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Disadvantages: Substantial investment. Could be viewed as competition for funding by Palmer Nursery, DNR, etc. Possible need for public subsidies. Potentially controversial for reasons above.

Additional Possibilities: Facility could be built with public funds but operated as a joint venture with private interests to manage the facility. Another possible option is to model the operation of the center after the numerous aquaculture associations. Some labor could be provided by volunteers, military on assignment or prison laborers.

Siting: A central location within the borough is highly desirable. A technical site study should be undertaken to ensure the site takes advantage of climate and soils in addition to political and economic considerations.

Criteria: Publicly owned land, either state, KPB or community. On site utilities and access to all forms of transportation. There are several parcels owned by the KPB in the Kenai/Soldotna area which would be suitable.

Additional considerations: Reforestation needs within the borough are already acute due to the thousands of acres deforested by the beetle. With increased harvest and increasing devastation by the beetle, the need for this reforestation center is presently substantial and will only increase—perhaps dramatically.

Hardwood Reforestation: Areas where the emphasis will be on reforestation by hardwoods (birch, willow & poplars) will probably not need actual planting of seedlings but instead rely on modern silvicultural techniques. Natural reforestation will be more than adequate if proper planning, harvest and scarification occur, along with leaving mature hardwood trees for a seed source.

Advantages: Enhanced habitat for browse dependent species (moose, hares, etc.) with resultant increased food sources for predators. Birch could be the commercial forest species of the future for the borough. The work done by Dr. Bill Collins, ADF&G on the Matanuska Moose Range should be referenced for further information on this subject.

Disadvantages: Future forests would have decreased or delayed softwood production capabilities; increased time for rotation of spruce.

3.2 Seed Collection

The most cost effective and efficient method of seed collection is to enlist the support and cooperation of local citizen groups to collect cones. In 1990, Ninilchik Native Assoc., Inc. and Klukwan, Inc. collected seed for their reforestation efforts on the Ninilchik sale. Local students were given instructions on how to collect cones and which trees to target. They were offered a bounty per bag/pound of seed (3.5 bushels per tree avg.) and responded by collecting far more seed than required. Helicopters can also be used, but at over $500 per hour costs quickly exceed the manual collection. Seeds should be collected and catalogued as to site specific for replanting from on-site wild seedlings or nursery stock.

Dominant "mother spruce" seed trees for each unique harvest site should be identified prior to harvest. Seed collection needs to be accomplished in the fall. Storage should be in a cool dry warehouse or at the nursery(ies). Seventy-five pounds of quality seed should yield 2.1 to 2.5 million seedlings.

Seed collection for 1992 is no longer possible due to the onset of winter. Planning for 1993 should encompass the areas identified for harvest in the near-term and immediate reforestation.

3.21 Alden Recommendations

For reference, guidelines developed by John Alden of the Institute of Northern Forestry, Forest Service-USDA on the subject were researched and are included in the Appendix.

3.3 Reforestation Issues

Strategy for reforestation success: A major problem facing resource managers contemplating reforestation (whether required after timber harvest, fire or other natural disasters like the spruce bark beetle epidemic) is competition from other plant species. The major competitor of the boreal forests of the borough is Blue Joint Grasses of the genus *Calamagrostis.* According to the experts the best strategy to combat this smothering grass is to plant early (one year after harvest), plant big (two-year old seedlings or large wild seedlings), use mats to reduce competition, and scarify the soil for increased temperature and exposure of the mineral soil. With this strategy reforestation efforts are likely to be successful the first time and will reduce the need for second efforts or the use of highly controversial but effective herbicides.

Reforestation incentives: Possible incentives for ensuring adequate reforestation include requiring reforestation bonds be posted on public lands scheduled for harvest; planting one year after harvest and planting inspection, with a refund of half of bond; after three years, refunding the other half of the bond if sufficient stems per acre are verified; directly reflecting cost of planting by private contractor with size of bond. On private lands, create tax incentives for planting. See 4.6 Borough Ordinance for proposed regulations.

4.0 Regulations/Ordinances

4.1 State/Federal Disaster Area, other Designations and Funding

For a federal declaration of disaster to occur, a measurable threat to communities and people—and not to just natural resources—would have to be established. At present there are insect and disease infestations in other areas of the U.S. which are far larger in scope than the bark beetle problem within the borough. However, a federal declaration of disaster would result in the temporary suspension of the National Environmental Protection Act (NEPA) process and allow additional harvest on federal lands currently protected in the Kenai National Wildlife Refuge (KNWR) and Chugach National Forest (CNF). A Presidential directive has recently (9/15/92) authorized emergency salvage sales of up to one million board feet with construction of an accompanying one mile of road without going through the NEPA review process and by only using data already available. Application of this directive to the Chugach National Forest lands needs further analysis, but possible areas for harvest are in the Trail Lakes, Hope and Six-Mile areas of the borough. Obtaining a similar directive on KNWR may or may not be worth pursuing through the congressional delegation, e.g: potential backlash or negative publicity affecting the entire program. However, the economic impacts of the continued spreading epidemic and the related loss of value on adjacent private land should be considered as a possible reason to pursue this further.

State disaster regulations: Regulations have been drafted by the State Division of Forestry under Title 38 to amend regulations (11 AAC 71.010.) for the expedited sale of emergency, salvage or small volume state-owned timber sales. These sales will not have to be advertised for two years in a five-year plan as is presently required. Expedited sales will be made under the following conditions; loss of market value due to fire, storm, blowdown or insect and disease (acts of nature), and, to create fire breaks. As these are draft regulations, necessary action should be taken by the KPB to ensure that they receive proper review and are approved.

4.2 S & P F Forest Service Programs

Under the federal "America the Beautiful" program grants are available for reforestation efforts. The private land owners with bark beetle infested forest land are excellent candidates for receiving funding. In addition, under the Forest Stewardship Initiative planning funds are available for land owners who desire to actively manage their land.

DNR is currently assigning personnel to the Kenai Peninsula to work with land owners to draft stewardship plans with funding applications provided by this initiative.

4.3 State Forest Practices Act Revisions

The Alaska Forest Resources and Practices Act (FPA) places restrictions on the harvest of private and KPB timber, it is also the master operating document for harvest on State lands. In regard to the special conditions created by the spruce bark beetle epidemic, the following sections of the FPA should be examined for possible suspension or revision.

Sec. 30 Land use conversion. The five year restriction could be extended or suspended due to the massive reforestation effort needed after the harvest of all the beetle killed timber in the borough.

Sec. 150 Riparian zone. Advocate harvest of beetle killed spruce in riparian zones with immediate replanting of large seedlings for streambank stabilization and shading (for fisheries values).

Article 3. DNR required to list timber for sale for two years of a five year harvest plan before sale. Can be exempted by emergency regulation (AS 38.05.113 (b) & (c). Six months should be adequate notice. Pool as much land as possible under a single notice.

Sec. 500-30 Reforestation 11AAC 97.500 B(4). Required stocking levels after 7 years might be unrealistic with amount of reforestation necessary.

4.4 Export Restrictions from Federal Lands, Value-Added Incentives

The timber on federal lands (CNF and KNWR) requires primary manufacture before it can be exported. The existing Chugach Alaska sawmill and chip facility at Seward and the Circle DE chip facility at Homer are ready to begin full-time operation this winter. Based on the above, the beetle killed timber from federal lands can be harvested and primary manufacture can take place in the borough at these facilities. Therefore, there is not a need for this project to request export restrictions be waived from timber harvested from federal lands.

4.5 Road and Port Funding Prospects

Forward funding of roads, ports and other infrastructure (timber transfer facilities) should be pursued through government entities which are currently empowered to provide loans for these types of projects (Alaska Industrial Development & Export Authority, Dept. of Transportation, Alaska State Legislature, Dept. of Commerce & Economic Development).

Port projects to consider: Dock at Ninilchik with capacity to load chips, logs or finished products for export. Preliminary engineering already accomplished. Would be accompanied by a boat harbor. Log transfer facilities at Polly Creek-Crescent River, Red Glacier and Iniskin—needed for harvest of estimated 500 million board feet of available CIRI village corporation owned timber. Dock at Port Graham—needed for sea transport of logs, chips for reprocessing or value-added processing prior to in state use or export. Recent Port Study should be referenced and studied prior to pursuing any new projects.

4.6 Kenai Peninsula Borough Ordinances for Full Timber, Resource and Land Management

Draft ordinances concerning:

Land and Resource Management-4.6.1. Establishment of a Kenai Peninsula Borough (KPB) Professional Resource Manager. The KPB Assembly could establish a Professional Resource Manager (PRM) to implement emergency salvage sales of timber on KPB and KPB managed lands. The Professional Resource Manager would provide stewardship for these lands for all important values and resources in association with other resource mangers (Federal, State and private). The primary focus of these regulations is the long-term forest health and stewardship of KPB forest lands, and to ensure successful reforestation on spruce bark beetle impacted lands.

Reforestation-4.6.12. Authorizes establishment/funding of a KPB Reforestation Center. KPB could seek to obtain funding for a KPB Reforestation Center, including a tree nursery. Staffing would consist of a nursery expert, silviculturist, wildlife and fisheries biologists. Cooperative agreements from all affected land owners would be secured and cost share agreements for operations would be secured. Also establishes Prescribed Burn Team. As a part of the Reforestation Center, a Prescribed Burn Team would be established and staffed to carry out the goals of reforestation where planting is uneconomical or unfeasible.

Emergency Salvage Timber Sales-4.6.2. Authorizes emergency timber sales regulations to be administered by KPB Professional Resource Manager. Amends 17.50.30. Forest resources impacted by the spruce bark beetle would have reduced fire risk while salvaging some value.

Value-Added Incentives-4.6.3 and Export Authorization-4.6.4. Establishes requirements for primary manufacture. Contains exceptions for surplus of supply or extraordinary market conditions.

These ordinances will be enabling legislation for the Kenai Peninsula Borough to fully manage its land to combat the beetle epidemic and ensure healthy forests for the future. Full drafts are included in a separate document.

5.0 Forest Area Infested by the Spruce Beetle

Since the spruce bark beetle epidemic became a cause for concern, there has been some contention of the degree and range of the infestation. Since 1954 annual surveys have been done by the USDA-Forest Service. Results of these surveys show that on the Kenai Peninsula alone 1.2 million acres have been infested since the 1950's to 1992. The 1992 aerial survey showed that there were 365,000 acres in the entire borough that had trees that were infested in 1991 and showed up as red tops or recently dead.

With this type of annual survey, the Forest Service personnel determined the area and spread of new infestations. In order to accomplish this, they reviewed the maps to determine the amount of overlap of previous years infestations which are currently showing up as new infestations. They estimated that out of the 365,000 currently infested acres that there are over 125,000 acres of new infestation in 1991 (1992 survey). Another important consideration is to research and analyze past spruce beetle infestations and forecast the spread of the spruce beetle in recently infested areas. The acreage and location of the infestations recorded in the 1992 survey are shown in the following table. In addition, past infestations from 1950 to 1992 are shown with the major infestations noted by location and severity.

Note: It is important to consider that the increase and/or decrease from year to year reflects the relative level of infestation. The beetle life-cycle is generally two years—so it is to be expected that the infestations will ebb and flow. In addition, once trees show red tops this indicates that they have already been hit the previous year and are dying this year. Subsequent surveys will only inventory new red tops. However, the effect on the forest is cumulative—while the exterior boundaries of an infestation may or may not expand—the devastation within can go on until it is complete.

5.1 Area Infested by Spruce Beetle—Tables

1992 U. S. FOREST SERVICE/ ALASKA DIVISION OF FORESTRY AERIAL SURVEYS of the KENAI PENINSULA BOROUGH

AREA	LOCATION	INFESTED ACRES
Kenai Peninsula	North	86,561
	Central	184,799
	Southern	37,209
	Kachemak Bay, Seldovia & Port Graham	12,922
	Chugach NF Hope & Six-Mile	16,736
	Chugach NF Cooper Landing, Moose Pass to Seward	19,071
Sub-Total Kenai Peninsula		**357,298**
West Side Cook Inlet	Tyonek	1,846
	Tuxedni- Crescent R. Polly Cr.	6,129
Total Area Infested KPB-1992 survey		**365,273**

Source: USDA Forest Service, State and Private Forestry, Robert Wolfe.

A review of the past spruce beetle infestations by locations in the Kenai Peninsula Borough is given in the following table[1].

Spruce Beetle Infestations in the Kenai Peninsula Borough—Historical Years 1954 through 1974

YEAR	LOCATION-IMPACT	ACRES
1950	Kenai burn of 1947. Scattered mortality, beetles bred in fire scorched trees then moved to green trees.	No Acreage (NA)
1954	Activity in Skilak & Tustemena Lakes, Soldotna-Homer area. Powerline & road clearing light but steady rate. Seward Bear Lake logging area standing trees.	NA
1957	Small outbreaks in Chugach N.F. @ Six-Mile-Resurrection Creek. Moose Range Chickaloon Bay & Swanson River. Losses around Kenai burn.	NA
1958	CNF-Resurrection Creek Palmer Granite & Quartz Creeks. Summit Lake. Moose Range: large scattered infestation @ Moose Pt. to Point Possession east to Chickaloon	16,000 60-100,000
1962	Kenai Peninsula, increase with hot spots @ Anchor Point & 40 miles N. of Seward (Kenai Lake - Summit Lake) 2-3 fold increase.	NA
1966	CNF-Tree mortality west shore of Kenai Lake, Russian River-Kenai River junction & Jerome Lake. Increase around 1959 Kenai Lake burn Increase throughout Kenai, mouth of Chickaloon River.	NA NA 100
Late Sixties 1967	CNF-Granite Creek high incidence since 1957 East Fork River & Granite Creek. Juneau Falls	NA 1,300 8
1969	Point Possession to Homer-Anchor Point.	40,000
1969	Spruce beetle activity subsiding. Drought hits.	
1970	Estimate on Kenai National Moose Range State & pvt. land one billion board feet of spruce mortality. Unbroken infestation from Pt. Possession to Clam Gulch. Two small outbreaks in Deep Cr. near Ninilchik. Major outbreak of 260,000 expanded from minor outbreak, less than 100 Ac in 1960	200,000 60,000
1970	Spruce beetle buildup in 1969 blowdown in Six Mile, Resurrection Creeks & Summit Lakes areas. 1969 Russian River burn, increase around edges.	NA
1972	North Kenai. Decrease of outbreak after 6 years of activity due to reduction in size of residual spruce stand. Central Kenai-Clam Gulch to Anchor Point.	60,000
1972	Mt. Iliamna-Crescent River.	6,000
1972	West Side of Cook Inlet-Trading Bay & Tyonek (in progress for 3-4 years due to drought of 69-70) Tyonek salvage sale by DNR 223,000 acres & 425 mmbf. 113 mmbf of spruce and 20 mmbf of hardwood actually cut.	70,000
1974	Kenai Peninsula decline. Beluga Lake.	53,000 140,000

[1]The source for the following information is the USDA-Forest Service, Alaska Region report titled, Forest Pest Management Report, R-10-90-18; Spruce Beetle Activity in Alaska 1920-1989, February, 1990. The maps and data produced by the DOF for the 1980-1989 were also used.

Summary Table-Cook Inlet to 1974

Date	Kenai Pen.	W. Cook Inlet	Total
Late 60's-73	257,700	120,600	378,300
1974	300	143,400	143,700
TOTAL	258,000	264,000	522,000

Years 1975 through 1989

YEAR	LOCATION-IMPACT	ACRES
1975	West Side Cook Inlet	167,000
1976 & 77	CNF Resurrection Creek	12,300
1977	Summit Lake	3,000
	Upper Russian Lake	1000
1978	KNMR	47,000
	West Side Cook Inlet	64,000
1980	CNF-Summit Lake	13,924
	Resurrection Creek	15,240
	KNMR-Barbara Lake	12,162
	West of Tustemena	19,698
	West Side Cook Inlet N. of Beluga Lake (not KPB)	374,452
1981	South shore of Kachemak Bay (scattered)	NA
1981	Total-Southcentral	240,000
1982	Total Southcentral	490,220
1982	Chugach N.F.	37,929
	Kenai Pen. 1981 (27,303 to 41,369)	41,369
	SPBB Activity in Kachemak Bay	NA
1984	CNF increase to Cooper Landing to Russian River	56,342
	KNWR Increase on North Peninsula	53,713
	& on to South Peninsula (Fox R. 15,690)	22,177
1985	Decrease in CNF & West Side of Cook Inlet	
	Increased activity @ Cooper Landing	
	Infestation North of Beluga Lake	64,234
1986	CNF Increase @ Cooper Landing	40,423
	Ninilchik River & Crooked Creek	10,000
1987	KNWR Increase by 9,000 ac-Mystery Hills	63,099
	Skilak Lake to CNF-Summit Lake & Cooper Landing	
1988	CNF Heavy infestation @ Cooper Lake & Near Upper Trail Lake	
	KNWR SW of Tustemena Lake (had been apparent for 2-3 years)	41,000
1989	Decline in 89 KNWR & CNF	7-10,000
	Maritime Coastal forest	
1986	Kachemak Bay (1,168 Mallard Bay & 1,300 Bear Cove)	3,600
	Seldovia	500
1988-89	Kachemak Bay increased to 10,000	10,000

Summary of Acres Impacted by Spruce Beetle Outbreaks, Kenai Peninsula Borough

Year	Acres.	Impact
1950	No Ac Given	Kenai Burn
1954	NA	Skilak, Tustemena, Soldotna, Homer
1957	NA	CNF-Six Mile & Resurrection
1958	16,000 100,000	CNF KNWR
1966	40,100	Pt. Possession to Homer
1967	1,308	East Fork & Granite Creeks
1970	260,000	One billion bf of timber lost from Point Possession to Clam Gulch
1972	60,000 6,000 70,000	Central Kenai Crescent River/Mt. Iliamna Tyonek-113 mmbf to 425 mmbf cut/lost
1974	53,000 140,000	Kenai Peninsula Beluga Lake
1975	167,000	Tyonek-Beluga Lake
1976-77	16,300	CNF-Cooper Landing
1978	47,000	KNMR
Sub-Tot 1950-78	1,040,708	Entire Borough
1980	29,164 31,860	CNF KNWR
1982	37,929 41,369	CNF Kenai Peninsula
1984	56,342 75,890	CNF KNWR
1986	40,423 3,600 10,000	CNF Kachemak Bay Ninilchik
1987	63,099	KNWR
1988	41,000 10,000	KNWR Kachemak Bay
1989	10,000	KNWR &CNF
1990	39,000	KNWR
1991	187,000	Western Peninsula
1992	**365,000**	**All of KPB (DOF Figures)**

The Forest Service analysis of the survey maps shows that 1,077,000 acres were impacted from the 1950's to 1989. An analysis of the DNR-DOF and USFS maps shows a net increase of 125,000 acres infested from 1990-92. This totals 1.2 million acres infested by the spruce beetle since surveys were started. Due to lack of detailed forest inventories, the estimated volume loss of spruce timber varies from 1.6 to 3.0 billion board feet since 1950.

5.2 Certification of Infestation

Professional opinion: Based on the above surveys and data, the spruce beetle infestations have impacted 1.2 million acres since 1950. Based on the age of the spruce forest, past and present infestations, rate of spread and other factors it is projected the infestations will continue south on the Kenai Peninsula to the Homer area, continue in the Kachemak Bay area and possibly spreading further south into the Seldovia, Port Graham and English Bay drainages. In the Chugach National Forest, the Hope and Six-Mile infestations are spreading rapidly. The Trail Lakes-Moose Pass infestation is a major one and is spreading south toward Seward. On the west side of Cook Inlet, the infestations in the Crescent River-Polly Creek and Tyonek areas need close surveillance. These could become major outbreaks next year.

Susceptibility of Sitka spruce in a maritime forest to bark beetle infestations: A review of the record concerning spruce beetle infestations in the coastal or maritime forest reveals that in the mid-thirties the Forest Service recorded a 100,000 acre infestation on Afognak Island (80 miles south of English Bay) in the pure Sitka spruce forest. The estimated loss of volume was 150 million board feet spruce sawtimber. This is important to consider as it is a widely held misconception that Sitka spruce in the maritime forest are somehow immune to devastating beetle infestations.

5.3 Verification Procedure

The process used to verify the infestation is discussed below. Robert Wolfe, the Forest Service insect and disease professional, provided all of the 1992 KPB 1:250,000 aerial forest health maps and data and the 1992 acreage information. This data was compared with the map data at 1:63,360 secured from Rick Plate, Division of Forestry-Soldotna. Both data sets were reviewed and compared with the infestation as mapped since 1970. Since this information was gathered through use of aerial surveys and under certain light and weather conditions, evidence of infestation can be difficult to identify. However, it is the best and most current data available and should provide a relatively reliable and accurate picture of the extent of the spruce beetle epidemic. Maps using this information have been prepared in two formats. A 1:250,000 work map shows the infestation borough-wide, 1:63,360 work maps provide a much greater level of detail and provide a fairly good indication of the forest cover. In addition, acreage figures for the infestation were compared using data from both the DOF and U.S. Forest Service and then verified via an independent estimation of the impacted acreage.

6.0 Timber Harvest

The spruce bark beetle infestation is widespread—reaching all regions of the Kenai Peninsula Borough (except for the outside gulf coast from Seward to English Bay)—while ignoring all boundaries, natural or artificial. Most of the borough's various forest resource lands are not too remote or isolated to escape the ongoing devastation. However, in formulating a timber harvest and an associated transportation plan, availability for harvest was considered along with desirability. If a landowner or manager is unwilling or unable to provide timber for harvest despite the ravages of the beetle, then it makes little sense to formulate plans. These unharvestable lands should be included in a broad reforestation plan which includes under-planting of seedlings and prescribed fire treatment.

For planning purposes the borough has been divided into blocks, then units within these blocks. The options for the master timber harvest plan are discussed under each block and unit.

6.1 Alternatives

Alternative I: Advocate and facilitate harvest on accessible commercial forest lands, primarily on the western Kenai Peninsula south of Kasilof to Kachemak Bay. Encourage quick harvest of beetle killed spruce on KPB, private and available State and Federal land in the Chugach National Forest around Moose Pass-Trail Lakes. Limited new road building. Low investment in infrastructure.

Advantages: Limited amount of fire risk mitigation achieved only in most populous areas of borough.

Disadvantages: Beetle damaged forest partially harvested and reforested. Loss of large volume of forest resources. Limited secondary processing and associated jobs. Large areas of western peninsula, including populated and recreation areas would still have a high risk of catastrophic fire.

Alternative II: In addition to conditions of Alternative I, encourage harvest in south peninsula, north peninsula, west side of Cook Inlet, Beluga and Fox River, with some activity in Chugach National Forest. Provide financing assistance for infrastructure investments in roads and transfer facilities. Limited harvesting of green timber incidental with beetle killed timber on public lands. Moderate increase in management obligation for KPB and State.

Advantages: Increases potential harvest over a ten year period. Includes majority of operable (economic, technical and political) acres harvested and reforested.

Disadvantages: Beetle problem not fully mitigated. Outbreaks continue unabated primarily in more remote areas. Significant economic loss due to unharvested but still dead timber. Large areas of populated western peninsula would still have a moderate to high risk of catastrophic fire. Limited value-added activity with associated jobs, economic growth and taxes.

Alternative III: Comprehensive timber harvest and management for entire borough, including harvest of beetle killed timber in all units and blocks. Harvest of green timber on private, KPB, State and Federal lands. Substantial public and private investment in timber industry related infrastructure, roads, transfer facilities, ports and secondary processing.

Advantages: Increased economic activity within the borough, including increased tax base. Employment increases over long period of time. Jobs created are relatively high paying and nearly year-round—could offset jobs lost in other sectors of borough economy. Majority of beetle infested acres mitigated except for KNWR. Large areas of borough would have reduced fire risk with reforested-green acres prevalent. Enhanced wildlife habitat on harvested acres. Substantial increase in access for land management and recreation.

Disadvantages: Creates greater obligation/requirement for reforestation. Effort will require increased staffing by State and KPB to manage timber sales, roads and permitting. Substantial commitment of public/private funds for investment. Opportunities may be lost in other areas for economic investment.

For forward funding of roads and other issues see Section 4.5, Proposed KPB Ordinances.

6.2 Blocks and Units

The blocks and units are as follows for inventory and management of lands within the Kenai Peninsula Borough:

BLOCK	UNIT
Kenai Peninsula	**North**
	Central
	South
	Kachemak Bay
	Seldovia
	Port Graham/English Bay
Chugach National Forest	**North**
	South
West Side Cook Inlet	**Tyonek**
	Kalgin Island
	Polly Cr./Crescent R.
	Red Glacier
	Iniskin

The blocks and units for inventory and management of lands within the Kenai Peninsula Borough are shown by dashed lines on the map below.

6.3 Timber Harvest Plan

The spruce bark beetle has infested and had a major devastating impact on the spruce forest of the KPB and adjoining forest lands. Since 1970, over 1.2 million total acres have been hit heavily with an estimated loss of between 1.6 to 3 billion board feet of spruce. The 1992 surveys show 365,000 acres which are currently infested. The infestations have moved from Federal and State lands to the small private, ANCSA Corporate, KPB and State lands. The projected and present economic and environmental costs are substantial and in the millions of dollars.

This proposed timber harvest program has many options based on the land owners objectives, the forest products market and the quality of the trees killed and infested. Coordination in proposed timber harvest programs is needed among private land owners and the KPB, University, State Agencies, U. S. Forest Service and the U. S. Fish and Wildlife Service. Immediate coordination is needed among the University; State agencies: DNR, ADF&G, DOT, DCED; Kenai Peninsula Borough and ANCSA Corporations: Cook Inlet Region Inc. and the Ninilchik, Kenai, Salamatof, Tyonek, Knik and Chickaloon village corporations.

Due to the deterioration of the timber in a 2-5 year period after a tree turns red and because of the pattern of continued spread of the infestation, the suggested option is to harvest all recently-killed spruce and threatened spruce stands on all lands and ownerships. These proposed harvests must be drawn with proper planning and protection of the fisheries, wildlife and recreation values. Artificial reforestation, if needed, must take place immediately after harvest.

6.31 Forest Inventory Data

The data used to estimate the acreage and volume of spruce in the borough is derived from the Forest Service's extensive surveys (Kenai Peninsula, Tuxedni Unit and the Beluga area) and the recent Kenai Peninsula Borough Economic Development District report titled Commercial Timber Resources of the Kenai Peninsula Borough. Several intensive inventories were also used for reference. There are no adequate composite timber type maps available of the commercial forest land of the borough. The borough is divided into blocks and subdivided into units based upon the above data and knowledge of the forest resources. For each of these units, the commercial forest land and volumes as for each of the major owners is estimated. These estimates are imprecise. On all units, detailed timber type maps are direly needed as a planning and management tool.

The following tables summarize the ownership, volumes and location of the 646,000 acres of commercial forest land in the borough. The inventory table shows there is an estimated 3 billion board feet of available timber (minus the trees recently beetle killed). Of this, approximately 0.8 billion board feet is currently under contract. Also, the volume table shows there may be 0.6 billion board feet of timber on the Chugach National Forest, some of which could be harvested. Commercial forest land must occur in 5 acre tracts to be inventoried. The inventory data includes some hardwoods (5 to 15 percent in general and up to 50 percent of the total in the Tyonek unit). In the Chugach National Forest there are some mountain hemlock and hardwoods types of commercial quantities.

6.32 Ownership and Inventory Table

Ownership of Estimated Commercial Forest Land in the Kenai Peninsula Borough by Location and Major Owners[1]

COMMERCIAL FOREST LAND (CFL)---ACRES

Location	Total	Unavailable	Possible	Available & Under		Existing Contract		Total
Kenai Pen.		**KNWR**	**CNF**	**KPB**	**State**	**Corp**	**Other**	**Available**
North Pen.	66,000	44,000		7,000	2,000	12,000	1,000	22,000
Central Pen.	135,000	62,000		9,000	28,000	32,000	4,000	73,000
South Pen.	148,000	89,000		5,000	33,000	18,000	4,000	60,000
CNF-N	31,000		29,000	1,000			1,000	2,000
CNF-S	56,000		50,000	4,000	1,000		1,000	6,000
Kach. Bay	11,000	1,000			4,000	4,000	1,000	9,000
S-PG-EB	35,000					28,000	7,000	35,000
Total KP	482,000	196,000	79,000	26,000	68,000	94,000	19,000	207,000
West Side								
Kalgin Is.	6,000				6,000			6,000
Tyonek	85,000			4,000	25,000	56,000	1,000	86,000
Lake Clark NP	28,000	28,000						
Tuxedni	*Sub-unit*							
Polly Cr	16,000					16,000		16,000
Red Gl.	13,000					13,000		13,000
Iniskin	16,000					16,000		16,000
Sub -Total	45,000					45,000		45,000
Total W. Side	164,000	28,000	0	4,000	31,000	101,000	1,000	137,000
TOTAL KPB*	**646,000**	**224,000**	**79,000**	**30,000**	**99,000**	**195,000**	**20,000**	**344,000**

*This is an estimate based upon the best available data.

Totals may be off due to rounding.

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[1] The source for the tables 6.32 & 6.33 are Timber Resource Statistics for the Tuxedni Bay Inventory Unit, Alaska, 1971, USDA PNW-88, Timber Resource Statistics for the Beluga Block, Susitna River Basin Multiresource Inventory Unit, Alaska, 1980, USDA PNW-121, Timberland Resources of the Kenai Peninsula, Alaska, 1987, USDA PNW-RB-180.

6.33 Volume and Inventory Table

Volume of Estimated Commercial Forest Land in the Kenai Peninsula Borough by Location and Major Owners

Million Board Feet (MMBF)

LOCATION	TOTAL	Unavail	Possible	Available and Under Existing Contract					
Kenai Pen.		KNWR	CNF	KPB	State	Corp	Other	TOT Avail	
North Pen.				40	20	40	9	109	
Central Pen.				89	311	330	40	770	
South Pen.				70	354	230	50	704	
CNF-N			241	6	2		5	13	(+241) CNF
CNF-S			400	26	8	40	10	84	(+400) CNF
Kach. Bay								0	
S-PG-EB						354	90	444	
Total KP	**0**	**0**	**641**	**231**	**695**	**994**	**204**	**2124**	**(+641) CNF**
West Side									
Kalgin Is.					25			25	
Tyonek				24	75	224	3	326	
Lake Clark NP								0	
Tuxedni sub-unit									
Polly Cr						195		195	
Red Gl.						180		180	
Iniskin						159		159	
Sub -Total	0	0	0	0	0	534	0	534	
Total W. Side	0	0	0	24	100	758	3	885	
TOTAL KPB*	**0**	**0**	**641**	**255**	**795**	**1752**	**207**	**3009**	**(+641) CNF**
								3650	

* Totals may be off due to rounding. Includes 5 to 15 percent hardwoods in general and up to 40-50 percent in the Tyonek unit. Also, mountain hemlock and hardwoods are present in CNF.

6.4 Coordination Needed

The coordination and cooperation among private owners and agencies is discussed below by priorities.

6.41 Priority One

Kenai Peninsula: North, central and south. Ninilchik Native Assoc. Inc. (NNAI) and Cook Inlet Region, Inc. (CIRI) are already cooperating on the harvest and access to their adjoining lands. The Kenai Peninsula Borough and State should consider several joint salvage sale plans that could be used for the local forest products industry. The other CIRI village corporations with land in the north peninsula should coordinate their forest management and harvest plans with the adjoining State, Borough and private lands.

State general grant lands and Mental Health lands, along with University lands, could be packaged with the KPB lands. The University lands office and Alaska Department of Fish & Game (ADF & G) Habitat should be actively involved because of the present and future impact on these lands.

Kachemak Bay: The Division of Parks, Seldovia Native Association, Alaska Dept. of Fish & Game-Habitat, Koncor Forest Products Co., the City of Homer and the Division of Forestry need to study and work up a plan of action or no action on the infested area. "No Harvest" recommended in this area because of a proposed buy-back of private land and timber rights within Kachemak Bay State Park. If the buy-back does not go through, the 50 mmbf owned by Koncor could be harvested.

Trail Lakes-Moose Pass: The State-DNR, the Kenai Peninsula Borough and the Chugach National Forest need an action plan on the currently intense, destructive infestation in this important multi-resource area.

Tuxedni Unit-Polly Creek Tract: The CIRI village corporations of Seldovia, Ninilchik, Knik, Tyonek and Chickaloon, which own most of the private land, need to prepare a coordinated timber harvest and resource plan for this tract. The infestation has started and could spread if other infestations are any indication. These corporations could sustain an economic loss from $3.5 to 4 million in stumpage value if they lose 100 million board feet to the beetle epidemic. This is based on 1992 estimated logging costs and values.

Port Graham & English Bay: Coordination on construction of a dock at Port Graham to facilitate harvest of potentially infested areas in English Bay and Port Graham allotment sales and existing and planned corporation sales. Connect communities by road. Connect into Windy Bay and English Bay road systems. Coordinate with both Bureau of Indian Affairs and Port Graham and English Bay corporations.

6.42 Priority Two

Tyonek: Coordination is needed between Kenai Peninsula Borough, State, Tyonek, CIRI, and with the Matanuska-Susitna Borough on their lands with infestations to the north.

Chugach National Forest: Coordination with the Kenai Peninsual Borough, State, Chugach National Forest and Chugach Alaska Corp. on the lands in the Hope, Six-Mile and Seward areas.

North Peninsula: Estimated 22,000 acres of available commercial forest land (CFL) containing 109 mmbf. Ownership in KPB, State, CIRI, Salamatof, Tyonek, Kenai, Chickaloon and Point Possession ANCSA Corporations.

Approximately 50 miles of main and spur road are needed to access KPB tracts. No estimate made for corporation tracts.

Infestations heavy in Kenai area and north to Point Possession. Unit needs coordinated KPB/State/Corporation plan.

Estimated Available Commercial Forest Land, Infested Acres, Area and Volume of Available CFL in Unit and Transportation Estimate

BLOCK Kenai Peninsula UNIT North Peninsula

OWNERSHIP KPB, State, State Parks, Mental Health & small private-residential-Nikiski & Kenai

Available Commercial Forest Land

	Available-CFL
Acres	22,000
Est-Vol-MMBF	109
Est-Vol-MMCF	31

Infested Forest Land

	Recent Dead
Acres	86,561

Available Commercial Forest Land and Volume

Owner	Acres	MMBF Volume	MMCF Volume	Under Contract MMBF
KPB	7,000	40	11.4	
State	2,000	20	5.7	
ANCSA Corp	12,000	40	11.4	20-40*
Small Private	1,000	9	2.5	
Other-Residential				
TOTAL	22,000	109	31.2	20-40*

Comments: A coordinated infestation reduction and harvest is needed on the residential, other private, agency and other corporate lands in the area from Kenai to Nikiski.

Transportation Estimate

	Miles	Cost/mile	Total
Main Line Rd	40	$45,000	$1,800,000
Spur Rd	10	$18,000	$180,000
Winter			

* A rough estimate for the ANCSA Corporation land is that 40 to 60 miles main road and spur road might be needed. Cost share and joint managment agreements will be needed between the corporations, State and KPB.

Note: In these tables some items left intentionally blank. Not all units will have data in all categories.

Central Peninsula: Estimated 73,000 acres of available commercial forest land in unit with 770 mmbf. State and KPB have 400 mmbf, when combined could make for feasible coordinated planning and harvest program. Unit is one of the hardest hit by spruce beetle in 1992.

The CIRI sale to Circle DE Pacific and the Ninilchik sale to Klukwan are or will be active in this unit. Planned road net for the major owners shown on work map.

Estimated Available Commercial Forest Land, Infested Acres, Area and Volume of Available CFL in Unit and Transportation Estimate

BLOCK Kenai Peninsula UNIT Central Peninsula

OWNERSHIP KPB, State, U of A, CIRI, NNAI & small private. Plus residential-Sc na, Kasilof & Sterling.

Available Commercial Forest Land

	Available-CFL
Acres	73,000
Est-Vol-MMBF	770
Est-Vol-MMCF	220

Infested Forest Land

	Recent Dead
Acres	184,799

Available Commercial Forest Land and Volume

Owner	Acres	MMBF Volume	MMCF Volume	Under Contract MMBF
KP3	9,000	89	25	
State	28,000	311	89	
ANCSA Corp	32,000	330	94	220
Small Private	4,000	40	12	
Other				
TOTAL	73,000	770	220	220

Transportation Estimate

	Miles	Cost/mile	Total
Main Line Rd	101	$45,000	$4,545,000
Spur Rd			
Winter			

Note: In these tables some items left intentionally blank. Not all units will have data in all categories.

South Peninsula: South peninsula has 60,000 acres of commercial forest land with estimated volume of 704 mmbf. State has 354 mmbf in general grant and critical habitat lands. KPB has 70 mmbf. Infestation is light but spreading in Anchor River and Homer area. Coordinated plan and harvest plan with KPB and State agencies would be desirable. Fisheries, wildlife, land and recreation values are very high in unit. Two major sales on ANCSA lands: Ninilchik-Klukwan and CIRI-Circle DE Pacific.

Suggested road system with a minimum of stream crossings is shown on work map. Access south of Caribou Lake would depend on timber values, infestation and CIRI's approval to connect with Oil Well Road system.

Estimated Available Commercial Forest Land, Infested Acres, Area and Volume of Available CFL in Unit and Transportation Estimate

BLOCK Kenai Peninsula UNIT South Peninsula

OWNERSHIP KPB, State, State Critical Habitat, U of A, Ninilchik Corp. & CIRI , Communities of Ninilchik, Happy Valley, Anchor Point & Homer + Russian Villages

Available Commercial Forest Land

	Available-CFL
Acres	60,000
Est-Vol-MMBF	704
Est-Vol-MMCF	201

Infested Forest Land

	Recent Dead
Acres	37,209

Available Commercial Forest Land and Volume

Owner	Acres	MMBF Volume	MMCF Volume	Under Contract MMBF
KPE	5,000	70	20	
State	33,000	354	101	
ANCSA Corp	18,000	230	66	230
Small Private	4,000	50	14	
Other				
TOTAL	60,000	704	201	230

Transportation Estimate

	Miles	Cost/mile	Total
Main Line Rd	100	$45,000	$4,500,000
Spur Rd			
Winter Rd			

Note: In these tables some items left intentionally blank. Not all units will have data in all categories.

Chugach National Forest-North: Infestation hot in the Six-Mile/Hope area—should be closely monitored. State/KPB selections should be studied for increased infestation in 1993. Coordinated plan and harvest program needed in this portion of CNF. Estimated 29,000 acres of commercial forest land with net volume of 241 mmbf on National Forest. Chugach Alaska Corp.'s forest products complex at Seward could utilize beetle killed spruce in future.

Estimated Available Commercial Forest Land, Infested Acres, Area and Volume of Available CFL in Unit and Transportation Estimate

BLOCK Kenai Peninsula UNIT Chugach NF-North

OWNERSHIP CNF, KPB, state & some small private; Hope & Sunrise communities.

Available Commercial Forest Land

	Available-CFL
Acres	29,000
Est-Vol-MMBF	241
Est-Vol-MMCF	69

Infested Forest Land

	Recent Dead
Acres	5,500

Available Commercial Forest Land and Volume

Owner	Acres	MMBF Volume	MMCF Volume	Under Contract MMBF
KPB	1,000	6	1.7	
State	500	2	0.6	
ANCSA Corp				
Small Private	500	5	1.4	
Other/CNF	(29,000)	(241)	(69)	
TOTAL	2,000	13	3.7	

Comments: State/KPB selections need detailed study on acres of commercial forest land infested. Coordinated, detailed inventory and management plan needed for these areas and entire unit.

Transportation Estimate

	Miles	Cost/mile	Total
Main Line Rd			
Spur Rd	20	30,000	$600,000
Winter			

Note: In these tables some items left intentionally blank. Not all units will have data in all categories.

Chugach National Forest-South: Estimated 56,000 acres commercial forest land in unit; 50,000 acres in CNF and 6,000 in KPB, state and small private. Proposed KPB lands at Trail Lakes-Moose Pass heavily infested. Coordinated management and harvest plan between KPB, CNF and the State needed immediately. KPB lands could have from 20 to 35 mmbf. Estimated 26 mmbf for this report. The private, ANCSA Corp. lands in Kenai Fjords National Park are shown in this table.

From 15 to 25 miles of main and spur road needed to harvest area. Other resource values are very high and must be considered in harvest plan.

Estimated Available Commercial Forest Land, Infested Acres, Area and Volume of Available CFL in Unit and Transportation Estimate

BLOCK Kenai Peninsula UNIT Chugach N.F.- South

OWNERSHIP CNF, State, KPB, some private & Port Graham & English Bay Corporations within Kenai Fjords NP

Available Commercial Forest Land

	Available-CFL
Acres	56,000
Est-Vol-MMBF	400-425
Est-Vol-MMCF	90-110

Infested Forest Land

	Recent Dead
Acres	19,071

Available Commercial Forest Land and Volume

Owner	Ac	MMBF Volume	MMCF Volume	Under Contract MMBF
KPB	4,000	26	7.4	
State	1,000	8	2.3	
ANCSA Corp*		(40)		
Small Private	1,000	10	2.9	
Other/CNF	(50,000)	(400)	(111.4)	
TOTAL	6,000	44	12.6	

* ANCSA Corp. land located within Kenai Fjords NP. Owned by Port Graham and English Bay Corporations.

Transportation Estimate

	Miles	Cost/mile	Total
Main Line Rd	63	$60,000	$3,780,000
Spur Rd			
Winter			

Note: In these tables some items left intentionally blank. Not all units will have data in all categories.

Kachemak Bay: Estimated 9,000 acres of available commercial forest land in unit. 13,000 acres of forest land infested with spruce beetle per 1992 inventory. Ownership in State Park and Seldovia Corp. No estimate made of volume. Proposed buy-back of Seldovia land complicates any planning to promote healthy forest in area.

No road estimates made either for same reasons.

If buy-back does not get approved, Koncor would log 50 mmbf from Seldovia Corp. land.

Estimated Available Commercial Forest Land, Infested Acres, Area and Volume of Available CFL in Unit and Transportation Estimate

BLOCK Kenai Peninsula UNIT Kachemak Bay

OWNERSHIP State, State Parks & Critical Habitat, Seldovia Corp (Koncor)-Buy Back

Available Commercial Forest Land

	Available-CFL
Acres	9,000
Est-Vol-MMBF	
Est-Vol-MMCF	

Infested Forest Land

	Recent Dead
Acres	13,000

Available Commercial Forest Land and Volume

Owner	Acres	MMBF Volume	MMCF Volume	Under Contract MMBF
KPB				
State	4,000			
ANCSA Corp	4,000			50 to Koncor
Small Private	1,000			
Other				
TOTAL	9,000			50

Comments: No estimates made of volumes due to proposed buy-back of Seldovia lands and proposed land management direction.

Transportation Estimate

	Miles	Cost/mile	Total
Main Line Rd			
Spur Rd			
Winter			

Note: In these tables some items left intentionally blank. Not all units will have data in all categories.

Seldovia-Pt.Graham & English Bay: Active and ongoing timber harvest on corporate lands—Rocky/Windy Bays & Dogfish Bay. Encouragement of value-added processing and investment in timber transfer facilities needed at Port Graham. Connecting road needed between English Bay/Port Graham and Rocky/Windy Bay. Dock for barges and ships needed.

Estimated Available Commercial Forest Land, Infested Acres, Area and Volume of Available CFL in Unit and Transportation Estimate

BLOCK Kenai Peninsula UNIT Seldovia-Pt.Graham & English Bay

OWNERSHIP Seldovia Native Assn, Port Graham Corp & English Bay Corp. and allottments.

Available Commercial Forest Land

	Available-CFL
Acres	35,000
Est-Vol-MMBF	444
Est-Vol-MMCF	127

Infested Forest Land

	Recent Dead
Acres	NE

Available Commercial Forest Land and Volume

Owner	Acres	MMBF Volume	MMCF Volume	Under Contract MMBF
KPB				
State				
ANCSA Corp	28,000	354	101	100
Small Private	7,000	90	26	
Other				
TOTAL	35,000	444	127	100

Comments: Spruce beetle infestations are as far south as English Bay & are increasing in Jackolof & Seldovia Bay areas.

A dock is needed at Port Graham to handle logs from the English Bay, Port Graham and Windy and Rocky Bay drainages.

Transportation Estimate

	Miles	Cost/mile	Total
Main Line Rd	40	$50,000	$2,000,000
Spur Rd	20	$20,000	$400,000
Winter			

Log Transfer Facility:# 1-Dock* $1.5 Million

*A detailed cost estimate is needed.

Note: In these tables some items left intentionally blank. Not all units will have data in all categories.

Kalgin Island: Infestation on island is widesread. DOF estimates 25 mmbf. Estimate of roads—15 miles of main and spur roads. Best site for transfer facility appears to be on NW end of island.

Sale should be planned and sold this winter to salvage recently and new dead spruce. Coordinated plan would be needed with DOF, DOL, ADF&G and Cook Inlet Aquaculture Assn.

Estimated Available Commercial Forest Land, Infested Acres, Area and Volume of Available CFL in Unit and Transportation Estimate

BLOCK West Side Cook Inlet UNIT Kalgin Island

OWNERSHIP State, small private, set net sites & Cook Inlet Aquaculture

Available Commercial Forest Land

	Available-CFL
Acres	6,000
Est-Vol-MMBF	25
Est-Vol-MMCF	7.1

Infested Forest Land

	Recent Dead
Acres	
	USFS Est*.

Available Commercial Forest Land and Volume

Owner	Acres	MMBF Volume	MMCF Volume	Under Contract MMBF
KPB				
State	6,000	25	7	
ANCSA Corp				
Small Private				
Other				
TOTAL	6,000	25	7	

Comments: Timber cruise of Kalgin Island needed to determine percent of recent and older dead.

Transportation Estimate

	Miles	Cost/mile	Total
Main Line Rd	13	25,000	325,000
Spur Rd	2	17,000	34,000
Winter	5	8,000	40,000

Log Transfer Facility:# 1- LTF $300-400,000

* USFS estimate-entire spruce forest infested.

Note: In these tables some items left intentionally blank. Not all units will have data in all categories.

Tyonek: Estimated 85,000 acres of commercial forest land in Tyonek unit with 326 mmbf. Infestations in past have been heavy and destructive. Present infestations are light and scattered. New type map for all owners is needed to determine useable volume and inventory other values. Estimates given in following table are imprecise.

Estimated Available Commercial Forest Land, Infested Acres, Area and Volume of Available CFL in Unit and Transportation Estimate

BLOCK West Side Cook Inlet UNIT Tyonek

OWNERSHIP State, KPB, Tyonek, CIRI & small private-(allotments)

Available Commercial Forest Land

	Available-CFL
Acres	85,000
Est-Vol-MMBF	326
Est-Vol-MMCF	93

Infested Forest Land

	Recent Dead
Acres	1,168

Available Commercial Forest Land and Volume

Owner	Acres	MMBF Volume	MMCF Volume	Under Contract MMBF
KPB	4,000	24	7	
State	25,000	75	21	
ANCSA Corp	56,000	224	64	
Small Private	1,000	3	1	
Other				
TOTAL	85,000	326*	93	

Comments: An intensive up to date inventory is needed for Tyonek Unit to record old dead, present infestations and present volumes. These estimates are imprecise and need to be updated by the State and corporations. Mat-Su Borough has six sections with CFL. Reforestation from old Tyonek State sale should be considered in planning. Reforestation planning and implementation critical.

Transportation Estimate

	Miles	Cost/mile	Total
Main Line Rd			
Spur Rd			
Winter			

Log Transfer Facility:# ** 1-Dock/LTF $500-800,000

* Hardwood volume ranges from 30 to 50 percent in this unit.

** Coordinated inventory, management, harvest and transportation plan with LTF, chip transfer and dock facilities needed. Major land and timber owners are Tyonek Corp, Koncor, DOF, KPB and Mat-Su Borough.

Note: In these tables some items left intentionally blank. Not all units will have data in all categories.

Polly Creek: Coordinated land management and timber harvest program needed for this important tract. Spruce beetle infestation has started in Squarehead Cove and should be closely monitored. First class log transfer facility and dock needed to access 16,000 acres of timberland. Other resource values of fisheries, wildlife, recreation and lands are very important.

CIRI village corporations which own alternate sections are: Seldovia, Ninilchik, Knik, Salamatof, Tyonek and Chickaloon.

52 miles of main line and spur road might be needed to access 195 mmbf of high quality timber.

Estimated Available Commercial Forest Land, Infested Acres, Area and Volume of Available CFL in Unit and Transportation Estimate

BLOCK West Side Cook Inlet UNIT Tuxedni
TRACT Polly Creek
OWNERSHIP CIRI Village Corps

Available Commercial Forest Land

	Available-CFL
Acres	16,000
Est-Vol-MMBF	195
Est-Vol-MMCF	56

Infested Forest Land

	Recent Dead
Acres	3,269

Available Commercial Forest Land and Volume

Owner	Acres	MMBF Volume	MMCF Volume	Under Contract MMBF
KPB				
State				
ANCSA Corp	16,000	195	56	
Small Private				
Other				
TOTAL	16,000	195	56	

Comments: Some KPB lands to the north; but volumes are low. Ownership is in 6 CIRI Villages. Infestation of 3,269 acre should be studied closely for possible expansion. Also, a number of allotments and some small private holdings in tract.

Transportation Estimate

	Miles	Cost/mile	Total
Main Line Rd	52	$45,000	$2,025,000
Spur Rd			
Winter			

Log Transfer Facility:# 1 LTF $400,000

Note: In these tables some items left intentionally blank. Not all units will have data in all categories.

Red Glacier: Estimated 180 mmbf in this tract on 13,000 acres of commercial forest land. Preliminary transportation plan shows about 25 miles of main and spur road are needed. Quality long-term log transfer facility/dock would be needed.

Coordinated planning with the major owners of Seldovia, Tyonek, Ninilchik, Salamatof, Chickaloon and Knik. Fisheries and wildlife, land and resources values high here. No known infestation at present.

Estimated Available Commercial Forest Land, Infested Acres, Area and Volume of Available CFL in Unit and Transportation Estimate

BLOCK West Side Cook Inlet UNIT Tuxedni
TRACT Red Glacier
OWNERSHIP CIRI Villages

Available Commercial Forest Land

	Available-CFL
Acres	13,000
Est-Vol-MMBF	180
Est-Vol-MMCF	36

Infested Forest Land

	Recent Dead
Acres	

Available Commercial Forest Land and Volume

Owner	Acres	MMBF Volume	MMCF Volume	Under Contract MMBF
KPB				
State				
ANCSA Corp	13,000	180	37	
Small Private				
Other				
TOTAL	13,000	180	37	

Comments: Some allotments in tract.

Transportation Estimate

	Miles	Cost/mile	Total
Main Line Rd	25	$45,000	$1,125,000
Spur Rd			
Winter			

Log Transfer Facility:# 1-2 LTF $300-400.000

Note: In these tables some items left intentionally blank. Not all units will have data in all categories.

Iniskin: Tract has 16,000 acres of commercial forest land with estimated volume of 159 mmbf. Three corporations have majority of timberland: Tyonek, Seldovia and Knik. State has some land in tract.

Up-to-date inventory management plan is needed. No recorded infestation.

Only ten miles of road and 2-3 LTFs are proposed with the minimum of data available.

Estimated Available Commercial Forest Land, Infested Acres, Area and Volume of Available CFL in Unit and Transportation Estimate

BLOCK West Side Cook Inlet UNIT Tuxedni
TRACT Iniskin
OWNERSHIP CIRI Villages, mainly Seldovia & Ninilchik

Available Commercial Forest Land

	Available-CFL
Acres	16,000
Est-Vol-MMBF	159
Est-Vol-MMCF	32

Infested Forest Land

	Recent Dead
Acres	NE

Available Commercial Forest Land and Volume

Owner	Acres	MMBF Volume	MMCF Volume	Under Contract MMBF
KPB				
State				
ANCSA Corp	16,000	159	32	
Small Private				
Other				
TOTAL	16,000	159	32	

Transportation Estimate

	Miles	Cost/mile	Total
Main Line Rd	10*	$45,000	$450,000
Spur Rd			
Winter			

Log Transfer Facility:# 2-3 LTF $150-200,000 each*

*These need further study.

Note: In these tables some items left intentionally blank. Not all units will have data in all categories.

7.0 Transportation Plan

7.1 Background

While there has been ongoing timber harvesting and processing for over thirty years in the borough, there has never been a strong and continual timber industry presence here. Recently, two ANCSA (CIRI and Ninilchik) Corporations sold timber resources in the central peninsula. These sales entailed approximately 500 million board feet of Lutz spruce. These sales are fairly representative of the forest resources of the borough in terms of location, basal area, distance to transfer or processing facilities, altitude and topography. From data gained from these two sales, it is possible to provide a range of values which reflect actual transportation costs and road building conditions within the borough.

7.2 Road Costs

In general terms, one mile of road will provide access to 700 thousand board feet (mbf) of medium to high volume (5.3 to 9.6 mbf/acre) commercial forest land (white, Lutz or Sitka spruce). Road costs per mile and estimated breakdown of main line, spur and winter roads are shown in the following table.

7.31 Table: Estimated Road Cost per Mile to Harvest 1 Billion Board Feet

Type	Cost per mile	Miles	%/Miles	Total	%/Total
Main Line	$45,000	178.5	25%	$8,032,500	32%
Spur	$18,000	357	50%	$16,065,000	63%
Winter	$7,000	178.5	25%	$1,249,500	5%
TOTAL		714	100%	$25,347,000	100%

This estimate includes culverts, bridges and maintenance during period of harvest.

7.32.

Estimated Miles, Number and Cost of Roads, Log Transfer Facilities and Docks Needed by Location and Ownership

LOCATION	CFL-AC	Vol mmbf	Roads Miles	LTF & Docks $K	LTF & Docks #	LTF & Docks $K	TOT-RDS Docks/$K	Assist-Needed Yes/No/ $MM
KENAI								
North Pen.								
KPB-State	9,000	60	50	1,980			1,980	Yes/$1.2
ANCSA-Corp	12,000	40	NE					
Private	1,000	9	NE					
Central Pen.								
KPB-State	37,000	400	101	4,545			4,545	Yes/$2.0
CIRI-NNAI	32,000	330	NE					
Private	4,000	40	NE					
South Pen.								
KPB-State	38,000	424	100	4,500			4,500	Yes/$3.0
CIRI-NNAI	18,000	230	NE					
Private	4,000	50	NE					
CNF-N								
KPB-State	1,000	8	10	600			600	Yes/$0.3
Private	1,000	5	NE					
CNF-S								
KPB-State	5,000	34	63	3,780			3,780	Yes/$2.8
Private	1,000	10	NE					
KFNP		40	NE					
S-PG-EB								
ANCSA	28,000	354	60	2,400	1	1,500	3,900	Yes/$1.
Private	7,000	90	NE					
Total KP								
KPB-State	94,000	926	384	17,805			15,405	Yes/$9.
ANCSA-Corp	94,000	994	60	2,400	1	1,500	3,900	Yes/$1.8
Private	19,000	204	NE					
SUB-TOTAL:	207,000	2,124	444	20,205	1	1,500	19,305	Yes/$10.9

7.32.
Estimated Miles, Number and Cost of Roads, Log Transfer Facilities and Docks Needed by Location and Ownership

LOCATION	CFL-AC	Vol mmbf	Roads Miles	LTF & Docks $K	LTF & Docks #	LTF & Docks $K	TOT-RDS Docks/$K	Assist-Needed Yes/No/ $MM
KENAI								
North Pen.								
KPB-State	9,000	60	50	1,980			1,980	Yes/$1.2
ANCSA-Corp	12,000	40	NE					
Private	1,000	9	NE					
Central Pen.								
KPB-State	37,000	400	101	4,545			4,545	Yes/$2.0
CIRI-NNAI	32,000	330	NE					
Private	4,000	40	NE					
South Pen.								
KPB-State	38,000	424	100	4,500			4,500	Yes/$3.0
CIRI-NNAI	18,000	230	NE					
Private	4,000	50	NE					
CNF-N								
KPB-State	1,000	8	10	600			600	Yes/$0.3
Private	1,000	5	NE					
CNF-S								
KPB-State	5,000	34	63	3,780			3,780	Yes/$2.8
Private	1,000	10	NE					
KFNP		40	NE					
S-PG-EB								
ANCSA	28,000	354	60	2,400	1	1,500	3,900	Yes/$1.0
Private	7,000	90	NE					
Total KP								
KPB-State	94,000	926	384	17,805			15,405	Yes/$9.3
ANCSA-Corp	94,000	994	60	2,400	1	1,500	3,900	Yes/$1.0
Private	19,000	204	NE					
SUB-TOTAL:	207,000	2,124	444	20,205	1	1,500	19,305	Yes/$10.3

(Continued)

LOCATION	CFL-AC	Vol	Roads	LTF & Docks			TOT-RDS	Assist-Needed
WEST SIDE		mmbf	Miles	$K	#	$K	Docks$K	Yes/No/ $MM
Kalgin Is.								
State	6,000	25	20	399	1	400	799	Yes/$0.4
Tyonek								
KPB-State	29,000	99	NE		1	800	800	Yes/$0.4
Koncor-CIRI	56,000	224	NE					No
Private	1,000	3	NE					
Tuxedni								
Polly Cr								
Vill-Corp	16,000	195	52	2,025	1	400	2,425	No
Red Glacier								
Vill-Corp	13,000	180	25	1,125	1	400	1,525	No
Iniskin								
Vill-Corp	16,000	159	10	450	2	600	1,050	No
Sub -Tot								
KPB-State	35,000	124	20	399	2	1,200	1,599	Yes/$0.8
ANCSA	101,000	758	87	3,600	6	1,400	5,000	
Private	1,000	3	NE					
TOT W. Side	**137,000**	**885**	**107**	**3,999**	**8**	**2,600**	**6,599**	**Yes/$0.8**
Sub-Borough								
KPB-State	129,000	1,050	404	18,204	2	1,200	17,004	Yes/$10.1
ANCSA	195,000	1,752	147	6,000	7	2,900	8,900	Yes/1.0
Private	20,000	207						
TOTAL	344,000	3,009	551	24,204	9	4,100	25,904	Yes/$11.1

NE: No Estimate needed.

7.4 Transportation

To access the forest land infested and potentially infested, a primary transportation system of main-line forest roads is needed. The above tables show an estimate of the roads and log transfer facilities needed by the major landowners in each unit, except Kachemak Bay. The road access for timber harvest on the Kenai Peninsula should be accomplished in a three to five year period. This primary access system would allow for a well-planned harvest of the spruce forest over a twenty year period, depending upon the intensity of future spruce beetle infestations.

The ANCSA Corporations could need assistance with their various plans for access. However, their greatest need might be in log transfer facilities and docks which would allow for value-added forest products facilities (low to high tech sawmills, chip storage & house logs).

The State and KPB lands have been combined for purposes of the transportation estimates. On the heavily infested forest lands of the Kenai Peninsula it is estimated that 384 miles of main-line roads would be needed to access most of the 94,000 acres of combined State/KPB timber. The estimated cost is 18 million dollars and could increase up to 25 million dollars for the main-line roads. This road system should be funded up front and built within 5 years and then paid for with receipts from the timber sales.

7.5 Road Access and Cost Share Agreements

Road access and cost share agreements have been obtained and are included in the Appendix. One is for an agreement between the Kenai Peninsula Borough and a private entity. The other is for an agreement between two private entities.

-GLOSSARY-

Abbreviation	Explanation
ADF & G	Alaska Department of Fish & Game
ANCSA	Alaska Native Claims Settlement Act: Created Village and Regional Corporations which own 44 million acres in Alaska.
ANILCA	Alaska National Interest Lands Conservation Act, 1980. Set-aside over 100 million acres in Parks, Wildlife Refuges and Wilderness.
borough	Used as an all inclusive term for everything within the KPB's legal boundaries.
CIRI	Cook Inlet Region, Inc.: Regional ANCSA Corp for Cook Inlet and majority of the KPB.
CNF	Chugach National Forest: Managed by U.S. Forest Service
DNR	Division of Natural Resources, State of Alaska
DOF	Division of Forestry, State of Alaska
FPA	Alaska Forest Resources and Practices Act
KNWR	Kenai National Wildlife Refuge
KPB	Kenai Peninsula Borough
MMBF	Million Board Feet, Scribner Scale: Common method of measuring volume of timber.
MMCF	Million Cubic Feet: The conversion factor for the majority of the timber in the KPB is 3.5 board feet per one cubic foot.
NNAI	Ninilchik Native Association, Inc.: Village Corporation in CIRI Region. Sold over 200 mmbf to Klukwan on central peninsula.
USFWS	U.S. Fish and Wildlife Service: Manages KNWR

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ATTACHMENT A

Kenai National Wildlife Refuge Lands

The Kenai National Wildlife Refuge—managed by the U.S. Fish and Wildlife Service—encompasses over 1.8 million acres. Of this, 1.35 million acres are designated Wilderness. The refuge was established in 1941 as the Kenai National Moose Range. The Alaska National Interest Lands Conservation Act of 1980 (ANILCA) increased the size by 250,000 acres, changed the name to Kenai National Wildlife Refuge (KNWR) and designated 1.35 million acres as Wilderness (with a capital W, this federal designation is highly restrictive with authorization by the Wilderness Act of 1964). The Federally designated Wilderness areas south of the Sterling Highway are: the entire south half of the refuge, the central portion south of Skilak Lake and westward to within 4 to 12 miles of the western boundary and south of the Sterling-Soldotna corridor. The Federally designated Wilderness areas north of the the Sterling Highway has two units: one on the eastern edge of the Mystery Creek and Chickaloon River and the other in the center running south from Point Possession to the Moose River, with non-wilderness on the east and west side of this unit.

Approximately 800,000 acres or 40 percent of the refuge is classified as forest land. Out of this it is estimated there are 195,000 acres of commercial forest land (the softwood types total 101,000 acres), with white spruce at 79,000 acres, Sitka spruce at 11,000 and mountain hemlock and black spruce at 5,000 acres each. The hardwoods total 94,000 acres, with paper birch at 88,000 acres and quaking aspen at 5,000 acres. The majority of the commercial forest lands are in the northern portions of the refuge. No estimates are available on the volume of the commercial forest lands.

Area Impacted: The recent surveys show 253,000 acres of KNWR forest lands were infested in the 10 years up to 1991[1]. This occurred mainly in remote areas and designated Wilderness. The 1992 surveys indicate a spread to the refuge lands adjoining ANCSA Corporation and other private, State and KPB lands.

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[1] Forest Health Management Plan for the Western Kenai Peninsula and Kalgin Island Draft ,8/6/92, State DOF/DNR

Suggested process for authorization and action for salvage timber sales to protect the forest resources of adjoining land owners: The refuge management must adhere to four major federal laws: National Wildlife Refuge System Administration Act of 1966, ANILCA, The Wilderness Act of 1964 and the National Environmental Policy Act of 1969 (NEPA). Also, several international treaties with Canada and Mexico concerning migratory birds affect the management of the refuge. ANILCA requires a comprehensive plan with a specified input from local and state governments and ANCSA corporations.

Based on the recent infestations and the threat of future infestations and catastrophic fires similar to the past northern peninsula fires, it is recommended:

That the Mayor of the Kenai Peninsula Borough, the Governor and ANCSA Corporate officials contact the Director of the U. S. Fish and Wildlife Service (USFWS), the Secretary of Interior and the Alaska Congressional Delegation and request funding and action of the following:

A. A joint inventory (this winter, 1992-93) of the location, size and severity of present and past infestations and predictions on the spread. 1992 satellite imagery would be used with past USFS/DOF survey maps.

B. Request Alaska Congressional Delegation to seek funding for the planning process required by USFWS Analysis of Risk and Responsibility to determine action needed to conduct timber salvage sales (Environmental Impact Statements or Environmental Assessments). Request money for involvement of State, KPB, ANCSA personnel and the public in this process.

C. Request Congressional Delegation to initiate procedures to authorize legislation and funding for coordinated planning, management, harvest and rehabilitation of infested forest lands.

D. Coordinate the above effort with the refuge manager and the managers and owners of the adjoining KPB, State, ANCSA Corporations, other private land owners and impacted communities.

E. Follow-up for action and progress on the above authorized activities must be accomplished in 1993 with salvage sales (if authorized) in 1994.

Impacted and interested groups: The following is a list of landowners, managers, agency officials and groups who would have strong interest in the management of the spruce beetle epidemic in KNWR.

Government

-Local-

Kenai Peninsula Borough (KPB)
Communities of Nikiski, Kenai, Soldotna, Sterling, Cooper Landing, Moose Pass, Seward, Hope, Kasilof, Ninilchik, Happy Valley, Anchor Point, Homer, Kachemak City and the Russian villages.

-State-

DNR-DOF, DOL, DCED, ADF&G-Habitat, Game and Fisheries

-Federal-

USDA-Forest Service-Chugach NF, USDA Soil Conservation Service

Private

-Local-

Fish, game & waterfowl clubs
Commercial fishermen organizations: Cook Inlet Aquaculture Assn.
Snowmachine & ATV clubs & dealers
Trappers, hunters, fishers
Dealers of all hunting and fishing & outdoor equipment
Local loggers, sawmill owners and the local forest products industry
All users & friends of KNWR
All educators, K-12 & Kenai Peninsula College

-State & National Groups-

Audubon Society
National Wildlife Federation
The Wilderness Society
The Sierra Club
The Nature Conservancy
The Wildlife Management Institute
Alaska Center for the Environment
Alaska Forest Association
Resource Development Council

The personnel at the refuge emphasized that the national conservation organizations, with their local, state and national memberships were very important. This process and the resulting management could assist the USFWS and other agencies in professional management which could enhance the resource of the refuge at a savings to the taxpayer and government entities. In this regard, it is purported the legendary conservationist, wildlife biologist and forester, Aldo Leopold, stated the two main tools of the wildlife biologist has are ":..fire and the axe..."

ATTACHMENT B

Salvage and Harvest of Beetle Killed Spruce on the Chugach National Forest

"Opportunities and Challenges"

The areas of the Chugach National Forest impacted by the recent spruce bark beetle infestation are around Trail Lakes, the Six-Mile drainage and Hope.

The State has selected approximately 8,500 acres in the Trail Lakes area. At the request of the Kenai Peninsula Borough under its municipal entitlement, the State intends to transfer this land to the Borough as soon as possible. It is estimated that there are from 3-4,000 acres of commercial forest land in this tract. Also, the adjoining National Forest land contains commercial forest land in small tracts. A coordinated timber harvest inventory and timber salvage operation is needed in the next three months.

The infested timber in the Six Mile and Hope areas could be utilized by the Chugach Alaska sawmill at Seward. The Forest Service can now conduct salvage sales at an accelerated rate.

With the potential volume and the increasing infestation, additional scoping and inventory work is needed on the National Forest commercial forest lands and timber salvage policies. The National Forest timber is in the Seward zone for harvest and utilization in close proximity to the existing Chugach Alaska sawmill and chip facility and other local operators.

-APPENDIX-

I (3.1) Reforestation Center Costs

Tables K5-11

These tables were extracted from the Tree Improvement, Nursery and Research for Interior and Southcentral Alaska. Most costs are accurate and applicable for the reforestation center recommended in this report.

Table K4

Funded Facility, Container Seedling Production

Item	Description	Cost Estimate (thousands $)
Headhouse	100 x 100 feet Storage/work area plus mechanical areas and lunchroom/restrooms	275.0
Excavation	3,000 cubic yards Foundations and drainage	3.6
Embankment	8,400 cubic yards Raise elevation of buildings	26.0
Water	Well and service lines	16.5
Septic	System and drainfield	22.0
Utilities	Electric and gas service to facility	33.0
Mechanical	Purchase and installation of utilities in headhouse and standby generator facility	38.5
Moving	Move the two existing greenhouses and generator	90.0
New Houses	Purchase and install four new houses	355.0
Corridor	Corridor from headhouse connecting all greenhouses	88.2
Cooler	Small (600 sq. ft.) seedling cooler	44.0
Administration	Engineering, drafting, printing, admin. etc.	65.0
Contingency	Ten percent contingency for bid/cost overruns	125.2
	Total Funded Container Seedling Production Facility	1,182.0

Table K5

Funded Equipment
Container Seedling Production

Item	Description	Cost Estimate (thousands $)
	Sowing Operations and Growing Equipment	
Benches	Growing bench system inside all houses	45.4
Mix/Filler	Potting soil mixer and container filler	12.0
Seeder	Seeder for sowing containers	15.0
Sprayer	Three-point hitch for treating outside seedlings	3.0
Irrigation	Irrigation equipment	5.0
Moving	Moving seedlings and small equipment	10.0
	Transportation and Material Handling	
Forklift	Propane or electric forklift	20.0
Tractor	Small 4-wheel-drive tractor with bucket and forks	20.0
Conveyors	Conveyor system for moving containers	20.0
Van	Passenger van for personnel pickup and return	20.0
Flatbed Truck	One-ton, 4x4 truck with snowplow for plowing road and hauling in shipping orders from outside seedling storage areas (locate surplus unit)	5.0
	Yard Structures	
Coldframes	Coldframe structures for overwintering plants	18.0
Shadehouse	Shadehouse for hardening and holding plants	1.6
	Total Funded Container Operation Equipment	**195.0**

Table K6

Unfunded Facility
Container Seedling Production

Item	Description	Cost Estimate (thousands $)
Office	Office/laboratory (1,200 sq. ft.) for administration and testing; estimated cost at $71,500/1,000 sq. ft.	85.8
Garage	Garage facility for vehicles, tractors, and equipment. Four 12 x 32-foot deep bays for van, one-ton pickup, tractor, transplantor seedling lifter, bedformer, etc. (1,600 sq. ft at $25,000/1,000 sq. ft.)	40.0
Utility	Container wash facility and sanitizing; Building-to-house container washer, minimal container storage, and other sanitizing equipment. (500 sq. ft. at $30,000/1,000 sq. ft.)	15.0
Cold Storage	Additional cold storage facility (4,000 sq. ft. at $80,000/1,000 sq. ft.) to hold seedlings dormant until planting season at colder locations. Freezer (29 degree) storage, 40 x 100 feet with 20 feet usable ceiling height (See Coeur d'Alene Nursery, Coeur d'Alene, ID design.)	320.0
Pond	A pond designed to allow residue from greenhouse to purify by use of natural aquatic life. (Information available from Univ. of Idaho, Dr. David Wenney.)	100.0
	Total Uufunded Container Seedling Production Facility	**560.8**

Table K7

Unfunded Equipment, Container Seedling Production

Item	Description	Cost Estimate (thousands $)
	Sowing Operations and Growing Equipment	
Irrigation	Irrigation equipment and supplies	10.0
Washer	Upgrade of existing container washer	10.0
Containers	Additional containers for four additional houses (200 m. x 4 @ $0.075 each with trays)	60.0
Mixer	New potting mix mixer	10.0
Monitoring/ Alarm System	Sensors, control/recording unit, with telephone dialer to monitor greenhouses, storage units, electrical security, fire alarms, and other processes and report to appropriate personnel or authorities	20.0
	Transportation and Material Handling	
Fuel	Aboveground fueling station (500-gal.)	10.0
Flatbed	Upgrade of above "surplus" vehicle to new unit	15.0
Utility Vehicle	Small utility vehicle to carry two people and tools or a few trays of seedlings, e.g., a Kawasaki Mule.	5.0
	Yard Structures	
Shadehouse	Additional shadehouse structures for growing and holding plant materials.	6.8
Lighting	Security lighting of buildings (other than greenhouses)	2.0
Fencing	Six-foot fence around area to prevent damage from stray animals and to provide security from vandals. Note: This is especially needed to secure a proposed effluent pond from entry by children from nearby trailer park. (estimated 4,800 ft. @ $13/ft.)	62.4
	Office Equipment	
Copier	New office copy machine	3.0
	Total Unfunded Equipment for Container Seedling Production	**214.2**

Table K8

Unfunded Facility
Seed Extraction and Cleaning

Item	Description	Cost Estimate (thousands $)
Extractory	Cone drying, seed extractory, and cleaning building (2,000 sq. ft. at $50,000/1,000 sq. ft.)	100.0
Cone Storage	Cone storage building. (Pole shed for rack storage of cones as they come in from collection areas. Note: Some cones may need specific after-ripening conditions.) (2,000 sq. ft. at $20,000/1,000 sq. ft.)	40.0
	Total Unfunded Seed Extraction and Cleaning Facility	**140.0**

Table K9

Unfunded Equipment, Seed Extraction and Cleaning

Item	Description	Cost Estimate (thousands $)
Large Kiln	Stackable tray design	60.0
Small Kiln	For small lots (5-10 bushels) Modify an existing unit	3.0
Cone Tumbler	Tumbler (with hopper for dumping into top) for extracting seeds from cones	20.0
Large Dewinger	Large continuous feed wet/dry unit	10.0
Small Dewinger	Additional MTDC unit	10.0
Scalper	Single- or double-screen unit to remove debris and dirt/chaff from seed	15.0
Air Separator	Pneumatic separator for fine separation of seed	7.0
Gravity Separator	Tilting oscillating table with air (e.g., Oliver)	15.0
Fans	Heavy-duty utility fans for overcoming dead air sections in cone storage	0.2
Cone Conveyer	Conveyer to take cones from tumbler to receiving hopper or grinder	5.0
Cone Grinder	Farm-type hammermill or similar unit to grind down unsold cones into usable mulch	4.0
Air System	Air evacuation/filter system to remove resinous dust from operating machine and collect it for safe disposal	10.0
Seed Storage	Second unit similar to existing one to provide additional space needed and redundancy in case of failure of initial unit	20.0
Cone Racks	Materials to build racks for cone storage	5.0
Miscellaneous	Miscellaneous small equipment and supplies	10.0
Scales	Small laboratory and large production scales	11.0
	Total Unfunded Equipment for Seed Extraction and Cleaning	**205.2**

Table K10

Unfunded Equipment
Transplant Operation

Item	Description	Cost Estimate (thousands $)
Tractor	Sixty-horsepower plus tractor, properly configured for seedling bed preparation, culturing equipment, and harvest. Note: its use with a transplanter. It must be properly geared for this operation. This tractor must also have a front-end loader for the dibble transplant assembly listed below.	35.0
Bedformer	To form raised beds (standard for bareroot operation)	3.0
Transplanter	Six-row unit fitted with mechanical (TM) or other units suited for pine and supercell plugs	20.0
Dibble Assembly	A dibble assembly to fit on front-end loader for creating multiple dibble holes required to transplant larger containers which cannot be planted with transplanter	3.5
Portable Pipe	Piping and sprinkler heads to irrigate seedbeds. Estimated 2,000 linear feet of 2-inch portable aluminum pipe, fittings, and impact-type sprinklers to irrigate up to three 200 ft. long seedling beds. (600 ft. of mainline and two waterlines with sprinklers every 20 to 24 ft.)	5.0
Spreader	Granular fertilizer spreader for fertilizing beds	3.0
Vertical blades	Three-point hitch, belly- or front-mount vertical root pruner bladen for vertical pruning between rows of seedlings for root manipulation	9.0
Lifter	Seedlings bed lifter to loosen seedlings for lifting with pruner/wrencher blade attachment.	10.0
	Total Unfunded Equipment for Transplant Operation	88.5

Table K11

Summary of Total Funded and Unfunded Nursery Operations
(in thousands of dollars)

Funded		
Container seedling production facility	1,182.0	
Container seedling production equipment	195.0	
Total funded container seedling production operation		1,377.0
Unfunded		
Container seedling production facility	560.8	
Equipment for container seedling production	214.2	
Total unfunded container seedling production operation		775.0
Seed extraction and cleaning facility	140.0	
Equipment for seed extraction and cleaning	205.2	
Total unfunded for seed extraction and cleaning operation		345.2
Equipment for transplant operation	88.5	
Total unfunded for transplant operation		88.5
Total funding requirements for all operations		**1,108.7**

II (3.21) Alden Recommendations

Seed transfer guidelines are necessary to maintain the genetic integrity and diversity of forest tree species and reduce the risk of maladaptation in artificial reforestation programs. The following procedures are recommended for harvest and use of tree seeds in Alaska.

Record the geographic source (provenance) of each cone and seed collection. The exact geographic origin (provenance) of the first-generation seed parents is needed to transfer seeds among similar habitats within seed zones and to meet source identified certification standards for domestic and world trade. Minimum seed certification standards are established by the Association of Official Seed Certifying Agencies of the United States and Canada for domestic use in all States and Provinces and by the Organization for Economic Cooperation and Development in world trade (Rudolf 1974). Minimum standards for source-identified seeds of each provenance in Alaska include the name of the collection area or nearest landmark, latitude and longitude to the nearest minute of arc (township, range, and section), and altitude to the nearest 10 meters (about 30 ft) above m.s.l.

Assign a six-digit seed zone identification code to each collection:

Physiographic and climatic region	=	xx
Physiographic subregion	=	yy
Seed zone number	=	zz
Complete seed zone code	=	xxyyzz

1. Collect seeds from at least 30 well-distributed trees (unrelated trees) for reforestation of each local population. Record the number of seed trees in each collection to document the genetic base.

2. Transfer seeds only from natural populations in environments that are similar to the environment of the planting sites.

3. Avoid transfer of seeds from upland populations to flood-plain sites and from flood-plain sites to upland sites.

4. Restrict transfer of seeds to 100 meters (330 ft) in altitude of its indigenous source in upland and montane zones.

5. Transfer seeds among similar habitats within seed zones as first priority; among similar habitats and seed zones within subregions as second priority; and among similar sites and subregions within seed regions as last priority. Always observe rules 1 through 5, above, when transferring seeds to new habitats. Transfer of seeds between zones along seed region and subregion boundaries with contiguous populations is preferable to long-distance transfer of seeds within seed regions and subregions. Transfer of seeds across major genetic barriers, for example mountains above treelines, should be avoided.

These guidelines apply to the transfer of all forest reproductive materials, such as ortets of cuttings or other vegetative propoagules from native populations, used in forestation and commercial trade in Alaska.

III (5.1) Infestation Table-Map Surveys

1:250 MAP SERIES -1992 USFS Survey Results

AREA	MAP	LOCATION	ACRES
West Side	Tyonek	Beluga	623
Cook Inlet		Beluga	15
		Tyonek	10
		Tyonek	15
		Tyonek	15
		McArthur River	1,168
		TOTAL	1,846

AREA	MAP	LOCATION	ACRES
West Side	Kenai	Drift River	389
Cook Inlet		Cannery Creek	836
		Cannery Creek	1,635
		Squarehead Cove	3,269
		TOTAL	6,129

AREA	MAP	LOCATION	ACRES
N. Peninsula	Kenai	Point. Possesion	311
		Big Indian Creek	1,168
		Pt. Pos-Skilak	85,082
		TOTAL	86,561

AREA	MAP	LOCATION	ACRES
C. Peninsula	Kenai	Skilak S.-Ninilchik	184,799
		TOTAL	184,799

AREA	MAP	LOCATION	ACRES
S. Peninsula	Seldovia	Fox River Caribou	22,263
		Ninilchik South	4,904
		Homer/East end	10,042
		TOTAL	37,209

AREA	MAP	LOCATION	ACRES
Seldovia	Seldovia	Bradley Lake	12,688
		China Poot	234
		TOTAL	12,922

AREA	MAP	LOCATION	ACRES
CNF N	Seward	Big Indian	7,784
		Hope	701
		Hope Y	389
		Summit Lake	2,024
		Quartz Creek	2,413
		Kenai Lake	3,425
		TOTAL	16,736

AREA	MAP	LOCATION	ACRES
CNF S	Seward	Moose Pass	5,527
		Kenai Lake South to Seward	311
		Cooper Lake	7,395
		Russian Lakes	5,838
		TOTAL	19,071
		GRAND TOTAL	365,273

IV (6.21) Blocks & Units Map

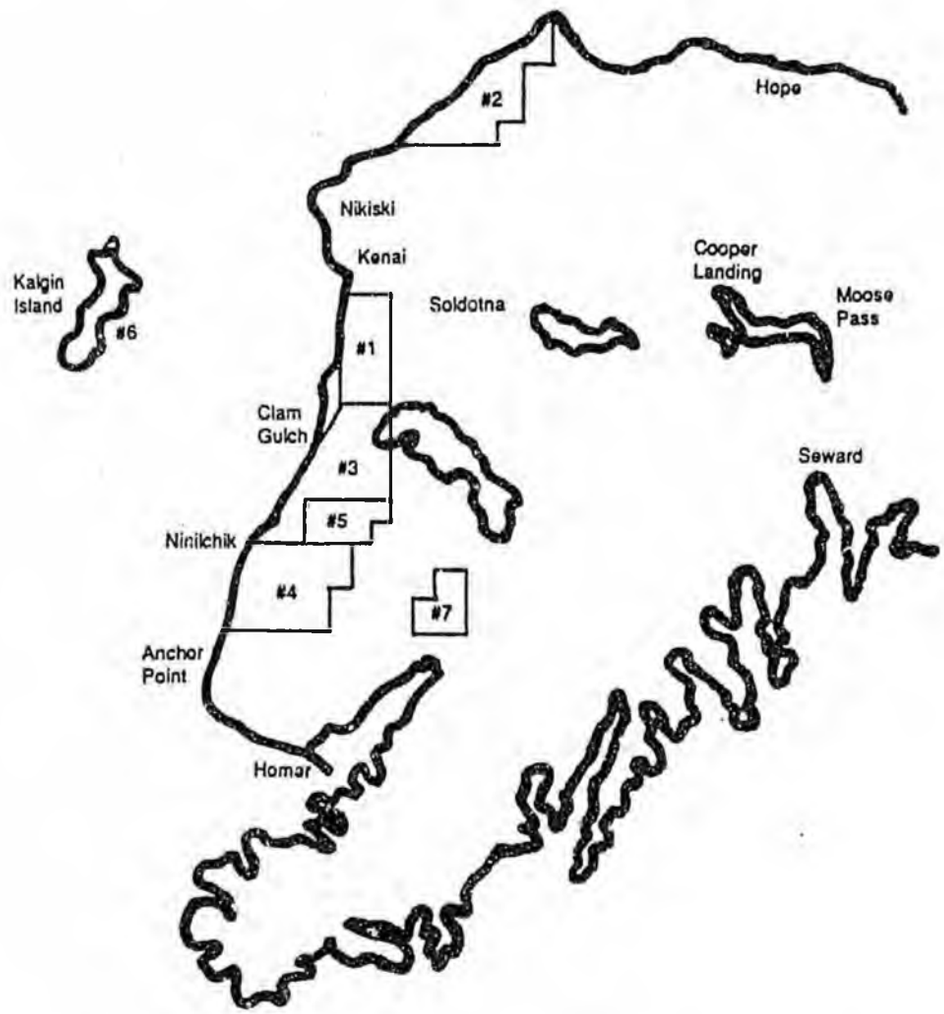
BLOCKS & UNITS

The blocks and units for inventory and management of lands within the Kenai Peninsula Borough are shown by dashed lines on the map below.

V (6.22) Salvage Harvest Priority Areas Map

Division of Forestry Map showing state salvage priority areas

Scale: 1:250,000



State of Alaska-DNR Salvage Harvest Priority Areas-1992

#	UNIT	ACRES	CCF	MBF
1.	Soldotna	220	1,171	410
2.	Point Possession	480	1,429	500
3.	Falls Creek	4,668	51,256	17,930
4.	Ninilchik	4,085	32,943	11,530
5.	Corea Creek	10,748	72,000	25,200
6.	Kalgin Island	12,000	71,429	25,000
7.	Fox River	4,050	23,143	8,100
	TOTAL	**36,251**	**253,371**	**88,670**

VI (7.5) Road Access and Cost Share Agreements

Draft Government Cost Share

COST SHARE ROAD AUTHORIZATION

Section 1. (a) The Kenai Peninsula Borough (KPB) Professional Resource Manager (PRM), under direction of the KPB Assembly and Mayor, with respect to KPB lands, is authorized to provide for the acquisition, construction, and maintenance of roads within and near the public lands in locations and according to specifications which will permit maximum economy in harvesting timber from such lands tributary to such roads and at the same time meet the requirements of protection, development, and management of such lands for utilization of the other resources thereof. Financing of such roads may be accomplished (1) by the KPB utilizing appropriated funds, (2) by requirements on purchasers of timber and other products from KPB lands, including provisions for amortization of road costs in contracts, (3) by cooperative financing with other public agencies and with other private agencies or persons, or (4) by a combination of these methods *Provided*, That, where roads of a higher standard than that are needed in the harvesting and removal of the timber and other products covered by the particular sale are to be constructed, the purchaser of timber and other products from public lands shall not, except when the provisions of this subsection apply, be required to bear that part of the costs necessary to meet such a higher standard, and the PRM is authorized to make such arrangements to this end as may be appropriate: *Provided further*, That when timber is offered with the condition that the purchaser thereof will build a road or roads in accordance with standards specified in the offer, the purchaser of the timber will be responsible for paying the full costs of construction of such roads.

(b) Copies of all instruments affecting permanent interests in land executed pursuant to this section shall be recorded in the KPB.

(c) The PRM may require the user or users of a road, trail, land, or other facility administered through the KPB including purchasers of KPB and KPB managed timber and other products, to maintain such facilities in a satisfactory condition commensurate with the particular use requirements of each. Such maintenance to be borne by each user shall be proportionate to total use. The PRM may also require the user or users of such a facility to reconstruct the same when such reconstruction cannot be so provided or if the PRM determines that maintenance or reconstruction by a user would not be practical, then the PRM may require that sufficient funds be deposited by the user would not be practical, then

the PRM may require that sufficient funds be deposited by the user to provide his portion of such total maintenance or reconstruction. Deposits made to cover the maintenance or reconstruction of roads are hereby made available until expended to cover the cost to the KPB of accomplishing the purposes for which deposited: *Provided*, That deposits received for work on adjacent and overlapping areas may be combined when it is most practicable and efficient manner of performing the work, and cost thereof may be determined by estimates: *And provided further*, That unexpended balances upon accomplishment of the purpose for which deposited shall be transferred to miscellaneous receipts or refunded.

Draft Cost Share-Private

ACCESS AND RIGHT-OF-WAY AGREEMENT

This access and Right-of-Way Agreement ("Agreement") is made and entered into this ___day of _____, by and between PARTY ONE and PARTY TWO.

WHEREAS, PARTY ONE and PARTY TWO have entered into an agreement dated _____ for the purpose of harvesting timber on _____land; and

WHEREAS, the parties wish to provide PARTY ONE and its agents with access and right-of-way through PARTY TWO land for the purposes of (1) reasonably necessary access road construction on PARTY ONE land; (2) timber harvesting on PARTY ONE land; (3) transporting harvested timber across PARTY TWO land; and (4) other related activities necessary for the fulfillment of the sale agreement ("timber harvest activities"); and

WHEREAS, PARTY TWO and PARTY ONE wish to cooperatively manage, inspect or monitor certain aspects of the PARTY ONE/TWO timber harvest activities;

NOW, THEREFORE, in accordance with these premises and in consideration of the mutual benefits to be derived, the parties agree as follows:

SECTION I - ACCESS, RIGHT-OF-WAY USE

A. For the consideration provided in Section III of this Agreement, and subject to the terms and conditions imposed by this Agreement, PARTY TWO grants to PARTY ONE and its "Operators" (as that is defined below) the right to enter upon and cross existing, later-established and/or approved access routes on PARTY TWO lands and construct roads and access routes for the purpose of conducting timber harvest activities in connection with the Sale agreement.

B. This right shall apply to lands owned by PARTY TWO which are adjacent to PARTY ONE lands covered by the Sale agreement, and which provide reasonably necessary access to these PARTY ONE lands. This right shall attach and run with PARTY TWO lands.

C. The right shall cover uses arising solely out of PARTY ONE's Sale Agreement and the implementation and management thereof.

D. This right extends only to PARTY ONE and those persons under contract to PARTY ONE for purposes of timber harvest under the Sale Agreement, including

OPERATOR and its subcontractors, together referred to as "Operators." All operators are strictly bound by the terms and conditions of this Agreement.

E. This right shall apply to presently established roads, to roads hereafter constructed by PARTY TWO, and to roads hereafter constructed by PARTY ONE and its Operators (jointly referred to as PARTY ONE in this subsection). PARTY ONE shall construct no roads on PARTY TWO land without PARTY TWO's approval, which shall not be unreasonably withheld. Any roads or access routes constructed by PARTY ONE shall be constructed and maintained entirely at PARTY ONE's expense; shall be constructed in accordance with the road building standards contained in the Sale Agreement; and shall be maintained at these standards for the term of this agreement (or during the period of PARTY ONE's actual use, if this is less than the term of the Agreement). At the termination of this Agreement, PARTY ONE will not be required to restore roads or access routes to their natural or pre-construction condition. The location and routing of all PARTY ONE built roads shall be done in consultation with PARTY TWO as provided in subsections G and H.

F. This right shall expire at the end of the Term of this Agreement as provided in Section V. The term of this Agreement shall be automatically extended for any period of delay in the timber harvest activities resulting resulting from an event of force majeure, such as weather, natural disaster, acts of GOD, or other such events beyond PARTY ONE's control.

G. PARTY TWO retains the right to recommend, implement or enforce reasonable route and access planning, access road construction, use criteria, maintenance scheduling and standards, alternate routing options, and types and quantities of use of existing or future PARTY TWO constructed roads where applicable, but shall not unreasonably limit, restrict or make unavailable any necessary or ordinary access as presently exists or may be developed by PARTY TWO.

H. PARTY ONE recognizes that PARTY TWO is also engaged in timber harvest operations on PARTY TWO lands, and that PARTY TWO will be using the existing road and access routes discussed in this agreement, and any future road or access routes PARTY TWO constructs, for its timber harvest operations. PARTY ONE and its Operators shall work diligently to minimize impact or conflicting scheduling of road or right-of-way usage, including access road construction, for the purposes granted under this Agreement. If PARTY ONE's and/or its Operator's use of existing PARTY TWO roads or access routes (or roads or access routes hereafter constructed by PARTY TWO or PARTY TWO's operators) causes damage or deterioration beyond that which would occur without PARTY ONE's use, PARTY ONE and/or its Operators shall pay the additional repair or

maintenance costs. Alternatively, PARTY ONE or its Operators may perform the repairs. The parties anticipate that PARTY ONE and/or its Operators will enter into a road maintenance agreement with PARTY TWO and/or its operators regarding these road maintenance costs. Any road construction or maintenance on PARTY TWO land will use only gravel and sand purchased from PARTY TWO.

I. PARTY ONE understands that this Agreement provides only for specific access rights for a term certain, and gives no rights not specifically provided herein. PARTY TWO assumes no liability for, and makes no warranties, guarantees, or statements of fitness, availability or future availability of, roads, proposed roads or the condition thereof.

J. PARTY ONE and/or its Operators will at all times carry adequate insurance coverage for all their personnel, equipment and facilities so as to fully protect PARTY TWO from any claims of liability, personal injury, death or damage resulting from the acts or omissions of PARTY ONE or its Operators. PARTY ONE and the Operators shall defend, indemnify and hold harmless PARTY TWO from any claims, suits, causes of action, injuries or damages arising out of or related to the activities of PARTY ONE or its Operators.

02/10/93 LEGISLATIVE TELECONFERENCE NETWORK SYSTEM LTN1150
08:56:01 PARTICIPANT LIST (ALL PARTICIPANTS) BY:ANC
TCN:30210 SCHEDULED FOR:02/10/93 08:00 TO 10:00 FOR:ANC
PUBLIC HEARING HOUSE RESOURCES

LOCATION:ANCHORAGE

OVERVIEW OF SP	JEFF	GRAHAM	DNR-DOF	OBSERVE
OVERVIEW OF SP	BELINDA	CONNOLLY	ADVOCACY SVCS	OBSERVE
OVERVIEW OF SP	LANCE	TRASKY	ADF&G	OBSERVE
OVERVIEW OF SP	PETER	MAASSEN	MARATHON/UNOCAL	OBSERVE
OVERVIEW OF SP	DAVE	WALLINGROOD		OBSERVE
OVERVIEW OF SP	ROGER	BURNSIDE		OBSERVE
OVERVIEW OF SP	CLIFF	EAMES	AK CNTR FOR ENVI	OBSERVE
OVERVIEW OF SP	R.B.	STILES	D&R VENTURES	OBSERVE
OVERVIEW OF SP	JEFF	JESSEE MENTAL HEALTH ?	ADVOCACY SVCS	TESTIFY
OVERVIEW OF SP	RICK	TESSANDORE	ADVOCACY SVCS	OBSERVE
OVERVIEW OF SP	GEORGE	ROTHSCHILD	MARATHON	OBSERVE
OVERVIEW OF SP	LOISANN	REEDER	SUSITNA VALLEY	OBSERVE
OVERVIEW OF SP	STEVE	ALBERT		TESTIFY

Steve Gibson
1622 Highland Drive
Homer 99603
235-6487

HOUSE RESOURCES COMMITTEE

DATE: 2/10/93

PLACE: Capitol, Room 124

SUBJECT OF MEETING:
Spruce Bark Beetle Briefing (SBB)
Committee Discussion of Mental Health Lands Settlement

	NAME	REPRESENTING	BUSINESS/PERSONAL MAILING ADDRESS	ZIP	(H) PHONE	(W) PHONE	DO YOU WANT TO TESTIFY?		WHAT SUBJECT/ WHICH BILL?
(1)	Dan Golden	State of Ak	3601 C Street, Suite 1008	99503	243-4733	762-2123	(Y)	N	SBB
(4)	John Torgerson	Kenai Borough	35322 Spirit Way Soldotna	99669	262-6192	262-4902	(Y)	N	Bags
(5)	Ron Somerville	ADF&G	Juneau			465-4100	Y	(N)	Available for questions
							Y	N	
(2)	Steve Albert test. from Anch. LIO						Y	N	
(3)	Steve ~~Albert~~ Gilbert test. from Homer LIO		1622 Highland Drive		235-6487 Homer	99603	Y	N	
							Y	N	
							Y	N	
							Y	N	
							Y	N	
							Y	N	

CDQ

Briefing

2-17-93

CDQ Delegation
February 17, 1993

Aleutian Pribilof Island Community Development Association

Mark Snigaroff - APICDA chairman, commercial fishermen, president of the Andreanof Electric Corporation, member of the Atka city council, board member for the Aleutian-Pribilof Islands Assn., Atxam Corporation, and Bering Sea Commercial Fisheries Development Foundation.

Bristol Bay Economic Development Corporation

Robin Samuelsen, Jr. - BBEDC chairman, Natural Resources Coordinator for the Bristol Bay Native Association, former member of the Alaska Board of Fisheries, lifelong Bristol Bay commercial driftnetter.

Norman Anderson - BBEDC vice-chairman, Naknek village administrator, Bristol Bay commercial setnetter.

Central Bering Sea Fishermen's Association

Perfinia Pletnikoff, Jr. - CBSFA president, Advisory Panel member for the North Pacific Fisheries Management Council, commercial fisherman.

William Arterburn - Executive vice-president of Pribilof Bering Seafood, Ltd., managing organization for CBSFA.

Kjell Rokke - Chief executive officer for American Seafoods Company, Seattle.

Bernt Bodal - Executive vice president for American Seafoods Company, Seattle.

Coastal Villages Fishing Cooperative

Fred Phillip - CVFC board treasurer, commercial fisherman from Kwigillingok.

Norton Sound Economic Development Corporation

John Jemewouk - NSEDC executive director, lifelong resident of Elim, previously held positions as president of the Norton Sound Health Corporation, president KEG Fisheries Co., president Elim Native Corporation, an officer of the Elim IRA Council, and manager Elim Fish Processing Co-op.

Yukon Delta Fisheries Development Association

Laurentia Mike - YDFDA board member, Kotlik City Council member, subsistence fisheries participant.

Pius Akaran - YDFDA board member, Kotlik mayor, Kotlik Traditional Council member, vice chairman of Kotlik Yupik Corporation, Advisory School Board chairman, commercial and subsistence fisherman.

Edwin Glotfelty - YDFDA executive director, former Emmonak city manager, 25 years of experience in rural Alaska community administration and economic development.

Mark Springer - YDFDA consultant, Hooper Bay resident, Emmonak Tribal Council consultant on processing plant project.

Karl Ohls - Coordinator - Fisheries Development Specialist for the Baring Sea Fishermen's Association.

Community Development Quota (CDQ) Program

The Community Development Quota (CDQ) is a fisheries development program between the North Pacific Fisheries Management Council (NPFMC), the State of Alaska and 55 rural coastal communities along the Bering Sea coastline. Through a cooperative working approach, pollock groundfish quota was reserved for Alaska rural coastal communities. Between 1992 and 1995, 7 1/2% of available pollock quota is set aside for competitive application from groups of eligible communities.

After forming applicant groups, regional associations incorporated for the purposes of fisheries development enterprises. Business plans were prepared and applications submitted to the state for review and recommendation to the U.S. Secretary of Commerce.

Federal and state regulations govern operations of the CDQ program, including organization requirements, listings of eligible communities, goals and objectives of applicant entities, reporting requirements and overall performance stipulations. The necessary public hearings were held throughout this process and transcripts compiled.

Initially, the CDQ program addresses the pollock groundfishery, the most lucrative biomass available within the Bering Sea groundfish fishery. Subsequent entry into halibut and sablefish (black cod) is underway. Further incursions into Pacific cod and crab resources are being actively considered and fully supported by the Hickel administration.

Proceeds derived from partnership arrangements with industry are required to be reinvested in fishery development projects, either within the applicant's region or as additional investment in the larger Bering Sea fisheries arena. Employment of local residents is required. Testimony by state officals and both state and federal regulations insist that operations be *active* not passive. Mere sale of quota and receipt of *dividends* will not be tolerated; all parties to the program are fully warned of this requirement. State and federal regulations provide measures for suspension or termination of quota awards should the state recommend such to the Secretary. Failure of applicant groups to reasonably perform according to regulations could trigger such action.

Annual quota amounts to approximately 101,450 metric tons, with an estimated value of $20 M, not including direct employment benefits.

Prepared by: John M. Walsh, Deputy Director
Department of Community and Regional Affairs Date: January 29, 1993

CDQ CHRONOLOGY
WHAT WE HAVE DONE

1. November 1, 1991 — DCRA & ADF&G bring CDQ issue to Rural Sub-Cabinet.

2. January 1992 — Governor gives direction to Rural Sub-Cabinet to move forward on approval of CDQ's.

3. March 1992 — Governor writes letter to Secretary of Commerce and makes call to EPA Administrator Reilly on inshore/offshore amendment (includes CDQ)

4. April 1992 — The North Pacific Fisheries Management Council (NPFMC) approves our State CDQ criteria and procedures.

   The NPFMC action did 2 things:

   1. Gave Alaska the go ahead to draft State Regulations;
   2. Gave direction to the National Marine Fisheries Service to draft Federal Regulations.

   In order to speed the Federal Regulatory Process, the State paid for the Environmental Assessment Regulatory Impact Review required by the Federal process.

5. May 1992 — Governor secures funding for CDQ implementation and operations: FY92 $100K, FY93 $200K

6. May - Sept. 1992 — DCRA, ADF&G and DCED work with National Marine Fisheries Service on proposed Federal regulations.

7. October 23, 1992 — Public Comment period on Federal Regulations completed.

8. November 18, 1992 — Secretary of Commerce approves Federal Regulations.

9. November 18, 1992 — State Emergency Regulations adopted.

10. November 25, 1992 — CDQ Application review completed and Governor makes findings and recommendations to Secretary.

11. November 27, 1992 — CDQ Applications submitted to National Marine Fisheries Service for review.

12. December 1, 1992 — Governor's Recommendations received in Washington D.C. for Final Approval of U.S. Department of Commerce Secretary.

13. December 3, 1992 — Dr. Fox at U.S. Department of Commerce signed findings and recommendations for Secretary of Commerce. Signing action filed in the Federal Register.

14. December 3, 1992 — National Marine Fisheries Service in Juneau officially notifies Governor of Secretary's decision and alerts CDQ applicants with authorization to fish.

Community Development Quota Program

Project Group	Aleutian Pribilof	Bristol Bay	Central Bering Sea	Coastal Villages	Norton Sound	Yukon Delta
Communities Involved	Atka, St. George, Nelson Lagoon, False Pass, Nikolski	Aleknagik, Clark's Point, Dillingham, Egegik, Ekuk, Manokotak, Naknek, Pilot Point, Port Heiden, Savonoski/King Salmon, South Naknek, Togiak, Twin Hills, Ugashik	St. Paul	Chefornak, Eek, Hooper Bay, Kongiganak, Mekoryuk, Nightmute, Quinhagak, Toksook Bay, Tuntutuliak, Chevak, Goodnews Bay, Kipnuk, Kwigillingok, Newtok, Platinum, Scammon Bay, Tununak	Savoonga, Gambell, Elim, Golovin, Inalik/Diomede, Koyuk, Shaktoolik, Nome, St. Michael, Stebbins, Teller, Unalakleet, Wales, Brevig Mission, White Mountain	Alakanuk, Emmonak, Kotlik, Sheldon's Point
Eligibility	To be eligible, communities must be located within 50 miles of the Bering Sea Coastline, and must have no existing bottomfish industry					
Management Organization	Aleutian Pribilof Islands Community Development Association	Bristol Bay Economic Development Corporation	Pribilof Bering Seafoods for Central Bering Strait Fishermen's Association	Coastal Villages Fishing Cooperative	Norton Sound Economic Development Corporation	Yukon Delta Fisheries Development Association
Private Partners	Trident/Starbound	Ocean Trawl	American Seafood and Icicle	Golden Age	Glacier Fish	Golden Alaska
Vessels	Aldebaran* Columbia* Pacific Viking* Viking Explorer* Arcturus* Starfish* Nordic Star* Starbound (F/T) * catcher boats delivering fish to Akutan	Northern Hawk Northern Eagle Norther Jaeger (All F/T)	American Empress American Dynasty American Triumph American Champion Pacific Explorer Pacific Scout (All F/T)	Brown's Point (F/T)	Northern Glacier (F/T) Pacific Glacier (F/T)	Golden Alaska (M/S) American Beauty Ocean Leader Aleutian Challenger Sheldon Point (CVs)
Amount Allocated MT	18,260.10	20,289	10,144.50	27,390.15	20,289	5,072.25
Amount Allocated %	18%	20%	10%	27%	20%	5%
Project Duration	Two Years	Two Years	Two Years	Two Years	Two Years	Two Years
Employment	At least 40 individuals in CDQ program; additional employment from capital projects	60 full time in CDQ operations; 20 internships; additional 125 post-CDQ operations (minimums)	20-25 directly involved with CDQ harvest, plus 1993: 102; 1994 229	25-35 year-round hires for 1992; 50-70 by 1995; plus 15 graduate workers in 1994	Up to 40 FTEs in CDQ operations; at least 538 permanent FTE, PT and seasonal jobs by end of CDQ program	Up to 50 FTEs by 1995 in CDQ operations; up to 230 in post-CDQ operations
Training	Budgeted $300,000 per year to support training programs	50 students in basic vocational training per year; 8-10 in advanced vocational training per year; 3-4 scholarships of $5,000 -$10,000 each per year	25 on-the-job trainees on factory trawlers annually; 3-10 maritime service trainees annually; $100,000 scholarship fund; internships will be available at ASC offices; other training planned	12-18 management internships annually at GAF; scholarship fund of 5% of net CDQ profits; other training and career counseling	300 people trained for various positions in shoreside plants or on factory trawlers plus endowment for education and training	25 training initiatives for 250 residents by 1995, plus annual scholarship program
Infrastructure Enhancement	Build/improve two docks; dredge one harbor; build one small process plant; expand width of a runway; build gear warehouse; expand gear storage pad; build one slaughter house and one cattle ranch; aquaculture and mariculture enchancement	Create a business extension service for fishermen; provide matching fund for state capital projects; provide funds for fisheries development	Build new groundfish /crab processing plant and develop and complete harbor and community infrastructure	Build a training facility and salmon processor	Revitalize local fish processing facilities in four communities and other projects such as ice-delivery systems and small processing units	Two value-added processing and cold storage plants; small business fisheries infrastructure financing fund
Capital/Equity Generation	Vessel/IFQ purchase fund of 20% after-tax revenue. $154 per metric ton plus 33% of gross revenues from roe.	70% of CDQ proceeds to Seafood Investment Fund; 30% to community development programs. Minimum royalties are about $180 per metric ton roe fish and $132 per metric ton for non-roe fish, or 60% of CDQ profits, yielding up to about $12 million.	70% of CDQ royalties to infrastructure; 30% of royalties to vessel acquisitions and loan guarantees. $265 per metric ton of CDQ fishery, totalling about $19 million.	50% equity in FV Brown's Point; 50% equity in FV Barbara Lee. Additional revenues to develop infrastructure. Benefits of about $20 million over two years plus $10.5 million from salmon plant.	Royalties in excess of $200 per metric ton, totalling about $15 million over two years.	Royalty fee of $250 per metric ton, totalling about $9 million over two years.

Norton Sound Economic Development Corporation
Bering Strait Region Community Development Plan
State of Alaska
Briefing Materials

February 17, 1993

BACKGROUND

• Norton Sound Economic Development Corporation (NSEDC) is a regional economic development nonprofit corporation made up of fifteen villages in the Bering Strait region of northwestern Alaska including: Brevig Mission, Diomede/Inalik, Elim, Gambell, Golovin, Koyuk, Nome, St. Michaels, Savoonga, Shaktoolik, Stebbins, Teller, Unalakleet, Wales, and White Mountain.

• NSEDC was originally incorporated in 1989 with the general purpose of promoting economic development opportunities primarily for Norton Sound. In June 1992, the organization was restructured to expand membership within the region, to focus its activities on fisheries related activities, and to qualify as a Community Development Quota (CDQ) applicant and managing organization. The NSEDC Board of Directors is made up of one representative from each member community with officers elected by the full board.

• NSEDC selected Glacier Fish Company as its CDQ partner to harvest CDQ pollock and support efforts to successfully implement fisheries development programs.

• NSEDC received allocations for 1992 and 1993 equal to 20% of the CDQ pollock reserve or about 20,000 metric tons per year. NSEDC is managing this allocation and fisheries development programs in the best interest of member communities using CDQ fishing revenues as seed money for NSEDC's fisheries development program funding.

Fisheries Development Programs

• Pioneer *new markets for salmon and herring* starting in 1993 when Glacier Fish Company will buy and market 1,500 tons of herring and all species of salmon including pinks;

• Provide *low interest loans starting this spring for the region's fishermen* interested in buying local salmon and herring permits, purchasing fishing gear, and upgrading their fishing boats;

• Set up a program for *training up to 80 residents of the region each year* in skills needed to work on offshore fishing boats and in shoreside fish processors, and help them get *jobs in the fishing industry*;

• *Award scholarships* each year to residents interested in gaining advanced education and technical school training in fisheries related area;

• Work with the school district to *establish salmon incubation and hatchery programs in every school* in the region, and increase the number of commercial herring and salmon fisheries workshops;

• Establish a construction fund to *revitalilize shoreside fish processing* in Unalakleet, Shaktoolik, Golovin and Moses Point, and explore building others in the region;

• *Purchase a fishing vessel* capable of catching and processing halibut, black cod, and others and tendering or processing salmon and herring;

HOUSE RESOURCES COMMITTEE

DATE: Wed. 2/17/93

PLACE: Capitol, Room 124

SUBJECT OF MEETING:
(1) CDQ Briefing with House Special Comm. on Fisheries
(2) EO 86

NAME	REPRESENTING	BUSINESS/PERSONAL MAILING ADDRESS	ZIP	(H) PHONE	(W) PHONE	DO YOU WANT TO TESTIFY?		WHAT SUBJECT/ WHICH BILL?
John Jemewouk	NSEDC	Box 89 Elim Alaska	99739	907 890-3071	907 890-2248	Y	N	CDQ
Norman N. Anderson	B.B.E.D.C.	Box 112 Naknek Alaska	99633	246-4423	246-4215	Y	N	C.D.Q.
Fred K Phillip	CVPC	Box Kwigillingok Ak.	99622	588 8320	588 8114	Y	N	CDQ
Robin Samuelson	BBEDC	Box 412 Dlg	99576		842-5257	Y	N	CDQ
Mark Snigaroff	APICDA	P.O. Box 47207 Atka	99547	c/o Lacey Cotton	586-3107	Y	N	CDQ
Laurentia Mike	YDFDA	P.O. Box 20269	99620	899-4220		Y	N	CDQ
Karl Olds	DSFA	725 Christensen Anchorage 99	99501		279-6519	Y	N	
EDGAR BLATCHFORD	DCRA	150 SEWARD STREET				Y	N	CDQ
Clark Gruening	St. Paul	212 Second St. Juneau	99501		586-8110	Y	N	CDQ
Geron Bruce	ADF&G				465-6143	Y	N	E.O. 86
John Walsh	ADF&G	Gen'l Del.				Y	N	
* Mark Spriggs	ADF&G	Hooper Bay	99604		758-4535			