continual decrease since 1970 even though the military stationed on Kodiak has grown.

Fig. 23: Kodiak Employment - Annual Average

	1970	1971	1972	1973	1974
Total Civilian Employment	3329	3023	3090	3844	4210
Mining	----	----	----	----	----
Construction	46	----	125	131	206
Transportation, Communication, Public Utility	217	266	228	223	263
Trade	346	343	355	394	429
Finance, Insur. Real Estate	----	64	----	----	78
Service	190	241	232	268	302
Miscellaneous	219	219	190	252	282
Government	837	851	821	823	807
Federal	387	351	272	263	244
State & Local	667	500	549	560	589

Source: Alaska Department of Labor, Labor Force Estimates, by Industry and Area, 1970-1974.

An examination of employment shows that Kodiak has experienced a healthy growth rate since 1970. Employment has increased by 26% and the economy seems to be diversifying with a larger proportion of employment in the non-basic sector. Wages seem to be following this trend, with the average monthly salary increasing by 12% from $900 to $1,004 between 1973 and 1974. One problem is that even though the economy seems to be diversifying by increasing the size of its nonbasic sector, its concentration is increasing in the basic sector. Government employment, while still important, has decreased since 1970. If this trend would continue it would leave the Kodiak basic sector entirely dependent on the fishing industries and its cycles. This problem is lessened somewhat by the diversity of the fishing industry. Kodiak has become a year-round fishing port with salmon, crab, shrimp and halibut seasons overlapping, permitting year-round fishing. This has reduced the seasonality and dependence on one species; but diversity of the economic base is still a problem which needs attention.

Fig. 24: Growth Rates - 1970-1974

	1970 - 1974
Total Civilian Employment	26.3%
Mining	---
Construction	347.8%
Manufacturing	71.5%
Transportation, Communications & Public Utilities	21.2%
Trade	24.0%
Finance, Insurance & Real Estate	---
Service	58.9%
Miscellaneous	28.8%
Government	
Federal	-37.0%
State & Local	24.8%

Source: Alaska Department of Labor, Labor Force Estimates by Industry and Area, 1970-1974.

Three measures of regional economic well-being will be examined to describe the effect of the past economic growth. Two measures deal with employment while the third provides an overall indication of the growth of the economy. Unemployment and the unemployment rate are indicators of regional well-being. If the unemployment rate increases even with an increase in employment, economic well-being is decreased since the unemployment rate measures the probability of any one who wishes to work being out of a job.

Fig. 25: Kodiak Annual Average Unemployment Rates 1970-74

	1970	1971	1972	1973	1974
Unemployment Rate	7.8%	7.8%	9.0%	6.5%	9.5%

Source: Alaska Department of Labor, Labor Force Estimates by Industry and Area, 1970-1974.

Figure 25 shows the increase in the unemployment rate by 1.7% between 1970 and 1974. Because of this increase, we cannot claim an unambiguous increase in economic welfare since 1970.

The second measure of regional economic welfare concerns another type of unemployment, seasonal unemployment. The seasonal employment problem is common to most economies based on natural resource production. The problem arises because peak employment comes only in a few seasons leaving workers unemployed in the other seasons. Figure 26 analyzes the seasonality of employment in various industries. This table displays seasonality indexes for each industry. The seasonality index is the average winter quarter employment, divided by the average summer quarter employment. The extent of seasonality in an industry is measured by the extent this index is below one. If the number is below one it means employment was reduced in the winter quarter and seasonal employment existed.

Fig. 26: Kodiak Seasonality Index

	1974
Total Employment	.88
Construction	.78
Manufacturing	.83
Transportation, Communications, & Utilities	.80
Trade	.96
Finance, Insurance, Real Estate	1.16
Service	1.16
Miscellaneous	.60
Federal Government	1.06
State & Local Government	1.00

Source: Alaska Economic Research, Simpson Usher Jones, Inc., 1976.

The Kodiak economy can be easily divided into two sectors -- one where seasonality is of little importance, such as in Trade, Finance, Services, and Government, and another where seasonality is of primary importance. This illustrates the stabilizing effect of government employment, since it counteracts the seasonality in the fishing industry. The seasonality in the fishing industry can be seen by examining total employment, miscellaneous, and manufacturing -- all of these sectors are highly seasonal with employment as great as 40% less in the winter season.

One problem in regional economic studies is the lack of any data except civilian employment data for describing the economy. Employment data does not tell the whole story. To get a better overall picture of the performance of the Kodiak economy, a Kodiak Economic Index was developed.

(See Figure 27.) This index serves as a summary of the various important economic factors. The index is described as follows:

$$K.E.I. = \frac{3 \times \text{total civilian employment}}{10{,}000} - \frac{2 \times \text{total unemployment}}{10{,}000} + \frac{4 \times \text{gross earnings of Kodiak fishermen}}{100{,}000{,}000} + \frac{1 \times \text{Military Stationed}}{10{,}000}$$

Fig. 27: Kodiak Economic Index

	Employment[1]	Unemployment[2]	Gross Earnings[3]	Military[4]	K.E.I.
1970	2866	244	$ 11,614,077	1491	1.426
1971	3023	255	9,002,554	1301	1.344
1972	3090	306	11,764,112	659	1.403
1973	3844	266	21,242,365	690	2.015
1974	3928	414	23,576,533	733	2.114

Sources:
1. Alaska Department of Labor, Labor Force Estimated by Industry and Area, 1970-1974.
2. Ibid.
3. Alaska Commercial Fisheries Commission, 1976.
4. Alaska Dept. of Labor, Current Population Estimates, 1970-74.

This index includes many factors that employment figures alone would not account for. For example, in the fishing industry, both the size of the catch and the amount paid are important determinants of the available income. These variables do not depend directly on employment of fishermen. Use of gross earnings of fishermen in Kodiak serves to account for variability of the catch and prices paid. This index shows an increase in economic activity of 48% since 1970. The growth described by the index is greater than the 26% increase shown in the same time period by employment data. This illustrates a basically healthy and expanding economy.

THE FUTURE OF THE KODIAK ECONOMY

The future of the Kodiak economy without OCS development will depend on its two most important basic industries, the fishing industry and the Government. Growth in the economy is dependent on growth in the basic sector; the nonbasic sector serves the basic industries and grows as a result of its growth.

FISHING INDUSTRY

The future of the fishing industry on Kodiak will be effected by three external factors -- the effectiveness of the 200 mile fishing limit, the impact of limited entry, and the success of scientific management of Alaska's fishing resources. The 200 mile limit and its enforcement should increase the productivity of the Kodiak fishing industry by increasing the supply of fish available to the Kodiak fishing industry. Limiting foreign fleet hauls within 200 miles will make more fish available to be caught in the present and will also allow better management, which should increase the supply of fish available in the future.

Scientific managment of the fisheries should be more effective if the renewable resource fund which the state is trying to establish is approved. This fund may provide capital for proprietary fish hatcheries run by fishermen's associations which will then increase salmon runs. The importance of the increase in salmon supply to Kodiak depends on the effect of the State's limited entry program. The limited entry program was established to effect four goals: 1) Prevent the addition of more gear to overcrowded fisheries; 2) Encourage the use of underdeveloped fisheries; 3) Stabilize the amount of gear in each fishery at levels which allow fair dollar returns, effective fisheries management, and upgrading of gear and vessels; and 4) promote professional and diversified commercial fisheries.(46)

This program will have the effect of reducing the number of fishermen, but will increase the return to those remaining. The overall economic impact of this program on Kodiak will depend on whether the total return to the remaining fishermen on Kodiak is greater than the loss from the reduced number of fishermen.

Increasing the supply available to the Kodiak fishing industry and increasing the productivity of fishermen are only two ways of increasing the Kodiak fishing industry. Diversifying the types of fish caught is another way of expanding the fishery. Since 1969, the ratio of shellfish to salmon catch has changed from 1:9 in 1969, to about 2:1 in 1973. This diversification was important to the Kodiak fishing industry, reducing its seasonality and the impact of low runs in particular species.(47) Bottomfish offer an important future source of expansion.

Current limited production of such species as perch, cod, pollock and flounder is a result of unsatisfactory market conditions. The production of bottomfish should be helped by the 200 mile fishing zone and the reduction in foreign fishing vessels activity in Alaskan waters.(48)

GOVERNMENT

The most important segment of government activity on Kodiak is the Federal Government. Employment on the Kodiak Coast Guard Station is the largest sector of Federal employment. The Kodiak Support Center currently employs 1,120 people. Of these, 185 are civilians which is approximately 75% of all civilian federal employees on Kodiak. The Center currently spends about 15 million dollars a year on Kodiak in salaries, operating expenses, and capital improvements. An increase in Coast Guard activity on Kodiak will result because of the requirement to enforce the 200 mile fishing zone. Current plans for expansion call for increasing the military force by about 130. If existing ratios hold, this could lead to an increase of 28 in civilian employment and $200,000 in additional salaries and operating expenses. Future personnel expansion will also be necessary. Coast Guard expansion will also have an impact because of required construction. Current recommendations call for about $21,000,000 of construction in the next few years.(49)

OTHER BASIC INDUSTRIES

A recent study by Bradford Tuck on the Kodiak economy describes the future of the other portion of the Kodiak basic sector. We will summarize his findings below. Besides fishing and government, Tuck includes agriculture, mining, logging, and construction in the Kodiak basic sector. (50)

Agriculture is unlikely to produce a change in the near future. Problems of cost and scale will prevent any major increase in this sector. Tuck lists these problems with the beef industry in Alaska:

1. Lack of Alaska feed lots and infrastructure
2. Distance from markets and supply areas
3. High relative cost of Alaska beef

Mining has been only minimal, but this trend could change with OCS development in the Western Gulf. Without this development mining should continue to have only minimal impact.

Contruction should see an upward trend in the future. Demand for construction will come from plant construction and improvement in the fishing industry, state public works, and federal government construction at the Coast Guard Station. Demand will also increase for residential construction.

Logging and lumbering activity has potential for expansion. Future expansion will depend on the solution to environmental problems brought out in current timber sales.

CONCLUSIONS

Tuck concluded that without OCS development the Kodiak economy would experience a modest growth similar to the rate experienced during the last 10 years. He projected a total military and civilian employment of 6,292 in 1980. Of this, the basic employment would consist of 3,071 in the civilian base and 863 in the military. This projection shows a 43 percent increase in the total employment between 1970 and 1980.(51) With this same growth rate in the following decade Kodiak would have a total employment of about 9,000 by 1980. The impact of OCS development in the Western Gulf of Alaska on the Kodiak economy can be judged against these non-OCS development projections.

DEMOGRAPHIC INVENTORY

This section of the OCS Study discusses the population characteristics and growth trends of the Kodiak Island Borough. In examining the growth of the population, particular attention has been paid to the various factors that generated the growth and forecasts of future population growth have been made. By studying the characteristics of the population with respect to age and locational distributions, trends and areas of stability have been identified.

Knowledge of both the present and future population is helpful for impact planning. The numerical level of population growth and its demographic makeup both determines and indicates the amount of activity in the public and private sector. The activity in the support sector of the local economy is significantly affected by the amount and type of population. More importantly, the services demanded of the local government are directly related to the population.

A good example of the effect that demographic components can have on the public sector is the effect that a particular population characteristic can have on a school budget. The size of the school budget fluctuates in proportion to the number of school age children in a given population area. This characteristic would be indentified through age ratios. A given increase in population caused by OCS development will have varying impacts on Kodiak depending on its demographic characteristics.

Information utilized in this report about the demographic makeup of Kodiak's population was obtained from the 1960 and 1970 census. Information on the population growth has been gathered from both the census and the annual state population reports produced by the Alaska Department of Labor.

POPULATION GROWTH: 1970 - 1975

The population growth on Kodiak between 1970 and 1975 has been sporadic. There have been a number of major increases and decreases. The yearly rate of growth ranged from a low of -10.5% to a high of 4.2%. During this time period, Kodiak experienced an average annual rate of growth of 0.4%. This is less than one-fifth the average yearly growth rate found in the 1960's. This information, as well as the components of population growth is shown in Figures 28, 29, and 30. As a comparison, in the period between 1970 and 1975 the State of Alaska grew at a yearly rate of 6.8% which is about 17 times the rate of growth of Kodiak.

Fig. 28: Kodiak Population

Year	Total	Civilian	Military
1960	7174[1]	5367[2]	1807[2]
1970	9409[1]	7918[2]	1491[2]
1971	9723[2]	8422[2]	1301[2]
1972	8703[2]	8044[2]	659[2]
1973	8868[2]	8178[2]	690[2]
1974	9232[2]	8499[2]	733[2]
1975	9620[3]	8720[3]	900[2]

1. 1960 and 1970 U.S. Census
2. Current population estimates 1971 - 1975, Alaska Dept of Labor
3. Estimate made assuming rate of growth was the same as rate of growth of school enrollment

An important cause of the sporadic population growth was the change in the military population on Kodiak. The major population decrease in this time period occurred in 1972 when the Coast Guard took over the Kodiak base from the Navy. The military population was reduced by 49% from 1301 to 659 between 1972 and 1973. This military decrease was accompanied by a drop in the civilian population of approximately 400 people as a result of a reduction in military families and the loss of some support jobs.

Since 1972 both the civilian and military populations have experienced healthy growth. The population has grown at approximately 3.4% each year since 1972. The military has grown, since it reached its low of only 659 military stationed on Kodiak in 1972, to 900 stationed in 1975. This is a yearly average growth of 12% and brings the military to within 600 of the number stationed on Kodiak in 1970. This smaller

number of military may, because of the changing complexion of the military since Vietnam, have a greater population impact. Since the end of the Vietnam war, the Coast Guard may include more career-oriented personnel with families.

Fig. 29: Yearly Growth Rates

Years	Total	Military	Civilian
1960 - 1970*	3.1%	- 1.7%	4.8%
1970 - 1975*	.4%	- 7.9%	2.0%
1970 - 1971	3.3%	-12.7%	6.4%
1971 - 1972	-10.5%	-49.3%	-4.5%
1972 - 1973	1.9%	4.7%	1.7%
1973 - 1974	4.1%	6.2%	3.9%
1974 - 1975	4.2%	22.8%	2.6%

* Annual average

Source: Alaska Economic Research, Simpson Usher Jones, 1976

Fig. 30: Components Of Growth

Year	Population	Military	Births	Deaths	Migration
1971	314	-190	283	52	83
1972	-1020	-642	212	37	-1195
1973	165	31	196	43	12
1974	364	43	191	63	236
1975	388	167	199	53	242

Source: Alaska Department of Labor Current Population Report, 1971-1975.

The civilian population has grown by 10% since 1970. The increased civilian population has counterbalanced the reductions in military personnel during its major reductions. Increases in civilian population can be best explained in terms of the increased importance of other sectors of the economy and are discussed in the Economic Inventory of this report.

POPULATION ESTIMATES

The population estimates for the years 1970 to 1974 were made by the Alaska Department of Labor, however the state's 1975 estimate was not consistent with other indicators of population growth. The state population estimate showed a decrease in Kodiak population of 431; this was a 4.6% decrease. Other indicators grew during this time period. Figure 31 compares the state's estimated growth rate and the growth of other indicators.

Yearly estimates of the population can be made in many ways which vary in accuracy and cost. Most accurate and costly would be to conduct a yearly census. Without a census, population estimates must be based on hard data which is produced yearly and is related to population growth. A housing count is an accurate method, if a measure of vacancy can be made. Two other types of data which reflect population are available - labor force data and school enrollment data. If a stable relationship can be found between either of these types of data and population, they can be used to estimate population growth. Of this data, school enrollment is the only data available for timely estimates.

Fig. 31: Growth Rates

State's Population Estimate	-4.6%
Military	22.8%
School Enrollment	4.2%
Gross Sales Receipts	11.7%

Source: Alaska Economic Research, Simpson Usher Jones, 1976.

By examining the relation between school enrollment and population, we found that the ratio of population to school enrollment varied by only 0.3 from 1972 to 1974 and by only 0.4 since 1970. Because of this stable relationship it was assumed that population grew at a rate equal to the school population. Assuming a rate of population growth equal to the 4.2% growth of school enrollment, a 1975 population of 9,620 is estimated, which is an increase of 388.

POPULATION GROWTH AND THE COMPONENTS OF CHANGE

One of the goals of this study is to forecast what Kodiak will be like in the future, both with and without outer continental shelf oil development. An obvious conclusion is that without OCS development, growth will continue much as it has in the past. This means that those forces determining population growth in the past will continue to operate and

grow at the same rate that they have in the past. The following projections of the future course of population growth will utilize the technique known as the Component Method.

The Component Method examines the growth in total population by forecasting the three major components of population change -- births, deaths, and migration. By examining these components in the recent past, we can estimate rates of change in each. Using these rates of change, population growth can be projected through 1995.

Figure 32 shows the components of population change since 1970. Traditionally, the Component Method develops growth rates for a five year time period. The change in military personnel in 1972 prevents the use of growth between 1970 and 1975 to determine the rates. We will develop five year growth rates based on the yearly averages found since 1972.

Fig. 32: Components Of Population Change

Year	Population	Population	Births	Deaths	Migration
1971	9723	314	283	52	83
1972	8703	-1020	212	37	-1195
1973	8868	165	196	43	12
1974	9232	364	191	63	236
1975	9620	388	199	53	242

Source: Alaska Department of Labor, Current Population Reports, 1971-1975

Figure 33 shows the birth, death, and migration rates found since 1972. This figure also shows the average yearly rate for each component;

Fig. 33: Birth, Death and Migration

Year	Populaion Growth Rate	Birth Rate	Death Rate	Migration Rate
1972-73	.019	.022	.005	.001
1973-74	.041	.022	.007	.027
1974-75	.042	.022	.006	.026
Average	.034	.022	.006	.018

Source: Alaska Economic Research, Simpson Usher Jones, 1976

Using these average rates, the five year growth rates shown in Figure 34 were developed.

Fig. 34: Five Year Growth Rates

Population	Births	Deaths	Migration
.182	.115	.030	.093

Source: Alaska Economic Research, Simpson Usher Jones, Inc., 1976

Using the average rate increase of 3.4% per year, population projections for Kodiak through 1995 are shown in Figure 35.

Fig. 35: Population Projections Without OCS Development - 1975-1995

Year	Population	Year	Population
1976	9,947	1986	13,896
1977	10,285	1987	14,368
1978	10,635	1988	14,857
1979	10,996	1989	15,362
1980	11,370	1990	15,884
1981	11,757	1991	16,424
1982	12,157	1992	16,982
1983	12,570	1993	17,559
1984	12,997	1994	18,156
1985	13,439	1995	18,773

Source: Alaska Economic Research, Simpson Usher Jones, Inc. (Sontag)

According to these projections, population doubles by 1995. Any major change such as OCS development will affect population levels since this forecast is based on continuation of past trends.

POPULATION CHARACTERISTICS

As we mentioned previously, knowledge of the demographic makeup of the population is as important to decision makers as is knowledge about the total number of people. The distribution of certain population characteristics will determine the demands placed on the public and private sectors. Stability is an important characteristic to look for in the Kodiak population. If it has been stable in the past, there is reason to predict the same stability in the future. A change in the distribution

of population characteristics associated with OCS development will mean a disproportional impact on Kodiak's future population.

The main population chacteristics of interest to public decision makers are age distribution, locational distribution, and the family composition. These have an impact on housing, schools, and public services. The following analysis shows considerable stability in these characteristics. The population may seem less than stable, particularly when its migration pattern is examined. According to the 1970 Census, 49% of the population over five years old lived outside of Kodiak in 1965. This does not seem to describe a stable population, but this high proportion of migrants can be accounted for by the high proportion of military in the population. Of the 2,676 people over five years old on the military base in 1970, 77% had moved to Kodiak since 1965. Subtracting the military migrants reduces the number of new residents to 36%. This figure compares with 41.1% for the state as a whole, 44.9% for Anchorage, and 52.4% for Kenai. A relatively high rate state-wide is not unexpected since the state is growing faster than what would be considered a normal rate of increase. Migration is an important component of that growth.

Figure 36 through 38 describe the age distribution of Kodiak as indicated in the 1960 and 1970 Federal Census and a 1974 Census conducted by the Kodiak Borough. Comparing the percentage distribution in 1960 and 1970 shows a remarkable similarity.

Fig. 36: Age Distribution

Age	1960	1970
5	963	1073
5 - 9	754	1153
10 - 14	639	931
15 - 19	722	801
20 - 24	984	1380
25 - 29	631	900
30 - 34	620	735
35 - 39	560	570
40 - 44	406	502
45 - 49	277	404
50 - 54	199	356
55 - 59	168	243
60 - 64	110	151
65 -	141	210

Source: 1960 Census; 1970 Census.

Fig. 37: Percentage Age Distribution

Age	1960	1970
5	.134	.114
5 - 19	.295	.307
20 - 29	.225	.242
30 - 39	.164	.139
40 - 49	.095	.096
50 - 59	.052	.064
60 -	.035	.038

Source: 1960 Census; 1970 Census

The importance of any age group is measured by its proportion of the total population. The largest change was in the 30-39 age group which showed a decrease of 2.5% over the 10-year period. Both with the 0 through 29 year olds increasing by 4.9% of the total population, and the population above 50 increasing by 1.6%. Despite the small changes, the age distribution can be considered the same in 1960 and 1970. This stability of the age distribution continues through to the present.

Figure 38 compares the civilian populations in 1970 and 1974. A greater change can be seen since 1970; the 5-17 age group, which is the school age portion, has increased by more than 10%. Even with this increase, the age distribution does not seem to have experienced any major change since 1970.

Fig. 38: Civilian Age Distribution

	1970		1974	
Age	Number	Percent	Number	Percent
5	698	.110	555	.087
5 - 17	1043	.164	1805	.282
18 - 55	3979	.626	3554	.554
55 -	637	.100	490	.077

Source: Kodiak Island Borough Special Census, 1974.

The locational distribution of population has also remained fairly stable. Figure 39 compares the locational distribution of the population in 1970

and 1974. Some distortion in these distributions may result from definitions of areas, since 1970 areas are defined by the census and 1974 areas are precinct boundaries. Even so, the two distributions are extremely similar. The biggest change was a decrease in the City of Kodiak by 1.9% and an increase in the proportion of population outside of the city and village boundaries by 1.7%. The change in population between 1970 and 1974 have been fairly evenly spread throughout the island.

Fig. 39: Civilian Locational Distribution

	1970		1974	
	Number	Percent	Number	Percent
Kodiak	3798	.597	3700	.578
Ouzinkie	160	.025	180	.028
Port Lions	227	.036	243	.038
Akhiok	115	.018	102	.016
Karluk	98	.015	94	.015
Larsen Bay	109	.017	98	.015
Old Harbor	290	.046	304	.047
Remainder	1560	.246	1683	.263

Source: U.S. Census, 1970
Kodiak Island Borough Census, 1974.

Family composition can be measured by average family size. This statistic is important since a projection of the future population can determine the overall demand for housing. The required housing stock equals the total population divided by the average family size. A reduction in the average family size would mean a larger housing stock would be required to house a given population. The average family size decreased between 1960 and 1970 by .09 people per household (from 3.63 to 3.54). This decrease can be explained by the national trend toward smaller families. A census taken in 1974 showed an even larger decrease in population per household to 3.30. This statistic shows the greatest change of the population characteristics we have examined, but still it can be explained by the trend to smaller families seen throughout the country. As long as this general trend can be predicted, the change should not disturb the ability to make predictions of the future demographic characteristics of the population.

LAND STATUS/CAPABILITY

Throughout the process of planning and preparation for the impacts of OCS development in Kodiak, questions concerning the demand for land and its use, capabilities, and availabilities will be brought before the community by both public and private entities. If the decision making bodies in Kodiak cannot respond to those questions promptly, then the development of residential, commercial and industrial facilities will occur in an unplanned, uncontrolled and haphazard atmosphere.

OCS development will create both direct and indirect demands for land throughout the exploration, development and production phases. Uses that will create a demand for land directely related to OCS development will include onshore marine service bases, oil storage facilities tanker terminals, industrial parks and transportation facilities such as roads, freight terminals and air support bases.

Indirect demands for land will be created by population growth and the resultant need for residential and commercial facilities to serve the population and local industrial facilities designed to meet the needs of a growing population. There will also be an increased demand for recreation lands and open space as well as the need for new facilities devoted to tourism and public facilities.

All of the decision makers concerned with Kodiak, including the private sector, the Kodiak Island Borough, the City of Kodiak, the State of Alaska, and the federal government will be involved in planning for the use and disposition of lands within the Borough. Decisions will have to be made in response to immediate requests for use permits, zoning, subdivisions and other types of applications relating to development projects. Decisions will also have to be directed toward long term land

uses so that land in the proper amounts and locations can be reserved for future requirements. In order to make these decisions, it will be necessary to determine what land is available for use and suitable for development within the Kodiak Island Borough as well as what the future needs will be. Information will also have to be available that will allow decisions directed toward minimizing the impact of OCS development on the natural environment, creating and maintaining a high quality of human environment, and protecting the significant historical and cultural assets of the area. At the same time and also to help minimize the overall long term impacts, it will be necessary to make land use decisions directed toward providing the type of land that will suit the proposed uses associated with OCS development from an economic and functional standpoint.

As stated above, information is required to make rational decisions. In order to function efficiently, the decision makers will need several types of information relating to land and its use. First they will need base line data concerning the physical attributes of the land within their various jurisdictions. Information will be required relating to soils, topography, slopes, hydrology (including water tables, aquifers and flood plains), environmental sensitivity both on a micro and macro scale, and seismic characteristics. The information should be in a form adaptable to application to specific sites as well as large ecosystems.

Second, information will be needed concerning the socio-economic attributes of land. This will include ownership, natural resources, land use demand requirements, and land values.

Third, it will be important to know the various special features associated with the land involved. This will include archeological sites, the importance to the various cultures involved, and any unique and scenic attributes that specific sites might possess.

This separation and delineation of various types of information is easily done in a report such as this; however, in actual fact the various facits of the land characteristics are inexorably intertwined to the point that it is almost impossible to consider one without the other. This portion of the OCS study will report on the information that is available concerning land in Kodiak and will make recommendations relative to the types of information needed for use evaluation that has yet to be developed and/or refined to the point of usefulness to local decision makers.

AVAILABLE INFORMATION

Information concerning land in Kodiak is generally limited. Most of the information that is available is on a very broad scale. Much of the needed information mentioned above is not available at all. This is an extremely unfortunate situation considering Kodiak is now facing rapid industrialization. However, it is not a predicament that was entirely unexpected. To date Kodiak has not been the site of rapid population growth or industrialization. There has not been a great deal of interest in the land and its detailed qualities and characteristics. In fact, the history of Kodiak is built on the basis of the opportunities and demands that come from the surrounding oceans instead of the lands.

The gathering, analysis, refinement and publication of information concerning land and its uses is an extremely complicated and time consuming process. Rarely has the demand for such data been recognized in a given area far enough in advance to have it ready for use when required. Kodiak is no exception. For instance, one of the basic tools of land analysis are aerial photos. However, the only photos available of Kodiak are extremely high level, generalized photos that do not allow analysis of detailed topography, vegetation and land features. There is soils information concerning the entire island; however, it is very generalized. It only provides data concerning soils and materials within six inches of the surface. There is extremely generalized seismic information and little or no specific information on the environmental sensitivity of the flora and fauna that inhabit the island. In that regard there is some raw data that has been compiled by the Alaska Department of Fish and Game on specific species and habitats. However, this data needs to be translated and consolidated into a form that can be applied to land use analysis.

A number of known archeological sites have been identified, but very few of those have been evaluated as to their historical and cultural importance. Many of these sites are extremely old, reaching back into prehistory. However, their significance in terms of potential future land use is not known.

There are large areas of public lands, wildlife reserves, and national forests within the Kodiak Borough. However, there is no data on the past use, the capabilities, and the future demands on those lands.

Ownership is one of the most complicated and frustrating problems relating to land status within the Kodiak Island Borough. Again, on a very broad scale, some ownership information is available. However, in attempting to determine exact ownership patterns, information was found to be either totally lacking or hopelessly complex. For instance, in trying to determine the ownership patterns in areas that were considered likely locations for onshore facilities related to OCS development, we found that most of the land was overlayed with several ownership claims, in some cases up to four. For instance, confusion arises when land that was originally owned by the federal government has been tentatively transferred to state ownership, whereupon private homesteading claims have been made and subsequently the same lands have been claimed by one of the various native corporations.

A good specific example that illustrates the problem of determining ownership in Kodiak is Near Island, which is located immediately adjacent to the waterfront in the City of Kodiak. According to the State of Alaska's land status plats, Near Island is owned by the federal government and has been tentatively approved (TA) for transfer to the State of Alaska. Prior to the passage of the Alaska Native Land Claims Settlement Act, a TA from the federal government was considered as an assurance that the ownership of the land would be transferred. However, the passage of ANCSA has reduced the amount of surety involved in a TA. To complicate this problem, in the early 1960's apparently with the feeling that the TA would be followed by a transfer of title, the State of Alaska granted a patent to the City of Kodiak for Near Island. Consequently, the current ownership of Near Island could be questioned. According to the State Division of Lands, if a question does arise concerning that ownership, it would have to be answered through the legal process. It must be remembered that the situation with regard to Near Island is not an unusual occurrence. It is common throughout Kodiak Island, and in some cases is compounded even further with homestead claims and ANCSA claims.

Because of these typical complications, it is imperative that public and private agencies in Kodiak verify land ownership prior to making decisions concerning land use or land disposition whether it relates to OCS development or not. This is especially true in the case of lands outside the Kodiak metropolitan area.

Even with these complications, there is sufficient information available about general land status on a broad scale to draw conclusions relative to areas available for OCS onshore development. Utilizing the information that is available for Kodiak Island, Map 11 was compiled to show the basic soils, topography and special features that are known to affect land in Kodiak. It can be determined from that map that the great majority of lands within the Kodiak Island Borough and in the Kodiak Island group are unsuitable and/or unavailable for active, permanent uses. There are a number of reasons for this and a description of these factors follows. (Map 11 is in back envelope.)

Soils

As indicated on the map, a large portion of Kodiak Island is unbuildable from a soils standpoint. In making this determination factors were taken into account which included drainage, flood plains. bearing capacities, steepness, the presence of year-round ice, and soil composition. Some of the information for this portion of the study was obtained through the joint Federal/State Land Use Planning Commission.(52) Other information utilized was obtained from the Soil Conservation Service and is generally related to agricultural potential.(53) However, a rough translation of the information can be made that allows its application to developmental potential.(54)

The area of poor soils shown on Map 11 is considered usable only for recreational, hunting and fishing, scenic, open space and possible some agricultural uses. The reasons from a soils standpoint that these lands were eliminated from potential development areas vary. Throughout the

center of the island the land forms are constituted primarily by mountainous areas. There are outcropping of rocks, ice fields, steep mountainsides with talus slopes and slide areas. Because of these influences the land would not support permanent development.

Near the southwestern end of the island, the mountainous areas are replaced by low lying swamp areas which contain soils with high silt contents. The water tables are high, and there are what appear to be large flood plain areas. Along the northwestern side of the island between Uyak Bay and Afognak Island there are additional mountainous areas that, from a soils standpoint, are unsuitable for development.

The majority of the good soils located within the Kodiak Island Borough are on the southwestern portion of the island between Cape Ikolik and the entrance to Uyak Bay. The village of Karluk is located about midway in this area. The soils in this area appear to be alluvial plains with fair developmental potential.

Additional good soils are found to the northeast of there, still on the western side of the mountains. Most of these areas are situated at the heads of the various bays including Zachar Bay, Spiridon Bay, Uganik Bay, Terror Bay, Viekoda Bay and Kizhuyak Bay, on which Port Lions is located. It would appear that the reason for the better soils in these areas is that slopes are gentler and the drainage areas are not as confined by steep topography. Consequently, sedimentary deposits have been able to accumulate. This allows for more stable and usable soil conditions from a development standpoint.

On the southeastern side of Kodiak Island adjacent to the lease sale area, the proportion of usable soils is much smaller. In fact, according to the information available, there are only two areas to the south of Ugak Bay that are at all usable for development purposes from a soils standpoint. Those areas include a small area around Old Harbor and a slightly larger area between Ahkiok and Olga Bay. The great majority of the remaining lands on this part of the island are mountainous and contain very few level areas where soils can accumulate. This is also true of Sitkalidak Island immediately adjacent to the Old Harbor area.

On the northeastern portion of the island from the north side of Ugak Bay to Narrow Strait, some relatively good soils can be found. Again in these areas, especially along the coastline, the slopes are generally less steep and the drainage systems have allowed sedimentation. Throughout the area localized soil conditions vary greatly from extremely wet lowlands to rock outcroppings. However, in general, as demonstrated on Map 11, usable land can be found throughout the area. The one exception to this is the Marin Mountains located to the southwest of Cape Chiniak and north of Ugak Bay.

Continuing north, Spruce Island on which Ouzinkie is located is generally composed of usable soils. Also, much of Afognak Island, especially in the northeastern portions, is buildable. Again, this is primarily due to the absence of extremely steep slopes and the greater depth of soil as opposed to rock outcroppings. Localized soil conditions can vary greatly, however, and specific sites may or may not be usable for development purposes.

Slopes

Slopes also constitute a major problem from a development standpoint in Kodiak. As indicated above, many of the soils problems are related to the steepness of the land. Map 11 also shows the generalized areas that contain slopes of greater than 25 percent. This is considered by most experts in the field as the reasonable limit of developable slopes. Even a 25 percent slope is quite steep. It is generally considered that anything above 10 to 15 percent is usable for special purposes only. Uses on slopes of this steepness are normally low in intensity and primarily confined to residential and recreational uses. Larger industrial type development almost always requires slopes that are less than 10 percent. The information available does not allow the accurate identification of slopes less than 25 percent.(55)

As indicated, steep slopes are common throughout the island. In the southwestern portion of the island around Karluk where soils are generally good, a large percentage of the land can be eliminated from the developable category because of the steepness of the hills in that area. This is also true in the area around Akhiok. Localized steep slopes are found throughout the entire western portion of the island where soils are in many cases considered usable. This also occurs in the northeastern portion of the island in the area served by the road system. This area ranges from gently rolling hills to larger mountains. The steepness of the land varies greatly within relatively small areas.

The physical characteristics of the land shown on Map 11 indicate that an extremely small percentage of Kodiak Island and its adjacent islands are suitable for development purposes. As pointed out above, it is primarily located on the northeast portion of the island in close proximity to the road system and existing developed areas. It is near the areas involved in the upcoming OCS lease sale. When detailed information is developed concerning these areas, even more land will be eliminated from the developable category and a clearer picture will emerge. With this information, assuming it is specific and detailed enough, specific sites can be evaluated.

Land Ownership

As indicated earlier, detailed information concerning land ownership on Kodiak Island is extremely complicated.(56) However, a review of the information that is available in usable form shows that large portions of Kodiak Island are in federal ownership in the form of the Kodiak National Wildlife Refuge and the Chugach National Forest. For the purposes of this study, it is assumed that federally owned lands within those reserves are not available for industrialization.

All of Afognak Island is within the Chugach National Forest and almost two-thirds of Kodiak Island is within the Kodiak National Wildlife Refuge. Afognak Island is a popular recreation area that is utilized by sportsmen and outdoor enthusiasts for hunting, fishing, camping, and various other outdoor activities. There are a number of Forest Service cabins available for recreational use on the island which are used by

residents of Kodiak as well as people from other parts of the state and nation. In addition there are logging operations being carried out on the northern side of the island to a limited extent.

The Kodiak National Wildlife Refuge covers the majority of Kodiak Island. It has been used for a number of experimental programs involving transplants of various animal species to the area. Most of the lands in the refuge are subject to poor soils and/or steep slopes, but some areas have physical characteristics that would allow development. Again, it is assumed that they will not be available for industrial or any other long term uses.

With the exclusion of these two federal reserves, the lands available for OCS industrialization are relatively limited. (See Map 12.) They have been narrowed down to the northeastern portion of Kodiak Island generally from Whale Passage to Kiliuda Bay. In addition it might be possible for the oil industry to utilize lands in or immediately surrounding the village of Old Harbor.

One factor that futher complicates the question of land ownership in many areas is the Native selections made under the Alaska Native Claims Settlement Act (ANCSA). There are 19 village corporations, in addition to the Koniag Regional Native Corporation, on Kodiak Island. Together they have selected 1,566,720 acres of land (see Map 13). The lands selected are not necessarily unavailable for use by virture of their selection. In fact, Koniag, Incorporated has indicated a willingness to talk with the oil industry concerning on-shore facilities. However, some of the lands are not suitable for OCS related uses due to their inclusion in other categories discussed here (natural features, federal reserves, etc.).

In the Kodiak urban area, specific information is available. As can be seen from Map 14, there are relatively large areas of local government ownership including both the Kodiak Island Borough and the City of Kodiak. Much of that land, especially that owned by the Borough, is available for future community expansion, and much of it is ideally located for residential uses although most of the lands outside the city limits are not served by municipal services. It is also important to note that the majority of the land within the existing developed portion of the Kodiak area that is shown in local government ownership is the site of various community facilities and therefore is not available for development.

It should be pointed out that the majority of the City's land shown on Map 14 to the west of the City center is extremely steep and unsuitable for development. Near Island is shown on the ownership map as the property of the City of Kodiak in spite of the previously mentioned complications with the title. It is interesting to note that both the federal and state governments own very little land in the developed portion with the exception of Ambercrombie State Park and the Spruce Cape Loran Station.

The lands on Map 14 that are not shown in governmental ownership are all privately owned although much of the land to the northeast of the city

center remains undeveloped. Most of the land is platted at the present time; however, the majority of these are "paper plats" and are unimproved. While this does indicate large areas available for growth of the community, such growth will require the provision of roads and public utlities prior to development in most cases.

Special Features

One of the most important special features associated with land in Kodiak is its archeological sites. According to the information available, there are presently 170 sites that have been identified as having archeological significance (see Map 11). (Federal/State Land Use Planning Commission) They range from prehistoric remains to early human settlements up to 2,000 years old. As is the case with current development on Kodiak Island, the archeological sites are located primarily along the seashore and within bays and inlets that provide protected water. It is extremely important that these sites be evaluated and cataloged according to their archeological, historical and cultural significance so that proper measures can be taken to protect them from encroachment or destruction as a result of future community growth and industrialization.

Another feature that is important with respect to future development is the seismic characteristics of the island. As shown on Map 11, there are several known faults on both sides of Kodiak Island. Although there is no record of recent significant seismic activity in these areas, it will be important in the future to develop basic geologic information sources and monitoring systems if the affected areas are considered for development.

CONCLUSION

In spite of the generality of the information available on Kodiak relative to land status, it is relatively easy to eliminate large areas of Kodiak Island as potential sites for development.

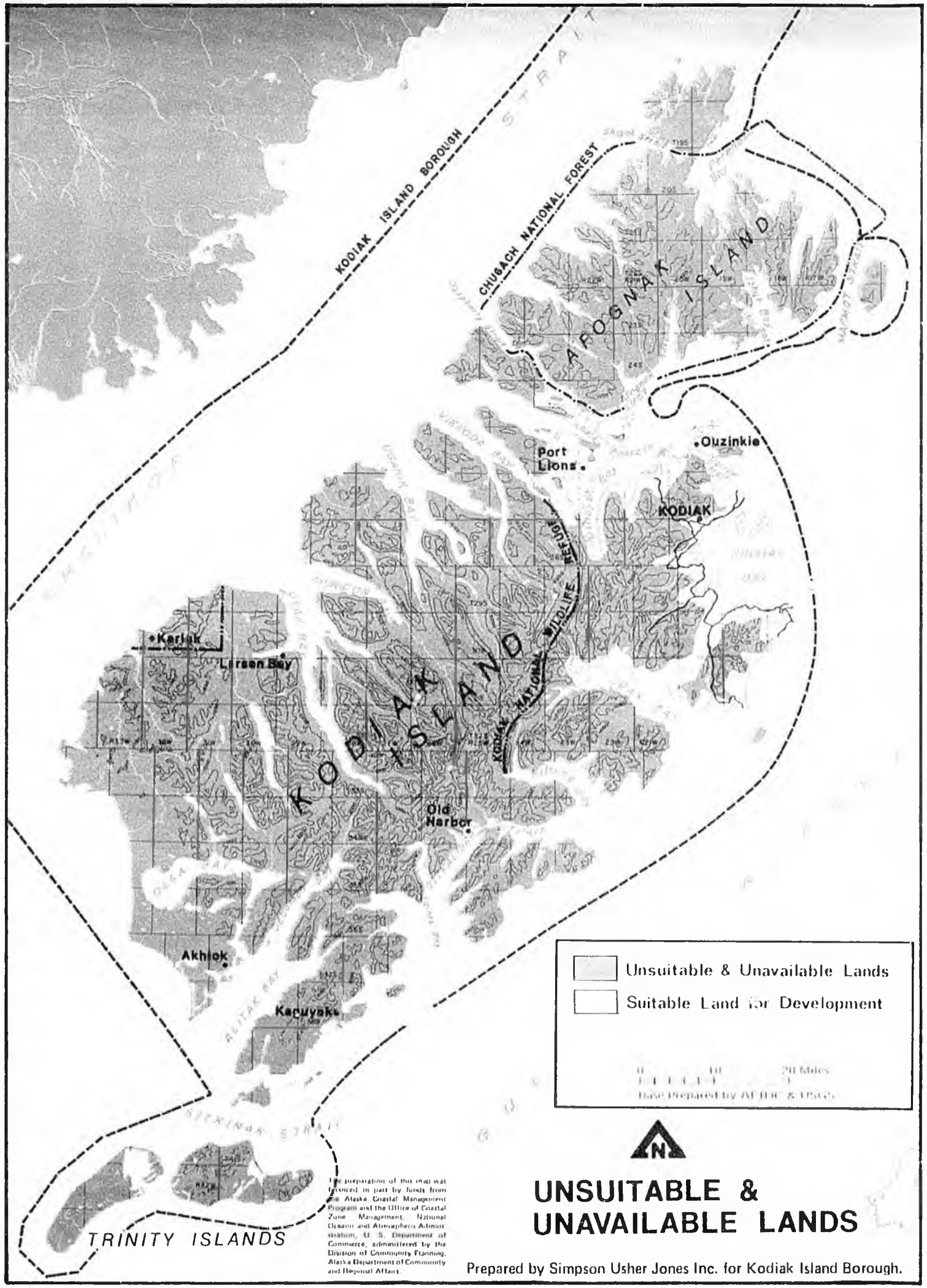
On the western and northwestern portions of the island, there is ample area with physical attributes necessary for development. However, this area is not located in close enough proximity to be utilized for onshore service base facilities related to OCS development and it is not near major areas that will generate population growth pressures. There are two major villages within the area (Karluk and Port Lions) that will undoubtedly continue to grow and will consequently affect the lands surrounding them. Detailed information should be gathered concerning those lands.

On the east and southeast portions of the island usable land is limited. However, based on the information available, land is available with suitable physical and socio-economic characteristics that could be used for community growth and industrialization. Prime candidates for such growth are, of course, the lands around the City of Kodiak and the lands

served by the road system in the area. The north side of Ugak Bay has several sites that could be utilized for OCS related industrialization. As indicated earlier, both Old Harbor and Ouzinkie appear to have the land characteristics and capabilities suitable for additional growth and potential industrialization.

Special attention should be paid to the archeological and seismic considerations on this entire side of the island as well as the natural environmental features of the area. In the Kodiak area where the lands are served by the road system, special attention needs to be paid to the impact that future growth and industrialization could have on the human environment.

Finally, more detailed information needs to be gathered and analyzed concerning land in the Kodiak Island Borough. Ideally this should be done for the entire borough; however, at the very least, specific studies should be done on lands that appear to be suitable for development in terms of population growth and OCS related industrialization. Detailed information needs to be gathered in the form of aerial photos, more complete soils information, topographic information (at a contour interval of no greater than ten feet), archeological evaluation, seismic considerations, and last but not least, ownership patterns. With this information, the decision makers in Kodiak and throughout the State of Alaska and in the Lower 48, including the various levels of goverment and private enterprise, can make rational decisions relative to land use and disposition.

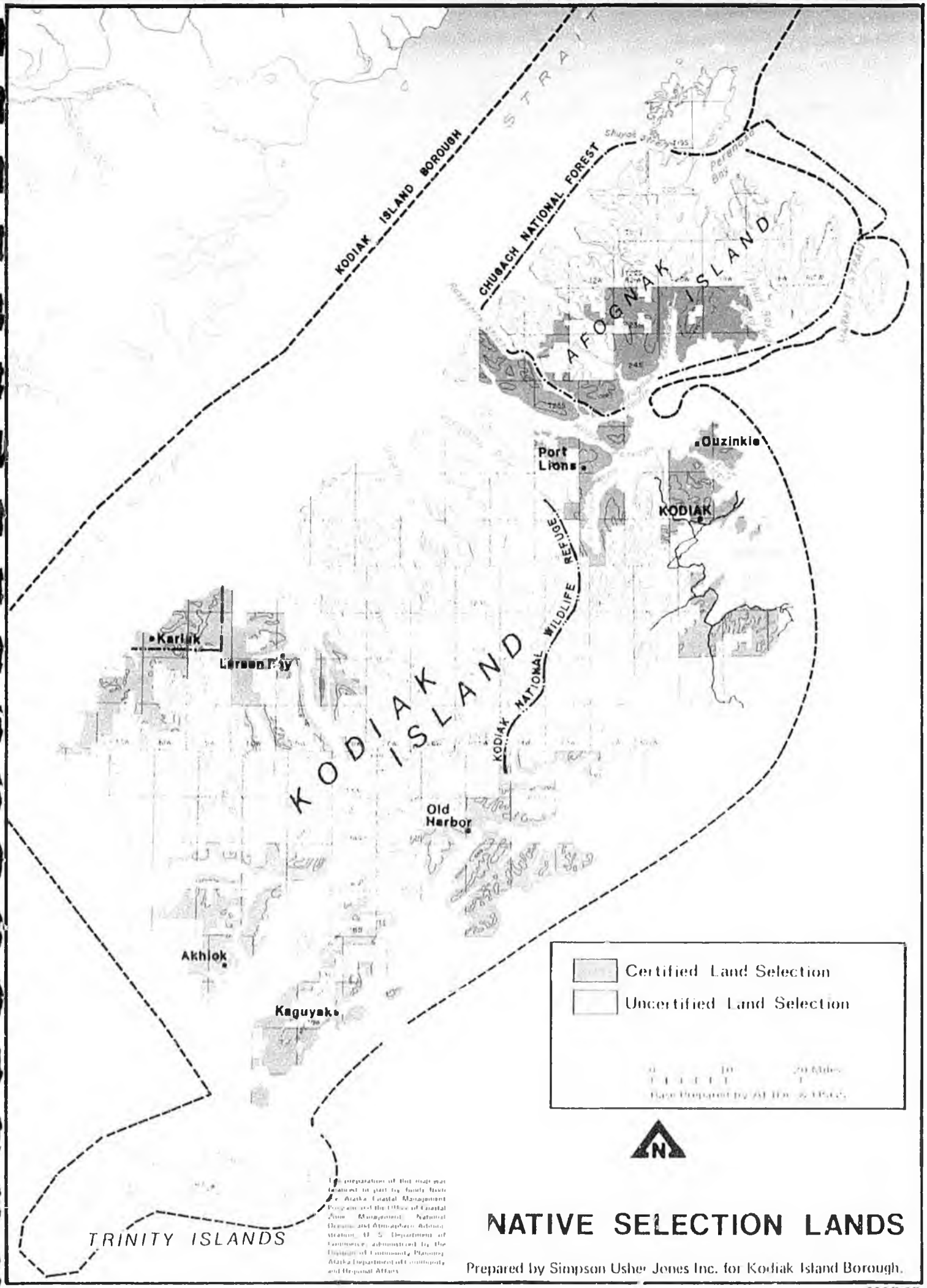


The preparation of this map was financed in part by funds from the Alaska Coastal Management Program and the Office of Coastal Zone Management, National Oceanic and Atmospheric Administration, U.S. Department of Commerce, administered by the Division of Community Planning, Alaska Department of Community and Regional Affairs.

UNSUITABLE & UNAVAILABLE LANDS

Prepared by Simpson Usher Jones Inc. for Kodiak Island Borough.

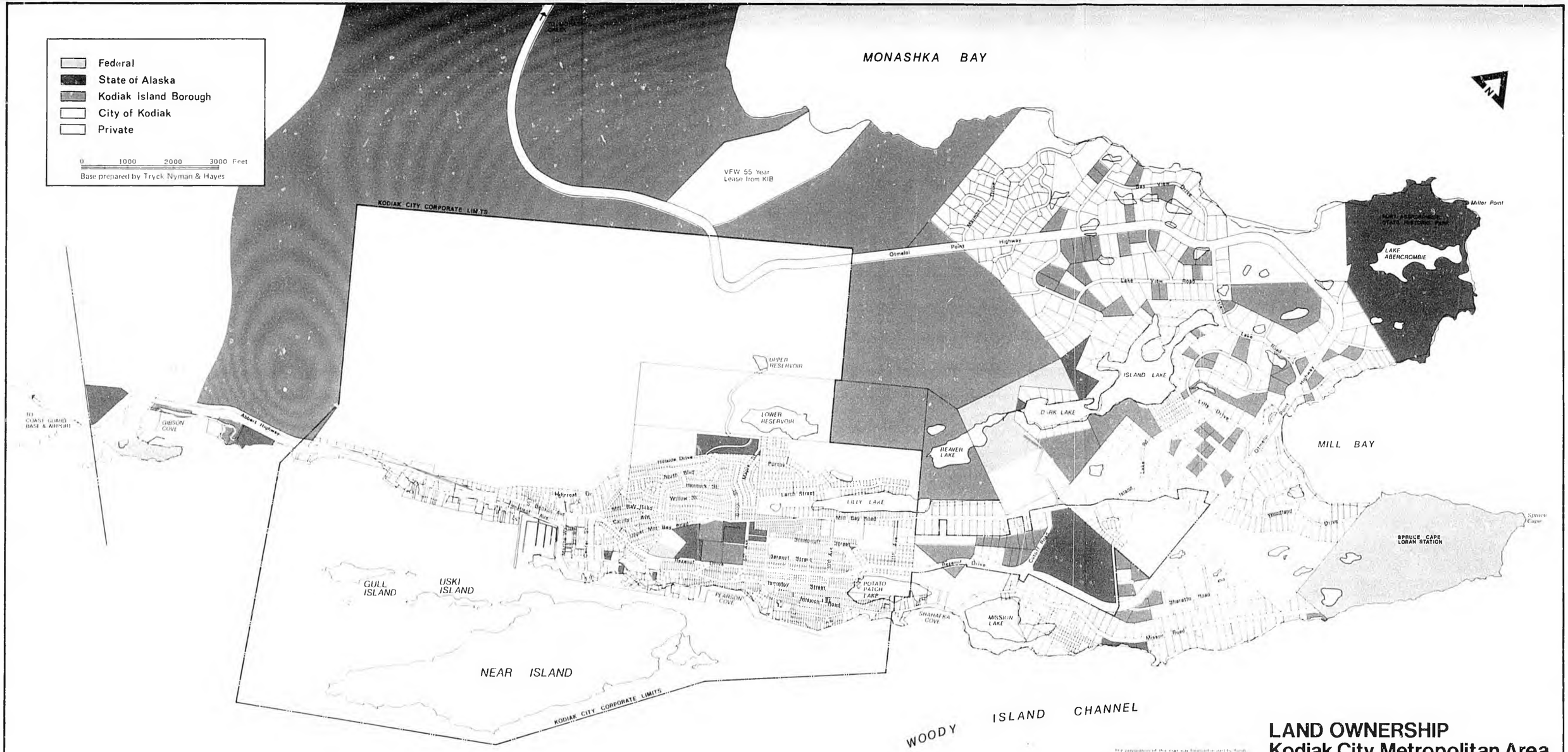
MAP 12



NATIVE SELECTION LANDS

Prepared by Simpson Usher Jones Inc. for Kodiak Island Borough.

MAP 13



LAND OWNERSHIP
Kodiak City Metropolitan Area

Prepared by Simpson Usher Jones Inc. for Kodiak Island Borough

The preparation of this map was financed in part by funds from the Alaska Coastal Management Program and the Office of Coastal Zone Management, National Oceanic and Atmospheric Administration, U.S. Department of Commerce, all administered by the Division of Community Planning, Alaska Department of Community and Regional Affairs.

MAP 14

SUMMARY PROFILE

Through the process of preparing the community inventory for Kodiak, a large body of information has been assembled that is descriptive of the social and economic characteristics of the Kodiak Island Borough. That information comprises Volume II of the OCS Impact Study for Kodiak.

The majority of the information presented is self-explanatory; however, there are portions which were analyzed and explained in some detail. The majority of Volume II consists of information presently available through a variety of sources but that had not been compiled, analyzed or presented in one document. This consolidation of information should be extremely valuable as a planning and management tool for the decision makers in Kodiak as they grapple with the problems that will face the community in the near future. The information should provide a method of predicting and understanding the problems facing Kodiak and the various routes available to solve those problems.

The Community Inventory has shown us that Kodiak is a very unique and vital community, both within the metropolitan area and throughout the outlying portions of the islands. The economy in Kodiak is strong, and the future holds promise of continued prosperity and economic independence. Unlike many other isolated communities in Alaska, Kodiak's size and economic importance has resulted in the provision of the full range of community facilities, utilities and services that are necessary for a growing self-sufficient community. Figure 40 shows who provides the basic public services available in Kodiak.

The study has also shown us that Kodiak has a number of problems that may negatively affect the community's quality of life and its ability to maintain its growth pattern in the future. These problems, if not addressed promptly, will be compounded with the advent of OCS oil activity.

The following profile briefly summarizes the information presented in Volume I which describes the community as it exists today and gives an indication of how its strengths and weaknesses will be affected by or will affect future development.

Fig. 41: Public Service By Provider

Service	Borough	City	State	Federal	Other
Electric					X
Telephone					X
Water		X			
Sewer		X			
Radio, TV					X
Roads		X	X		
Airports		X	X		
Marine Freight Terminal		X			
Ferry Terminal			X		
Police		X	X		
Fire		X			
Emergency		X		X	
Hospital	X				
Clinics	X		X		X
Public Health	X		X	X	
Mental Health	X		X	X	
Alcholism Treatment	X	X	X	X	X
Public Assist.			X		
Legal Assist.			X		
Education:					
Primary	X				X
Secondary	X				
Higher			X		
Recreation		X	X	X	
Parks	X	X			
Camping			X		
Open Space	X	X	X	X	
Cultural		X	X		X

ECONOMIC OUTLOOK

With an estimated current population of 9,620 people, Kodiak is among the five largest population centers in Alaska. Currently the Kodiak Island Borough is growing at a rate of approximately three percent per year. This is a healthy growth rate and one that demonstrates the economic viability of Kodiak. The community has the potential to continue growing as long as the basic industries continue to maintain their strength. In fact, based on historical trends and the current condition of the economy, it is estimated that the population of Kodiak will double within the next twenty years. It is especially important to note that these estimates are made without consideration of any possible OCS development impact on the population. This means that Kodiak does not need the economic boom that OCS activity would bring. The community is healthy; the population and economic base are growing; and the prospects for the future are bright.

EXISTING FACTORS AFFECTING FUTURE TRENDS

There are several important factors that could affect the ability of Kodiak to maintain its growth rates and realize its potentials. The factors described below could have a stifling effect on the economy and could also adversely affect the living environment. Each of them is individually significant and should be addressed regardless of OCS development.

Crime

Criminal activity is normally one of the first and most serious impacts experienced as a result of a "boom" economy. Recent history in Fairbanks, Valdez and a variety of smaller communities along the Trans-Alaska Pipeline route have borne this out. In Kodiak, the industrialization and rapid economic growth anticipated to accompany OCS development is already being proceded by an increase in crime. As indicated in the Law Enforcement Section of the Community Inventory, between 1975 and 1976 total criminal activity was up and the more serious and violent crimes (Part I Offenses) increased.

This situation presents the most serious threat to the quality of life in Kodiak that the community has ever faced. Immediate action by local, state and federal governments is necessary in order to prepare for and combat this problem.

The potential for further rises in criminal activity is increased due to the completion of the Trans Alaska Pipeline in the near future. As economic activity and population growth decreases in towns and cities along the Pipeline, the people who found them easy places to make an illicit living will look for new places to operate. Kodiak offers the opportunities they seek. This, along with changes in the internal characteristics of the community, could allow crime to rival fishing as Kodiak's largest industry.

It is incumbent on the community to take action that will create an atmosphere that discourages the criminal, both resident and non-resident.

Housing

Another serious problem facing Kodiak today is a housing shortage. As indicated above, the population is currently growing at approximately three percent per year. However, over the last five years housing starts, including multi-family units, have averaged less than three percent per year. In addition, over 40% of the housing units in Kodiak are in fair to poor condition. Analysis of these statistics indicates that the housing market is barely keeping pace with population growth. There is no surplus housing stock on the market from which a prospective home buyer or renter can choose, thus costs are high. This is evident by the small number of dwelling units for sale or for rent in Kodiak at any given time. In addition, new homes built in Kodiak are normally sold and/or occupied very quickly. For example, single family homes under construction are generally sold before they are fifty percent complete.

An already inadequate housing supply coupled with an ever present desire by residents to upgrade their housing (a practice most generally achieved by moving into newer homes), creates a discouraging outlook for supplying the housing needs for Kodiak's normal population growth. Fulfilling housing needs resulting from OCS development would be impossible at the current level of housing starts.

There are several reasons why the growth in the housing market has been slow in Kodiak. First, areas available for development which have a full range of utilities are extremely limited. The areas currently served by sewer and water are developed to near capacity, and high utility installation costs discourage development of new areas.

Land availability is another problem in the Kodiak city area. Much of the land surrounding the city is owned by the government or the native corporations, and private land available for residential development is limited both in terms of quantity and quality. Much of the available property is either too steep or too boggy to attract development.

The cost of housing is another factor which affects the housing stock in Kodiak. As indicated in the housing inventory, the average new three-bedroom house in Kodiak ranges between $60,000 and $80,000. We have also noted in the economic inventory that in 1974 the average wage in Kodiak was just over $1,000 per month. Applying an average increase in salaries of twelve percent per year, this same salary would be about $1,260 per month in 1976. The purchase of a $70,000 home, however, would require a monthly mortgage payment of approximately $650 per month, much too high to be accommodated by the average wage. Therefore, for the average wage earner to purchase the average home in Kodiak, it would require that at least two persons within that household be employed. It may be concluded that housing costs are escalating faster than wages, thus creating a shortage of buyers for the Kodiak housing market. This in turn discourages speculative housing starts and drives up the value of existing homes and the cost of custom-built houses.

Commercial And Industrial Land Use

Another problem which will affect the future growth of Kodiak is a shortage of commercial and industrial property. New businesses in Kodiak have a difficult time locating on properly zoned land. This results in higher land costs thus higher consumer prices and finally a higher cost of living. In addition, a less efficient growth pattern is created within the community when businesses are forced to locate on any available commercial or unzoned property they can find rather than in places that are logical and well-suited from a community growth standpoint. As a point in fact, commercial services are now beginning to show up in places scattered throughout the community. Each time this happens, the potential for conflicts among land uses is increased. This can compound the shortage of prime residential land as well as inhibit the planning and evolution of efficient transportation systems.

Industrial land is also needed to accommodate growth in the fishing industry, as well as to support the non-basic industrial activities within the community that are a direct result of basic industry growth. There are no industrial parks in Kodiak, either planned or unplanned. Warehouse space is in short supply and the potential for new space is limited.

These land use considerations must be addressed by the community in order to maintain the growth patterns and economic development rates that have been established. If they are ignored, they will become more serious and will have an accelerating negative impact on the economic system in Kodiak. In addressing the problems, careful planning must be considered in adopting fiscal policies which will encourage the development of additional moderately-priced housing, and the provision of more commercial and industrial areas. Considerations such as access, effect on surrounding land uses, neighborhood character, and future land use demands must be taken into account in order to affectively deal with these concerns without creating new problems.

Social Services

In addition to these land use and economic considerations affecting the future of Kodiak, social factors affecting the quality of life in the community should also be monitored. While these factors may not directly affect the employment rates, housing costs and other developmental characteristics of the community, they do have a direct effect on the living environment in terms of the convenience, esthetics and social well-being of the residents.

Social services are particularly important to a well-balanced community. While there are many social services available in Kodiak, their capabilities to cope with some of the more serious problems is currently impaired by a lack of funds and personnel support on the part of the governmental agencies involved. This is especially true of the health and social services, provided by the State of Alaska, in spite of recent increases in personnel and budgets. For the most part, those agencies are still underfunded and undermanned. While programs have been established to

handle many serious problems such as mental health, alcoholism and public assistance, they can actually accommodate only a relatively small part of the persons currently in need of assistance.

At present there is no indication that the demand for these services will accelerate over and above normal population growth rates. However, if in the near future Kodiak is faced with an extraordinary increase in population due to OCS development, the problems already associated with the social service programs will be further compounded by a larger demand for services and the probability of more complex problems to solve. The community and the State should address these inadequate services as an immediate priority. The level of services offered must be upgraded to adequately meet the current needs of the community and plans should also be made to prepare for the impact that may occur with the advent of a population boom due to OCS development. If not resolved, the inadequacies in the social services will probably have one of the most serious and most deleterious OCS related impacts on the Kodiak community.

Recreation Facilities

Another community component that is currently below standard is adequate recreational facilities. Kodiak now falls short of meeting the community demand for neighborhood parks, indoor and outdoor winter recreational facilities, and weekend and vacation facilities around the island. Through provision of these facilities Kodiak can mitigate many of the social problems which plague many other growing communities. The potential for rapid population growth due to OCS development makes the need for parks and recreational facilities even more acute.

OUTLYING VILLAGES

The various villages located around Kodiak Island have many divergent characteristics while at the same time having a number of common concerns and features. Their populations range in size from over 300 to under 100. Their locational characteristics are similar in that each is located adjacent to salt water and each is near rivers or streams that offer fresh water sources.

The degree or level of development varies between the villages. Port Lions is the most highly developed, with a relatively wide range of community facilities and services including, but not limited to, lighted and maintained city streets, local police protection, modern community-wide telephone service and a comparatively high level of commercial services. The other villages have far less in the way of community facilities and government services. None of the others have maintained streets, community telephone service, or local police. Most have some degree of commercial services and all have schools operated by the Kodiak Island Borough School District. The level of community water and sewer service varies from village to village.

The relationship of the villages to OCS development also varies. Some have the potential of a high level of direct impact. Old Harbor has already been approached by oil industry personnel and is considered a possible site of an on-shore service base. The village corporation sought and recieved assistance from the Koniag Regional Native Corporation in dealing with the oil industry; as yet no facilities are definitely planned for Old Harbor.

Ouzinkie and Port Lions also have potential for direct OCS impacts; although because of their location, they are less likely candidates for service base facilities than is Old Harbor. Like Old Harbor, the rest of the village corporations on Kodiak Island will deal with the oil industry in cooperation with Koniag, Incorporated.

The probability of indirect impacts from OCS development is high in all of the villages. All offer scenic surroundings, hunting and fishing in relative abundance. This will draw tourists and sportsmen in their off-time who seek seclusion, as well as opportunities for trophies and food.

Preparation for these impacts are imperative. The villages can gain from the impacts if that is their desire. However, the implications in terms of economic change, alteration of life styles and physical modification of the villages are extreme. With the notable exception of Port Lions, none of the villages are at all prepared for what could ultimately be the largest influx of people in their histories.

CONCLUSION

The factors described above are significant and deserve special attention. The assets of the Kodiak Island Borough and its communities are uniquely valuable and should be protected and enhanced. The problems faced by the communities are not insoluble; they are the types of problems that are normally to be expected in a time of rapid growth. They are also the type that can be dealt with through community awareness, local action and proper planning and implementation.

OCS oil development has the potential for either strengthening already healthy communities or creating problems that could result in economic and social disruption for many years to come. The result of OCS impact will depend upon the level of oil industry activity which will occur in Kodiak and the methods that are used in planning for and coping with the impact.

There are a number of trends that can be predicted for Kodiak regardless of OCS development. First, Kodiak will continue to grow. Along with that growth, the cost of living will undoubtedly rise moderately. Housing costs will increase until adequate, buildable land is available to accommodate a growing housing market. The residents of Kodiak can expect their problems with respect to crime, housing, recreational and open space facilities and social services to continue to worsen unless

the government steps up its efforts to deal with these issues. Inherent in such an effort, would be the possibility of some increase in the cost of government and a resultant rise in taxes. This situation is one that is common with a growing community.

There are a number of ways in which these concerns can be addressed through proper planning and management tools. Regardless of whether OCS development occurs, these should be addressed as part of the upcoming Kodiak comprehensive plan.

The components of the community that would be most affected by an economic and population boom resulting from OCS development would be those problems which are already most serious. Without exception, the problems described above would become worse at an accelerated rate. Also, increased demands for transportation facilities would place an additional demand on the existing facilities, both internal and external.

In order to determine the proper methods of dealing with the impacts that OCS development might bring, it will be necessary to determine the level of oil industry impact, the resultant population increases to be expected, and the demands that that economic and population growth will place on the basic community infrastructure. Volume I of this report assesses the demand that the oil industry will place on Kodiak. This assessment is used to determine the types of policy alternatives that are available to the community internally and what policies should be endorsed and encouraged in the state and federal governments in order to protect Kodiak's quality of living and economic viability in the forthcoming years.

NOTES AND REFERENCES

NOTES AND REFERENCES

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5. Terror Lake Hydro Project, by Leon H. Johnson, 1976.

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8. Personal Interview Jack Marrow, State of Alaska Highway Department, Kodiak, 1976.

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11. Flight Operation Information provided by Wien Air Alaska. Information taken from report to the U.S. Civil Aeronautics Board.

12. Information provided by the City of Kodiak, Aug. 1976.

13. Information provided by the Alaska State Ferry System.

14. Personal Interview Lt. Robert Lockman, Detachment E, Alaska Department of Public Safety, Division of Alaska State Troopers, Kodiak.

15. Personal Interview, William Mackey, District Attorney, State Department of Law, Kodiak.

16. Personal Interview -- Frank Byerly, Division of Correction, Department of Social Services, Kodiak.

17. Personal Interview -- Sister Josephine Patti, Administrator, KIB Hospital

18. Information provided by the Kodiak Health Center.

19. Kodiak Interagency Directory

20. Information provided by the Kodiak Aleutian Mental Health Center.

21. Personal Interview -- Betty Ford, Director, Kodiak Council on Alchohol.

22. Personal Interview -- Harold Brighton, District Sanitarian, Department of Health and Social Services, Kodiak.

23. Information provided by Elaine Starke, Office Manager, Pacific Terrace.

24. Personal Interview -- Don S. Kaw, Kodiak Area Native Association.

25. Personal Interview -- Ron Newcome, Department of Health and Social Services, Division of Social Services, Kodiak.

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30. Information supplied by KIB School District.

31. Information supplied by Kodiak Community College.

32. Information supplied by the City of Kodiak Parks and Recreation Department.

33. Information provided by Baranof Museum.

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54. Generalized analysis of soils information was made by Harry Lee, P.E., Alaska Test Lab, Anchorage.

55. Slope information adapted from U.S. Geologic Survey Maps.

56. Land ownership information was obtained through Bureau of Land Management and State Division of Lands Land Status Plats.

Julie —
Place on field 292 A
file original in correct box
send fiche to Vicky

A 3% < 1st 300
B 5% 700
C 6% 1500
D 8% > 2,500

"An Act relating to the oil and gas properties production tax; and providing for an effective date."

COMMITTEE REPORT

3/20/75 HOUSE FINANCE

Mr. Speaker: Date 4-14-76

The Committee on RESOURCES has had HB 346 under consideration. A Majority of the members of the Committee

(X) recommends it DO PASS

( ) recommends it DO NOT PASS

( ) recommends it DO PASS WITH ATTACHED AMENDMENT(S)

(X) recommends it BE REPLACED WITH CS FOR HB 346 AND THAT CS FOR HB 346 DO PASS

( ) "and" recommends it BE REFERRED TO THE _____ COMMITTEE

( ) reports it back WITHOUT RECOMMENDATION

( ) "other"

Members signing the Majority report:

Members NOT concurring in the Majority report:

_____ recommends:

_____ recommends:

_____ recommends:

_____ recommends:

_____ recommends:

_____ Chairman

AGO 513805

STATE OF ALASKA

JAY S. HAMMOND, Governor

DEPARTMENT OF REVENUE

OFFICE OF THE COMMISSIONER / POUCH S—JUNEAU 99801

April 28, 1975

The Honorable Nels Anderson
Chairman
House Resources Committee
Alaska State Legislature
State Capitol
Juneau, Alaska 99811

Dear Mr. Anderson:

re House Bill No. 346

House Bill No. 346, an Act relating to the oil and gas properties production tax was introduced in the House on April 26, 1975 and was referred to the House Resources and Finance Committees.

For the consideration of the House Resources Committee, I am enclosing a copy of a memorandum dated April 24, 1975 from O. K. Gilbreth, Jr., Director, Oil and Gas Division, Department of Natural Resources, Anchorage, Alaska concerning effect on Treasury, administrative problems and indicating that there would be no additional costs of administration.

Very truly yours,

R. D. Stevenson
Special Assistant

Enclosure

cc: The Honorable Hugh Malone
Chairman
House Finance Committee
Alaska State Legislature
State Capitol
Juneau, Alaska

Mr. O. K. Gilbreth, Jr.
Director, Oil and Gas Division
Department of Natural Resources
3001 Porcupine Drive
Anchorage, Alaska 99504
(Phone: 279-1433)

AGO 513806

MEMORANDUM State of Alaska

DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL AND GAS

TO: R. D. Stevenson
Special Assistant
Dept. of Revenue

DATE: April 24, 1975

FILE NO:

TELEPHONE NO:

FROM: O. K. Gilbreth, Jr.
Director

SUBJECT: HB #346

We have examined the subject bill and have discussed in detail some of the ramifications of the bill with Mr. John Messenger, Tom Williams and Will Condon of the Attorney General's office. We pointed out to these attorneys that the proposed bill provides that the tax will be levied on "the gross value at the point of production of the gas and liquids produced each month". The present tax is levied on oil and gas sold during the month and this volume is considerably different from the volume produced each month. The oil and gas conservation regulations require reporting of the volume produced. All production may not be sold and some may be retained in storage at the end of the month. When a sale is made the quality of the oil and gas is determined and run tickets are prepared and values paid on the basis of the quality of the oil sold. If the proposed change in the law could be interpreted to be levied on oil produced there is no way to determine the value of the oil produced. The attorneys, however, have advised me that for purposes of this particular law, "the gross value at the point of production" is in reality the point of sale and even though the law says oil produced it really means oil sold. All three attorneys have advised that this is the case and such being the case I see no objections to it. I should point out, however, that common usage in oil field terminology throughout the remainder of the United States provides that oil and gas produced means just that and oil and gas sold means that. Our law, I think, will be confusing if the proposed wording is adopted.

As you know, the tax is levied on the basis of individual wells and the amount of oil sold. Only on the oil sold can we determine the quality. I have talked with John Messenger and suggested that the law be changed to permit the value to be determined on a lease basis and alotted back to the individual wells based on routine well tests. This as a practical matter, is being done now, because there is no way to audit production records and production values according to the present law. If the proposal were changed to permit determining value on the basis of the lease runs then we would have a law that provides a legal means for auditing. John Messenger advised me that this could be done and he would so recommend it to Representative Cowper. I certainly recommend the change in order to comply with the law.

From the standpoint of fiscal effects of the bill, most oil being sold in the state at the present time has a value such that the cents per barrel tax applies. Hence HB #346 would have no effect on income of the state since the cents per barrel law is effective. However, should crude oil prices increase and the Department of Labor

cost index increase at a lower rate to the extent that the tax would be collected on percent of value, then there would be an increase in wellhead value of approximately 5 cents per barrel on each barrel of oil produced in the Cook Inlet area. As a maximum on one hundred ninety thousand barrels per day of production, this would amount to additional taxes of one hundred ninety two thousand dollars per year. Thus this law could have a fiscal effect of increasing tax receipts anywhere from zero to one hundred ninety two thousand dollars per year depending on the method of calculating the taxes.

I see no additional administrative costs associated with changing the law as the additional auditing burden would be minimal.

cc: Guy R. Martin, Commissioner

Bristol Bay Native Corporation
445 E. 5TH STREET / ANCHORAGE / ALASKA 99501 / PH. (907) 277-9511

April 9, 1976

The Honorable Nels A. Anderson, Jr., Chairman
House Resource Committee
Pouch "V"
Juneau, AK 99801

Dear Mr. Anderson:

I respectfully request this letter be made part of the record when your committee holds hearings on HB 346 next week.

In the past Bristol Bay Native Corporation representatives have testified and have written several letters for the record explaining that we will be a producing oil company once commercial production is established on our lands.

The amendments in HB 346 are penalties to the producer who historically has used oil or gas on the lease or property to clean and treat the oil or gas to pipeline quality and shipment. This is a provision in both State and Federal lease forms, however taxing that portion of the royalty oil or gas is not a part of the lease forms. There are many variables and it is difficult to determine the amount of revenue this might produce, although it would be minor. Regardless, this bill would require additional metering, records, accounting and reporting which is punitive and would be costly to our Corporation. Therefore BBNC is opposed to the provisions of the entire bill.

Very truly yours,

BRISTOL BAY NATIVE CORPORATION

W. C. Bishop

W.C. Bishop
Petroleum Consultant

cc: Directors
Regions
AFN

recd 4/12

Bristol Bay Native Corporation 445 E. 5TH STREET / ANCHORAGE / ALASKA 99501 / PH. (907) 277-9511

April 9, 1976

The Honorable Nels A. Anderson, Jr., Chairman
House Resource Committee
Pouch "V"
Juneau, AK 99801

Dear Mr. Anderson:

I respectfully request this letter be made a part of the record when your committee holds hearings on the Second SS for HB 803 next week.

Bristol Bay Native Corporation is an Alaska Corporation subject to normal corporate income taxes, however this bill, if passed, will require seperate accounting and would appear to be an accounting department nightmare.

Without a final copy of the bill, BBNC's objections will be limited general statements and not specific paragraphs as follows:

1) General administrative costs should not be tied to a cents per barrel.
2) No deductions paid for services used or provided outside Alaska could and probably would be an exceptionally high burden on our Corporation.
3) Limiting deductions of exploration costs incurred in any calendar year to 20% could be prohibitive and contrary to normal accounting procedures.
4) By not allowing engineering or design costs incurred outside Alaska as a deduction, would again be an excessive burden on our Corporation. For example, with established production, BBNC will build and own 100% of a topping plant to supply fuel for our joint operations. The engineering and major construction would be performed outside Alaska.
5) Limiting interest to 9% per annum on funds used during construction of facilities used and useful in the production of a field may be capitalized, certainly ignores the financial facts that interests rates vary over a rather wide range. It may also be considered as an attempt to regulate similar to utility regulations.

Overall this bill would penalize our Corporation by requiring additional accounting, limiting normal deductions, reduce our income and thusly increasing

our Corporate taxes over the present corporate income taxes. Therefore BBNC is opposed to this bill in its entirety. We expect to be good corporate citizens and pay our fair share of taxes without being penalized as an Alaskan corporation.

Very truly yours,

BRISTOL BAY NATIVE CORPORATION

W. C. Bishop

W.C. Bishop
Petroleum Consultant

cc: Directors
Regions
AFN

AREAS OF CONTINUING CONCERN

Wellhead value litigation was first instituted in March of 1970. No judgment has been issued and the Petroleum Revenue Auditor is still unable to verify or take issue with wellhead values used by oil and gas producers to determine royalty and tax obligations.

Recently the Deputy Attorney General received permission from the present Administration to pursue individual settlements with as many of the 13 oil producers involved as possible.

Because of the extensive time already taken to approach an acceptable resolution we support individual settlements as long as there is no legal precedent being set to effect North Slope production.

There should be a joint effort by the Departments of Law and Natural Resources to insure that full guidelines and regulations are in force when North Slope production begins.

Legislative efforts are also being proposed to address this same problem. There is a current effort to change the point of taxation from a per well basis to the point of transfer to a common carrier. This approach would solve problems of per well production allocation as well as fluctuating transportation deductions effecting wellhead value. For this reason, we encourage any constructive activity in this area.

The Federal Department of the Interior continues to make semi-annual payments to the State for 90% of the royalty revenue received from oil and gas produced on federal lands within Alaska. This revenue continues to be inadequately supported and as yet the Petroleum Revenue Auditor has been unable to verify the reasonableness of any of the payments.

Only recently has the Petroleum Revenue Auditor established a line of communication with United States Geological Survey personnel in an effort to independently compute the semi-annual receivables. As yet, it is too early to determine if this effort will be fruitful. For this reason we continue to recommend that the State require oil and gas producers to file a copy of their federal royalty return along with the State production tax return. The oil produced on federally-owned land is subject to production tax and the federal royalty is a deduction on the State tax return.

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3. Analyze calculated taxes and royalty vs. actual receipts.

4. Analyze actual receipts vs. forecast fees."

We encourage further development of the automated system for auditing Production Tax and Royalty returns. The automated audit procedures should include cross checking returns to valid supporting documents and comparing information reported in tax and royalty returns to production information required to be submitted directly to the Division of Oil and Gas by the producers.

5. There is a need for guidelines in determining "wellhead value" of oil for royalty and tax purposes.

On July 3, 1969, a directive was issued by the Commissioner of the Department of Natural Resources which was intended to define the value of State royalty oil.

A suit was filed against the State and the State filed suit in connection with the question of the value of the oil. Since the matter was referred to the courts, the Petroleum Revenue Auditor has been unable to verify the reasonableness of "wellhead value" used by oil and gas producers to determine royalty and tax due.

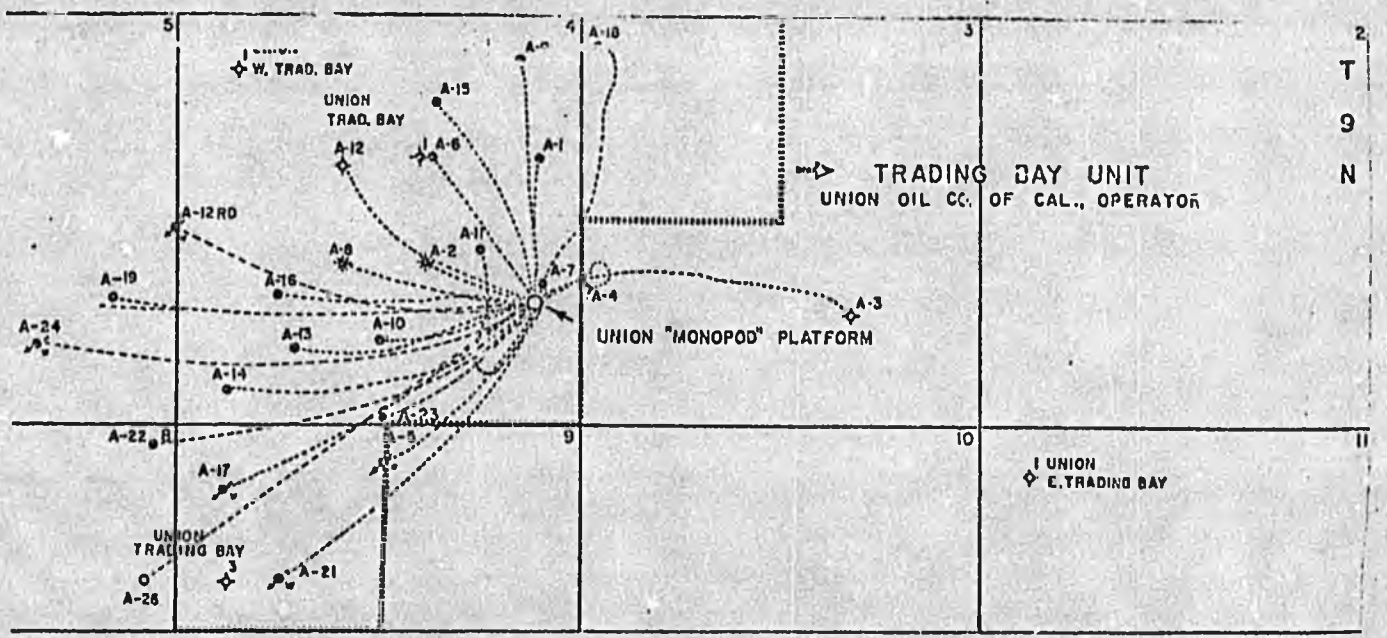
When the definition of wellhead value for royalty and tax purposes is legally determined:

A. The State should assess all deficiencies due;
B. Specific guidelines for any deductible items should be established by regulation (if such guidelines are not established by the court) and added to the oil lease form; and
C. Periodic audits of oil company records should be conducted to determine that deductions being taken are proper.

6. There is a need for more definitive and complete "per well" production figures for off-shore facilities.

Production tax calculations are based on average daily production for each well. However, it is standard practice in the oil industry not to meter the production of each well at offshore facilities. Instead, the production of each well is tested periodically to determine what portion of total production of the facility is represented by that well. Actual daily production of the facility for the month is allocated to each well based on the results of the periodic tests.

There are several of these offshore facilities in the Cook Inlet from which more than one well was drilled. A typical example is the Trading Bay Unit as illustrated in the below drawing taken from a statistical report issued by the Division of Oil and Gas.



STATE OF ALASKA
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL AND GAS
ANCHORAGE, ALASKA

TRADING BAY FIELD

SCALE: 1320' 0 1320' 2640' 3960'

May 1, 1972

The Division of Oil and Gas determines whether production on a "per well" basis appears reasonable by comparing current production to past history. In addition to the reasonableness test, periodic well tests conducted by oil producers are occasionally observed by Oil and Gas personnel. The well tests, however, are affected by many variable factors and average daily per well production cannot be certified by the Division of Oil and Gas as a result of observation of the tests.

The problem of pinpointing individual well production is a technical one. We have not addressed ourselves to this problem because of its technical nature. The Division of Oil and Gas should be encouraged to develop ideas regarding more effective observation and auditing tests or changing reporting requirements to obtain more definitive "per well" production figures.

7. Documents received in support of Production Tax and Royalty returns should be improved.

Oil is transported from offshore platforms in the Cook Inlet to onshore treating facilities and storage tanks by the producers. Pipeline companies such as Cook Inlet Pipeline Company and Kenai Pipeline Company receive the oil after it runs through a custody meter which measures the quantity. The only source document that the State receives in support of tax and royalty returns are meter tickets which report the amount of oil that passed through the custody meters during the month.

The meter tickets are supposed to be prepared and witnessed by a representative of the pipeline company and a representative of the oil producer. Employees of the State Division of Oil and Gas sign the meter ticket as a third witness when they are present to observe preparation of the ticket.

Out of 400 meter run tickets received in support of 1972 royalty returns, approximately 70 were printed by an automatic printing device at the meter station. The printing on about half of the above mentioned 70 tickets was illegible and hand written over. All other tickets were hand written. Only six of the 400 meter tickets were witnessed by a State employee.

2d SSHB 803 –
Smith Moved that the bill be passed out of Committee – Motion failed on Voice Vote.

(HB 346)

pg 1 Line 18½ old language

Tom Williams - Dire of Petroleum Revenue, Dept of Rev.
Question of where the valuation pt. of oil + gas should be.
After removal of water globules and dissolved gasses oil is metered Now - In other states production tax has been derived from the oil after clensing.
Bill attemps to place value of oil at the metering pt.
State docsn't believe it should absorb the gathering costs – cleaning + dehydration (Heater Treater) costs.

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pg 1 line 18

CSSB 295: Average daily per well production. X out for each well for the calendar Month in barrels,

pg 2 line 2 daily per well production - delete ["for each well for the calendar Month"]

pg 4. (15) "Average daily per well production" means arithmetic average of all wells Contributing to a Meter point or $ADP \frac{P_T}{W \times D}$ when P_T = total production in barrels at the production point for a Calender Month. W = Number of wells feeding the production point, and D = Number of days each well produces in a Calender Month.

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present rates This bill would lower states income somewhat.