AGRICULTURE DAY 1

Fairbanks, Alaska. 1925.

"We went on to visit a three-hundred-and-twenty acre truck farm on the very edge of Fairbanks. This is a homestead taken up fifteen years ago by Stacia Rickert, the wife of a business man in Fairbanks. Mr. Rickert has built here a very pretty cabin surrounded by flowers, and his home is as well furnished and as comfortable as that of any well-to-do farmer of the States. He has cleared about one fourth of the land, and the farm is one of the show places of Alaska. The ground is as flat as a floor and as green as the valley of the Nile. He is now cutting oat-hay, of which he has many acres. He has also great fields of barley and potatoes, the latter in full bloom.

The Rickert farm supplies a great part of Fairbanks and ships vegetables to the towns and the mining camps for miles around. It sends green stuff to Hot Springs and Fort Gibbon as well as to the gold mines of the Iditarod and Ruby.

The gardens of this farm cover twenty or thirty acres. As we walked through them I asked about the crops, and was told that there were in the ground twenty thousand cabbages, thirty thousand stalks of celery, and some acres of head lettuce. The celery, which is especially fine, grows to a height of four feet. Some of it was sent to Montana a few years ago to show what Alaska could do, and President Taft sampled it during his trip through that state. He declared it the finest he had ever tasted. As we went through one of the fields I pulled up a cabbage and put it on the scales in the greenhouse. It weighed twenty-six pounds.

There are several hothouses each devoted to a different crop. There is one which is one hundred and twenty feet long that grows melons only, including watermelson, casabas, and cantaloupes. The cantaloupes sell for a dollar a pound, and some of them bring four or five dollars. The vines are trained upon wires running along under the glass and from the beds up to the roof. From these wires the melons hang down, the heavier ones being supported by slings to prevent their breaking the vines. In other hothouses tomatoes, peppers and cucumbers are grown."[1]

-from Alaska, Our Northern Wonderland
F. Carpenter
Chicago, 1925

OFFICE OF THE GOVERNOR

earing and Preparation Agreement
rk Estimate Form

Contractor: _____

_____

Alaska Business License No. ____

_____

Contract: _____

EARING ACTIVITY	AREA WORKED	ACRES	$/ACRE	PAY
obilization	N.A.		10	
urvey			8	
nock-down			45	
ake/Pile, close berms (<150')			52	
ake/Pile, distant berms (>150')			67	
reak & Clean-up tillage strips			15	
st Burn, distant berms			10	
inal Clean-up			10	
otal earned this Estimate Period.....				
ub-total from Previous Estimate.....				
ub-total.....				
etainage.....				
ayment due this Estimate Period.....>				

Contractor Certification:
I certify that the amount indicated on this form cover work performed within the terms of the contract for which payment is requested.

Agent: _____

Date: _____

Contracting Officer Certification:
I certify that the work for which payment claim is made o this form was done within the terms of the contract and funding thereto.

Contracting Officer:

_____

Date: _____

ayment Voucher # _____
ate paid to contractor by mail _____

ccumulated Retainage $_____ = _____%

isbursal payable to: _____

ddress: _____

_____

DISTRIBUTION:
1. _____
2. _____
3. _____
4. _____

(8)

4. Farm Development Plan. (a) Purchaser agrees to clear and prepare Class II and Class III land in the parcel that is cleared for use, in accordance with the attached specifications and the following schedule:

(3)

Phase I - At least 1/3 of the work required to complete Phase III of this paragraph shall be completed by May 31, 1980.

Phase II - An equivalent of at least 60% of the Class II and Class III land in the parcel shall be cleared, broken and prepared for the planting of crops by May 31, 1981.

Phase III - An equivalent of at least 90% of the Class II and Class III land in the parcel shall be cleared, broken and prepared for the planting of crops by May 31, 1982.

(b) It is the duty and obligation of Purchaser to comply with and carry out the Farm Development Plan in full accordance with the specifications and schedules set forth in (a) of this Paragraph and any other directions issued by Seller in a manner satisfactory to Seller. Failure to do so constitutes a breach of this Contract under Paragraph 20 and subjects Purchaser to the remedies provided therein. Purchaser shall comply with and carry out the Farm Development Plan through his own means unless he selects one of the optional means provided in Paragraph 4A under the terms set forth therein.

4A. Optional Methods of Carrying Out Farm Development Plan. (a) Option I. Purchaser may arrange to have Phases I, II, or III (or a combination thereof) performed by Seller provided that Seller determines that sufficient funding, manpower, and equipment are available for Seller to conduct such operations. If Purchaser elects this Option, he shall first enter into a Repayment Agreement with Seller (attached is Appendix A to this Contract) under terms agreeable to Seller. Purchaser's obligation to repay the State and to otherwise perform under the Repayment Agreement is incorporated into the Contract as an integral part thereof, and shall be included as a term of any conveyance of the Parcel within the meaning of 11 AAC 57.020. Failure to repay and otherwise perform under a Repayment Agreement during the life of this Contract constitutes a breach thereof by Purchaser, and failure to perform thereafter constitutes a breach of the terms of the conveyance, subjecting Purchaser to the remedies set forth in 11 AAC 57.030. Purchaser agrees in advance to accept any work performed by Seller under Option I as completed regardless of whether it is satisfactory to Purchaser. The Seller reserves the right to perform any work under Option I through an independent contractor.

(b) Option II. Purchaser may arrange to perform Phases I, II, or III (or a combination thereof) under contract with Seller provided that Seller determines that sufficient funding is available. If Purchaser elects this Option, he shall first enter into a Repayment Agreement (as described in (a) of this Paragraph and attached as Appendix A to this Contract) and a Clearing and Preparation Agreement (attached as Appendix B to this Contract) under terms agreeable to Seller. Purchaser's obligation to repay the Seller and to otherwise perform under the Clearing and Preparation Agreement and the Repayment Agreement to the satisfaction of Seller is incorporated into this Contract as an integral part thereof. There shall be no conveyance of the Parcel until Purchaser has performed to the satisfaction of Seller under a Clearing and Preparation Agreement. Failure to perform by Purchaser to the satisfaction of Seller under either a Clearing and Preparation Agreement or a Repayment Agreement constitutes a breach of this Contract by Purchaser. Purchaser's obligation to repay and otherwise perform under a Repayment Agreement shall be included as a term of any conveyance of the Parcel within the meaning of 11 AAC 57.020, and failure to perform after any conveyance constitutes a breach of the terms thereof, subjecting Purchaser to the remedies set forth in 11 AAC 57.030. Seller will not approve as completed any phase or portion thereof of the Farm Development Plan covered by a Clearing and Preparation Agreement until Purchaser's performance under said agreement is to the full and complete satisfaction of Seller.

Outline of Testimony of USDA REPRESENTATIVE James E. Fisher

Before Resources Committe of the House of Representatives

I very much appreciate the opportunity to appear before the House Resources Committee at a time when I can combine a trip to an Alaska Rural Development Council meeting which will be convening tomorrow in Juneau's Baronoff Hotel. I would invite you to that meeting.

I understand the Committee desires a summary of the role of U. S. Department of Agriculture in Alaska. Those activities can best be described in the private sector as cooperative and supportive, technical assistance for soil, water, and related resource inventory. Those are the basic approaches which appear to be so desperately needed in Alaska at this time. For example, an estimated 5.8 percent of Alaska has been surveyed with sufficient detail to determine the agricultural potential of its soils. While one would not expect farming on mountain tops, there are still huge areas of which we do not have a reasonable detailed knowledge of soil, water, and related resources.

For the purpose of these remarks I will use two agencies for descriptive purposes. They are State and Private Forestry of USDA - Forest Service and of USDA - Soil Conservation Service. State and Private Forestry has made an inventory of the timber resources in the NANA Region. That is not an area commonly thought of as supporting much in the way of timber resources. However, a survey of timber available up in that area outline a subsistance use for existing timber and the manner in which it could be utilized on a continuous and reasonable basis.

In an adjacent area of the Seward Peninsula, the Soil Conservation Service has advised on ranch plans for reindeer herders. Such plans involve range surveys on a variety of federal, state, and private lands, a

program in which the state is cooperating. The ultimate objective is to determine the carrying capacity of the range lands. That is information which can be used for both reindeer and wildlife. Specifically compared to historical functions, in Alaska, USDA can frequently take preventive action, for example in soil conservation efforts, rather than corrective or remedial action as has been so common in the south forty-eight states. The USDA agencies try to be sensitive to such opportunity and continuously operate in that mode.

The U. S. Department of Agriculture is the lead federal agency for rural development under statutory mandate. In that connection its agencies have supported the Alaska Rural Development Council for over fifteen (15) years in sustained and substantial fashion. The Council has counterpart local groups such as the Kenai Peninsula Rural Development Council and the Tanana Vally Rural Development Council, which meet quarterly. Rural Development is an ongoing process which involves small farms and subsistance agriculture such as is being encouraged by the Koyukon Development Corporation at Galena, Alaska, the Tanana Chiefs Conference at Fairbanks, Kuskokwim Native Association at Aniak, and the Marston Foundation Project in northwest Alaska, as well as the NANA-Rural Ventures activities at Selawak.

Essentially the USDA is in the position of supporting the activities and priorities established by the state. While an overall agricultural/rural development policy has not yet been established by Alaska, it appears the state is moving towards such a declaration. The U. S. Department of Agriculture agencies stands ready to assist in the formulation of such policy and its declaration and to support the execution of those policies upon their official determination.

* * * * * * * * * * * * * * * *

TABLE A

PROJECTED VALUE OF AGRICULTURAL PRODUCED 1981-1990

Product	81	82	83	84	85	86	87	88	89	90
Barley	2,200.0	4,600.0	6,100.0	8,800.0	19,100.0	27,400.0	34,300.0	48,400.0	63,400.0	79,500.0
Hogs	-	800.0	2,200.0	3,800.0	6,100.0	8,800.0	11,800.0	12,600.0	13,900.0	14,200.0
Cattle (Beef)	-	400.0	900.0	2,000.0	3,300.0	4,900.0	6,200.0	8,800.0	12,400.0	17,400.0
Dairy	4,000.0	4,200.0	5,900.0	9,200.0	11,200.0	13,300.0	1,730.0	18,000.0	18,600.0	19,300.0
Reindeer	400.0	450.0	600.0	1,000.0	1,100.0	1,300.0	1,800.0	2,100.0	2,400.0	27,000.0
Vegetables	2,127.7	2,300.0	2,500.0	3,100.0	3,400.0	3,700.0	3,700.0	4,100.0	4,500.0	5,000.0
Misc. Ag	2,129.8	2,300.0	2,500.0	3,100.0	3,400.0	3,700.0	3,700.0	4,100.0	4,500.0	5,000.0
Village	232.1	464.2	696.3	928.4	1,160.5	1,392.6	1,624.7	17,000.0	1,800.0	2,000.0
Employees (#)	344	522	656	894	1,547	1,941	2,405	3,545	4,192	4,829
TOTAL $	11,089.5	15,510.2	21,400.3	31,330.4	48,160.5	63,810.6	80,420.7	99,800.0	121,500.0	145,100.0

Produced by Dr. Wayne Thomas, U of A
Experiment Station and Department of Natural Resources

DESCRIPTION: B & M RSA LOG NO.: _____

THE Alaska Agricultural Action Council (AGENCY) HEREBY REQUESTS THE FOLLOWING SERVICES TO BE PERFORMED BY THE Div. of Forest, Land & Water Mgmt., Dept. of Nat. Resources (AGENCY)

PROJECT OR PROGRAM TITLE: Point MacKenzie Agricultural Project Planning Costs

DESCRIPTION OF SERVICE TO BE PROVIDED: To reimburse the Southcentral District, Division of Forest, Land and Water Management, for the management planning costs for the sale of the Point MacKenzie Agricultural Project

TERMS AND MECHANICS OF REIMBURSEMENT: Reimbursement will be made upon completion of the tasks as outlined and enumerated on the attached sheet which constitutes a part of this reimbursable services agreement.

DATE WORK TO COMMENCE: 8/4/80 DATE COMPLETION REQUIRED: 12/31/80

I. BUDGETING AND ACCOUNTING INFORMATION:

THIS SERVICE REQUIREMENT ☐ WAS ☒ WAS NOT DOCUMENTED IN THE REQUESTING AGENCY'S BUDGET. (REF: _____ BUDGET, PAGE NO. _____)

THIS SERVICE REQUIREMENT ☐ WAS ☒ WAS NOT DOCUMENTED IN THE SERVICING AGENCY'S BUDGET. (REF: FY_____ BUDGET, PAGE NO. _____)

REQUESTING AGENCY ACCOUNT NUMBER(S) TO BE CHARGED: (1) 01-71-1-132 CONTINUING FUNDS? ☐ YES ☐ NO IF YES, AUTHORITY?: Ch 90, SLA 80

(2) _____ CONTINUING FUNDS? ☐ YES ☐ NO IF YES, AUTHORITY?: _____

REQUESTING AGENCY ENCUMBERANCE NUMBER: _____

II. SCHEDULE OF MAXIMUM COSTS TO BE INCURRED:

OBJECT OF EXPENDITURE	ORIGINAL AGREEMENT	ALL PREVIOUS AMENDMENTS	THIS AMENDMENT	TOTAL
PERSONAL SERVICES	~~$6,300.00~~			~~$6,300.00~~
OTHER: Travel/per diem	500.00			500.00
Legal Ads	400.00			400.00
Public Offering	800.00			800.00
~~Public Hearing~~	~~400.00~~			~~400.00~~
Brochure	600.00			600.00
Admin. Costs	2,000.00			2,000.00
TOTAL MAXIMUM COST:	~~$11,000.00~~			~~$11,000.00~~

(Back-up is attached as documentation.)

III. APPROVALS AND CERTIFICATIONS:

1. REQUESTING AGENCY:

IN ADDITION TO AGREEING TO THE ABOVE STIPULATIONS, I CERTIFY, BASED ON THE ABOVE COST SCHEDULE, THAT SUFFICIENT FUNDS ARE AUTHORIZED AND AVAILABLE TO PAY THIS OBLIGATION, THAT THE ACCOUNTING CODE(S) TO BE CHARGED HAS (HAVE) A BALANCE SUFFICIENT TO COVER THIS OBLIGATION AND THAT A BALANCE WILL BE MAINTAINED IN THIS (THESE) ACCOUNT(S) SUFFICIENT TO PAY ANY AGENCY OBLIGATIONS ESTABLISHED BY THIS AGREEMENT.

AUTHORIZED SIGNATURE _____ DATE 9/2/80

2. SERVICING AGENCY APPROVAL:

AUTHORIZED SIGNATURE _____ DATE _____

3. DIVISION OF BUDGET AND MANAGEMENT APPROVAL:

AUTHORIZED SIGNATURE _____ DATE _____

02-098 (Rev. 4/79)

It is agreed that the Division of Forest, Land and Water Management, Alaska State Department of Natural Resources, will perform the following tasks to accomplish the disposal on March 1, 1981, of the tracts in the Point MacKenzie Agricultural Project:

1. Hold public hearings in such times and places as required by law and transcribe and make available to the public the recordings made at those hearings.

2. Prepare and have published the legal notices required for the disposal of those lands.

3. Develop, print and distribute as needed by the public a brochure containing the pertinent information that is available and may be required by the public regarding the disposal of those lands.

4. Reserve specific tracts within the Project as designated by the Alaska Agricultural Action Council for sale for dairy production only.

5. Conduct the actual disposal of those lands by lottery to qualified applicants on March 1, 1981.

6. Develop and sign sales contracts with those persons who purchase tracts in the Project. The sales contracts will include, as a condition of sale, the farm development plan approved by the selection committee of the Alaska Agricultural Action Council as part of the eligibility requirements to participate in the lottery.

It is further agreed that all items listed above will be carried out in cooperation with the Alaska Agricultural Action Council. In instances in the disposal process where the law allows optional courses of action, then the option desired by the Alaska Agricultural Action Council will be determined by the Division and will be utilized.

HOMER SOIL CONSERVATION SUB-DISTRICT

Box 415 · Homer, Alaska 99603

RECEIVED FEB 17 1981

February 9, 1981

Bob Palmer, Chairman
Alaska Agricultural Action Council
Office of the Governor
Pouch AN
Juneau, Alaska 99811

Dear Chairman Palmer and Agricultural Action Council:

The Homer Soil Conservation Sub-District would like to thank you for holding a hearing in Homer, January 23, 1980, to examine the agricultural potential of Red Meat production and the possibility of a "Delta" type agricultural project to get a meat industry going here.

The Soil Survey and Forage Inventory should be finished this spring and be ready for interpretation. We feel it is the time for an Economic Feasibility Study to be done, which Nick Carney, at the meeting, indicated the Division of Agriculture could fund. We would like to encourage your group to push for that as we feel it will show a viable healthy red meat industry is possible here.

Thank you,

Peter C. Roberts
Vice-Chairman

PCR:rw

cc: Robert C. Pollock
Paul Huppert
Chuck Weber
Robert E. LaResche, DNR
Ted Smith, DNR
James Drew, AES
Dominic Carney, DA
W. E. Long, SCS
An Peischel, HRC
Milton Turkington
Larry Farnen
Leo Rhode
Tony Swartz
Debbie Robertson, DFI&WM

RECEIVED [illegible]

MEMORANDUM State of Alaska

DEPARTMENT OF NATURAL RESOURCES, DIVISION OF AGRICULTURE

TO: Ag Action Council

DATE: February 6, 1981

FILE NO:

TELEPHONE NO: 376-3276

FROM: Nick Carney
Director

SUBJECT: Soil Rectification

We have an opportunity to have the soil maps for the Nenana area rectified, thereby allowing them to be plugged into the computer and the computer will be an invaluable asset when planning farm layout, road locations, and the general plans for expansion of the initial phase. Total cost of rectification will be $12,000 and covers the entire 600,000 acres of potential ag lands in the area.

I recommend we fund this project from remaining Nenana funds.

ESTIMATED EMPLOYMENT

SUPPORTED BY DELTA AG PROJECT

DURING SECOND YEAR OF DEVELOPMENT

1.	On Farms - Salaried employment	
	A. Self employed owner/contractors	17
	B. Employees of owner/contractors	32
	C. Independent clearing contractors	12
	D. Misc. (farm contruction, seasonal labor)	19
2.	Infrastructured and Misc.	
	A. Machinery (Craig Taylor, Pioneer Equip., M&J equip., N.C. Equip., Evans)	10
	B. Transportation	4
	C. Customs officials/brokers	
3.	Farmers Cooperative Staff	
	A. Management full time	1
	B. Labor full time	2
	part time	4
	C. Office Staff full time	1
	part time	1
	D. Store full time	1
	part time	8
	E. Construction Crew	6
4.	Administrative Staff	
	A. Office of the Goverror/AAAC	4
	B. USDA	3
	C. Extension Service	2
	D. Misc. governmental (ADL, Div. of Ag.)	3
	E. University	4
5.	Roadway Construction/Mainter nce	4
	A. Hanson Road work-Swenson	9
6.	Fuel supplies to project	2
	A. Estimated 500,000 gallons delivered = 50-75 loads	
	Total	145

ESTIMATED EMPLOYMENT

SUPPORTED BY DELTA AG PROJECT

DURING FIRST YEAR OF DEVELOPMENT

1.	Gross Project Survey	
	Party of approximately 15 for 90 days	15
2.	On Farms	
	A. Self employed owner/contractors	15
	Employees of owner/contractors	56 - some 25% worked more than one tract
	B. Independent contractors	8 employees counted above
	C. Surveyors (2 mos. work each)	7
3.	Roadways Construction	
	A. Preliminary work (rights-of-way, pit clearing) (4 contractors)	10
	B. Survey work	4
	C. Construction	27
4.	Co-op Staff	
	Manager	1
	Elevator crew	2
	Store employees	5
	Trucking	4
	Elevator construction crew	10
5.	Fuel supplies to project	
	Estimated 500,000 gallons delivered = 50-75 loads = 2-3 men work year	2
6.	Administration Staff	
	Office of the Governor	2
	USDA	3
	Extension Service	2
7.	Infrastructured and Misc.	
	A. Machinery (Craig Taylor, Pioneer Equip., M&J equip., N.C. Equip., Evans)	5
	B. Transportation	2
	C. Customs officials/brokers	
Total		180

From Mike Gilleland; In additon to Exec. Summary figures:

1979

Direct ag employment	1265 people

(USDA says this is peopoe directly involved in ag production)

Instate feed dealers, processors, etc. (Mat Maid, Ak Feed & Grain, etc.)	243
USDA Cooperative Extension Service	82
FHA	10
SCS	49
Ag Stabilization & Conservation Service	8
USDA TOTAL	149
Division of Ag	20
Divison of Lands	8
TOTAL 1979	1685 people
and add 180 people that we have on Govern'rs Exec Summary sheet	180
	1865

1981

listed on separate page

1981 Projections

1375 direct ag related jobs	
Road construction & Survey	41
Export Terminal Construction	65
Transfer site construction	22
Nenana preliminary work	14
AAAC staff	5
Clearing Work in Delta	10
Clearing Pt MacKenzie	46
Ag related studies (state funded) Nenana, etc.	18
Machinery Suppliers	12
Fuel Suppliers, Delta/Pt MacK	6
USDA Cooperative Exten Serv	82
FHA	10
SCS	49
ASCS	8
Division of Ag	22
Division of Lands	12
Instate feed dealers/process., Miscellaneous (slaughterhouse employees)	291
TOTAL	2,088

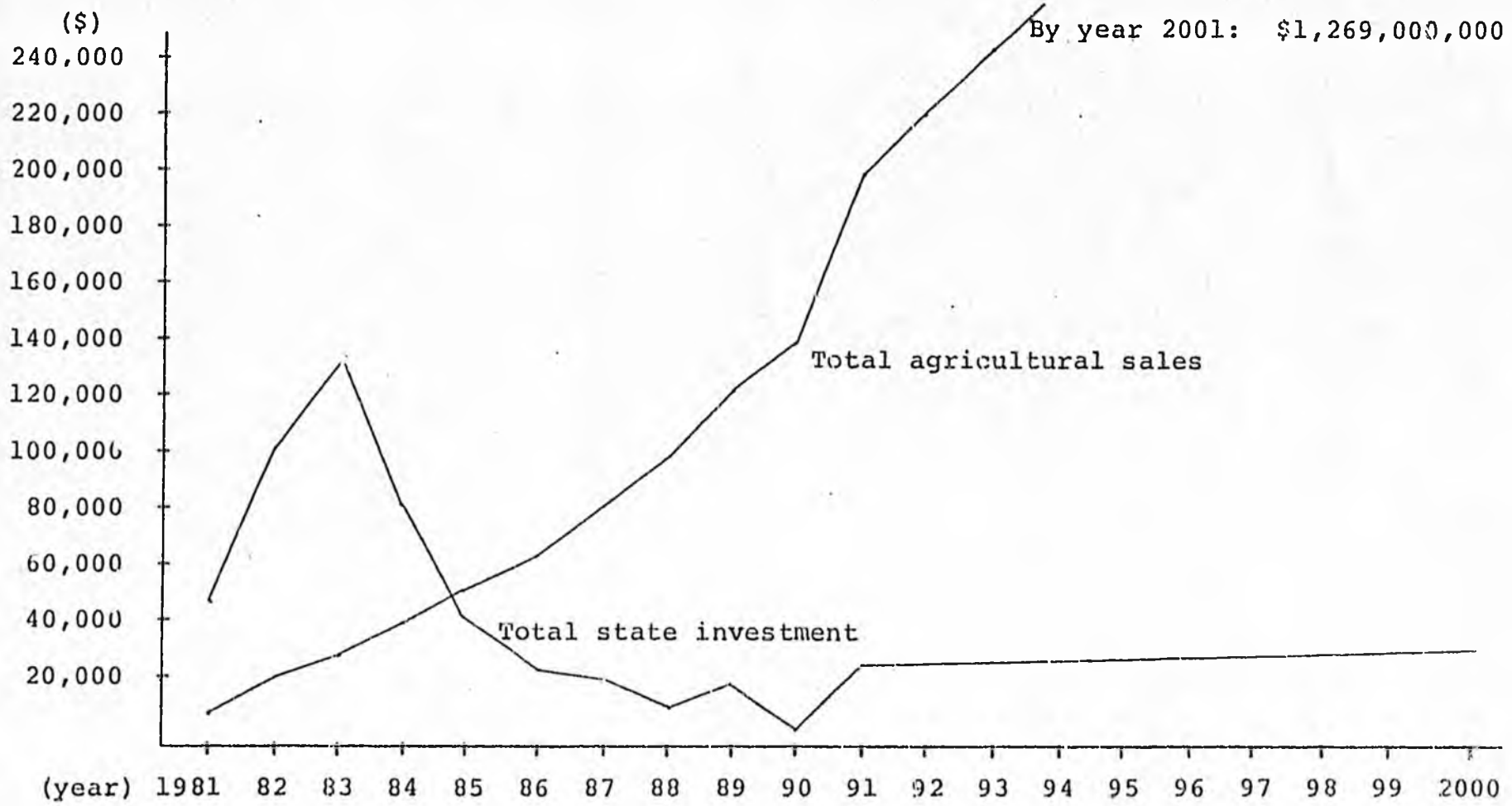


FIGURE A: Comparison of Total Agricultural Sales to Total State Investment: 1981-2000 AD.

Table BB. Total State Investment and Total Agricultural Sales, 1981-90 and 2000 (1981 dollars)*

Year	Total State Investment	Total Agricultural Sales
1981	$ 45,000,000	$ 11,300,000
1982	102,600,000	15,500,000
1983	129,000,000	21,400,000
1984	78,500,000	31,300,000
1985	40,900,000	48,200,000
1986	28,200,000	63,900,000
1987	19,600,000	80,400,000
1988	14,200,000	99,800,000
1989	17,800,000	121,500,000
1990	12,100,000	145,100,000
Subtotal	$487,900,000	$ 638,400,000
Year 2000	275,900,000	631,000,000
TOTAL	$763,800,000	$1,269,400,000

*Land area in 1990, 500,000 acres in production; in 2000, 1,000,000 acres in production.

COOPERATIVE EXTENSION SERVICE

UNIVERSITY OF ALASKA
FAIRBANKS ALASKA 99701

February 25, 1981

TO: Alaska Agricultural Action Council
FR: Mike Harker, Resource Economist
Cooperative Extension Service
RE: Policy Information Needs in Alaskan Agricultural Development

Attached in tabular form is my completed economic analysis of a development scenario wherein Alaskan agriculture can be made a modern, competitive, self-perpetuating industry by the turn of the decade. This analysis is premised on two basic factors:

1. The Nenana Livestock Report prepared by Featherstone, Inc. concludes that at full capacity operation a livestock industry in Alaska is viable.

2. Based on a $160./ton tidewater price for barley and with a total land transportation not in excess of $28.00/ton, if total drying, country elevator and export elevator tariffs do not exceed $26.00/ton, grain production is viable. This is based on an assumed yield equal to the national average of 1.14 tons/acre. Based on a production cost of $105 per acre, this scenario would provide a $30,000 return above costs for a barley farmer with 2,000 acres in production.

In Table 1, a tariff of $6.71 per ton is shown to cover all costs of operation for the proposed export facility based on projected put-through volumes. Table 3 shows $18.33 to be the tariff necessary in country elevators to cover all costs based on the same volume projections. This total of $25.04 is below the $26.00 total margin for these operations as allowed for above.

In the case of the slaughter facility (see Table 3) fixed tariffs of $16.13/head for swine and $44.64/head for beef will cover all costs when plant is operated at capacity. Similarly, in Table 4, a tariff (excluding feed costs) of $20.54/head of beef will cover all facilities costs at capacity.

Analytic method was to assume that the tariffs for these key agricultural support sector businesses would be fixed at the levels required for payment of all costs when operating at capacity.

Because the facilities are operated at less than capacity through the initial development years, per unit costs are greater than the assumed fixed tariffs, thus resulting in deficits. The cumulative deficits are listed on each of Tables 1 through 4 and estimate is made of the length of years of interest forgiveness on initial investment necessary to offset deficits.

Table 5 provides a schedule of investments necessary to bring production on line at the rate necessary to comply with the operating volumes budgeted in the 4 agricultural support sector businesses. Delta I scheduling is 16,000 acres in 1981, 30,000 acres in 82 and 36,000 acres thereafter. Delta II scheduling is 5,000 acres, 15,000 acres and 27,000 acres respectively in 1983,1984, 1985 and thereafter. Nenana I is scheduled for 5,000 acres in 1984 and 27,000 thereafter. Nenana II is 15,000 acres, 50,000 acres and 77,000 acres respectively in 1985,1986 and 1987.

Point MacKenzie calls for 10,000 acres released for dairies in 1981. Clearing, however, would take place over 4 years and actual dairies would be developed at a rate of 5 in 1981, 10 in 1982, and 5 in 1983, each 150 cow units.

144 sow swine facilities would be developed at a rate of 9 in 1983, 11 in 1984, and 10 in 1985.

Beef production would expand over a 7 year period from 19 to 1988. 5,000 heifers would be purchased in 1982 and again in 1983 and the balance of approximately 10,000 more head of breeding stock would be produced over the following 5 years from the initial seed stock.

Total investment required through 1988, as shown in Table 5 is $159 million. This, however, does not include land clearing costs which are $60.27 million as noted in Table 6. Also, as noted in Table 8, the farm sector would need to invest $32 million to purchase state lands at the current price of $100/acre.

Under this scenario, investment requirements would be completed by 1988 and the industry would be fully self-supporting except the slaughter and feedlot facilities which would require two more years (until 1990) to become fully self-supporting.

It would be anticipated that the industry would continue to grow thereafter, but the true development period would be past

and expansion would result from free-market economic response.

The final table, Table 8, depicts the entire industry that is envisioned. Those sections which are shaded were included in this analysis. Other sectors are expected to evolve unaided in response to economic opportunity either during or after this decade.

JMH:lc

DRAFT

BARLEY PRODUCTION COSTS PER ACRE

Delta Agricultural Project
Delta Junction, Alaska
1980

	UNIT PRICE	LOW COST		HIGH COST		AVERAGE COST	
		Units/ Acre	$/Acre	Units/ Acre	$/Acre	Units/ Acre	$/Acre
Seed:	$17.30/cwt.	65 lbs.	$10.40	82 lbs.	$14.76	71 lbs.	$12.29
Fertilizer:			36.73		47.77		41.41
urea	200.00/ton	230	23.00	174	17.40	188	
9-36-18	318.00	84	13.15	190	29.64	138	
applicator rental	4.00		.63		.73		
Fuel:			2.83		4.24		3.60
tillage	.94/gal.	.61 gal.	.57	1.14 gal.	1.07		
fert. (tractor)	.94	.20	.19	.28	.26		
" (truck)	1.05	.18	.19	.13	.14		
seeding (tractor)	.94	.30	.28	.50	.47		
" (truck)	1.05	.06	.06	.04	.04		
harvest (combine)	.94	1.00	.94	.86	.81		
" (truck)	1.05	.00	.00	1.38	1.45		
" (semi)	.94	.65	.60	.00	.00		
Repair & Maintenance			3.81		6.61		5.01
Hired Labor	9.00/hr.	1.38 hrs	12.42	1.89 hrs.	17.01	1.56 hrs.	14.04
interest on operating capital			1.64		2.24		1.91
TOTAL OPERATING COST			$67.88		$92.63		$78.26
Equipment Depreciation			15.25		32.30		21.44
Interest on Equipment Investment			6.86		14.53		9.65
TOTAL VARIABLE COST			$89.99		$139.46		$109.35
Machinery Storage Building Depreciation			1.10		2.47		1.79
Interest on Machinery Storage Building			.99		2.22		1.61
Interest on Land Investment			12.90		12.90		12.90
TOTAL COST OF PRODUCTION PER ACRE			$104.98		$157.09		$125.65

Delta Agricultural Project
Delta Junction, Alaska
1980

(10)

	UNIT PRICE	LOW		HIGH		AVERAGE	
		Units/ Acre	$/Acre	Units/ Acre	$/Acre	Units/ Acre	$/Acre
SEED:	$18/CWT	65 lbs.	11.70	82 lbs	14.76	73 lbs	13.23
FERTILIZER:			36.10		47.04		41.57
Urea	$200/Ton	230		174		202	
8-32-20	312/Ton	84		190		137	
FUEL:[c/]			2.92		4.02		3.77
Tillage	$.95/Gal	.611/Gal	.58	.44 Gal	.42		
Fert. (Tractor)	.95	.20	.19	.35	.34		
" (truck)	1.20/Gal	.18	.21	.18	.21		
Seedng (Tractor)	.95	.30	.29	.25	.24		
(Truck	1.20	.06	.08	.06	.08		
Harvest (Combine)	.95	1.0	.95	1.00	.95		
(Truck)	.95	-0-	-0-	1.48	1.78		
(Semi)	1.20	.65	.62	-0-	-0-		
REPAIR/MAINTENANCE			4.50[d/]		4.50[d/]		4.50[d/]
HIRED LABOR	$9/Hr.	1.38 hr	12.46	1.41 hr	12.69	1.38 hr	12.55
TOTAL OPERATING COST			67.62		83.01		75.62
DEPRECIATION EXPENSE			16.78[e/]		32.30[e/]		24.54[e/]
Interest on equip. investment			7.55[f/]		14.53[f/]		11.04[f/]
TOTAL VARIABLE COST			91.95		129.84		111.20
Interest on land investment			12.90[g/]		12.90[g/]		12.90[g/]
TOTAL COST OF PRODUCTION PER ACRE			104.85		142.74		124.10

Total cost per ton, assuming a yield of 1.5 tons per acre, is thus: Low - $69.90/Ton
High - ~~88.45~~/Ton 85.1
Average - 82.73/Ton

a/ Prepared by J. Michael Harker, Resource Economist, Cooperative Extension Service, University of Alaska, Fairbanks.
b/ Cost estimates are based on information provided in personal interview with a sample of project farmers.
c/ Fuel costs are based on estimated price of $.95/Gal. and $1.20/Gal. for Number 2 diesel fuel and gasoline, respectively.
d/ Estimated for Alaska from data provided in The Costs of Owning and Operating Farm Machinery in Washington, E.M. 4035, Cooperative Extension Service, Washington State University, Pullman, 1976.
e/ Depreciation calculated as straight line, assuming a ten-year life with 20% salvage value.
f/ Interest on investment calculated at 6%.
g/ Calculated at 6% based on a $215 per acre cleared land value.

TABLE 1 Operating Budget: Export Facility

YEAR	81	82	83	84	85	86	87
TONNAGE	11,000	23,762	29,269	38,918	85,099	108,651	128,526
OWNERSHIP COSTS:							
Interest on Investment	171,000	171,000	171,000	171,000	171,000	171,000	171,000
Depreciation	188,100	188,100	188,100	188,100	188,100	188,100	188,100
Property Insurance	113,000	113,000	113,000	113,000	113,000	113,000	113,000
General Maintenance	20,000	20,000	20,000	20,000	20,000	20,000	20,000
Subtotal	492,100	492,100	492,100	492,100	492,100	492,100	492,100
OPERATING COSTS:							
Inventory Insurance	2,000	4,000	6,000	8,000	18,000	24,000	30,000
Management & Labor	52,500	75,450	85,041	102,875	198,679	253,664	300,067
Utilities	2,000	4,752	5,854	7,784	17,019	21,730	25,705
Miscellaneous	1,000	2,000	3,000	4,000	9,000	12,000	15,000
Subtotal	57,500	86,202	99,895	122,659	242,698	311,394	370,772
TOTAL COST	549,600	578,302	591,995	614,759	734,798	803,494	862,872
Total cost per ton	49.96	24.34	20.23	15.80	8.63	7.40	6.71
Fixed Tariff (assumed)	6.71	6.71	6.71	6.71	6.71	6.71	6.71
Deficit Per Ton	(43.25)	(17.63)	(13.52)	(9.09)	(1.92)	(.69)	(0.00)
Total Deficit	(475,750)	(418,424)	(395,717)	(353,765)	(163,390)	(74,969)	
Cumulative Deficit	(475,750)	(894,174)	(1,289,891)	(1,643,656)	(1,807,046)	(1,882,015)	

NOTE: A six year mortorium on interest reduces ownership costs by:
(5,700,000) (6) (.06) = $2,052,000
Such a moratorium will offset all cumulative deficit associated with low volumes in initial years of operation.

Table 2. Operating Budget: Country Elevators

	81 and prior	82	83	84	85	86	87
Investment at Delta	1,182,835	467,165	1,650,000				
Investment at Nenana				1,650,000	1,650,000	1,650,000	
OWNERSHIP COSTS:							
Interest on Investment	35,485	49,500	99,000	148,500	198,000	247,500	247,500
Depreciation	39,033	54,450	108,900	163,350	217,800	272,250	272,250
Total Operating Costs	315,687	546,845	810,669	1,134,420	1,952,975	2,577,940	2,999,833
Total Cost	390,205	650,795	1,018,569	1,446,270	2,368,775	3,097,690	3,519,583
Total Cost Per Ton	21.68	18.59	21.67	22.60	19.58	19.24	18.33
FIXED TARIFF	18.33	18.33	18.33	18.33	18.33	18.33	18.33
Deficit Per Ton	(3.35	(.26)	(3.34)	(4.27)	(1.25)	(.91)	0
Total Deficit	(60,300)	9,100	(156,980)	(273,280)	(151,250)	(146,510)	0
Cumulative Deficit	(60,300)	(69,400)	(226,380)	(499,660)	(650,910)	(797,420)	

Assumptions: $1.65 million contruction cost for 40,000 ton facility. Operating cost is for all drying and handling. Therefore tariff is actually an average rate for handling tariff, average storage and drying costs.

Note: Allowing for forgiveness of interest on the total investment of $8.25 million for the initial 2 years on each plant will offset all deficits.

(i.e.; (8,250,000) (.06) (2 years) = $990,000

Table 3. Operating Budget: Slaughter Facility
Plant Investment $3,517,900
Plant Opening July, 1984

Year	84	85	86	87	38	89	90
Head of Pork	11,788	47,772	69,812	70,000	70,000	70,000	70,000
Head of Dairy Beef	1,025	1,895	2,300	2,300	2,300	2,300	2,300
Head of Beef	2,850	5,700	6,755	8,864	15,520	22,413	23,700
OWNERSHIP COSTS:							
Interest on Investment	52,769	105,537	105,537	105,537	105,537	105,537	105,537
Depreciation	87,948	175,895	175,895	175,895	175,895	175,895	175,895
OPERATING COSTS:							
Manager's Salary	32,501	65,000	65,000	65,000	65,000	65,000	65,000
Other O.C. (Pork)	294,932	859,783	956,193	956,200	956,200	956,200	956,200
Other O.C. (Beef)	272,411	491,577	568,045	665,955	889,736	985,060	987,480
Total Cost	740,560	1,697,792	1,870,670	1,968,587	2,192,368	2,287,692	2,290,112
Total Cost/hd. Pork	32.37	21.62	16.18	16.13	16.13	16.13	16.13
Fixed Tariff	16.13	16.13	16.13	16.13	16.13	16.13	16.13
Deficit/hd. Pork	(16.24)	(5.49)	(.05)	-0-	-0-	-0-	-0-
Total Cost/hd. Beef	92.65	87.76	81.86	75.17	59.65	46.87	44.64
Fixed Tariff	44.64	44.64	44.64	44.64	44.64	44.64	44.64
Deficit/hd. Beef	(48.01)	(43.12)	(37.22)	(30.53)	(15.01)	(2.23)	-0-
Total Deficit	(377,476)	(588,902)	(340,518)	(340,837)	(267,478)	(55,110)	-0-
Cumulative Deficit	(377,476)	(966,378)	(1,306,896)	(1,647,733)	(1,915,211)	(1,970,321)	

Note: Requires 9½ year moratorium on interest for viability.
i.e.; (9.5 yr.) (.06) (3,517,900) = $2,005,203

Table 4: Operating Budget: Feed Lot

	84	85	86	87	88	89	90
	2,350	4,700	5,570	7,309	13,526	20,028	21,182
OWNERSHIP COSTS:							
Interest	9,000	9,000	9,000	9,000	15,000	15,000	15,000
Depreciation	15,000	15,000	15,000	15,000	25,000	25,000	25,000
Subtotal	24,000	24,000	24,000	24,000	40,000	40,000	40,000
OPERATING COSTS:							
Management	40,000	40,000	40,000	40,000	40,000	40,000	40,000
Other	39,175	78,349	92,852	121,841	225,478	333,867	353,104
Subtotal	79,175	118,349	132,852	161,841	265,478	373,867	395,104
Total Cost[1]	103,175	142,349	156,852	185,841	305,478	413,867	435,104
Total Cost/hd.[1]	43.90	30.29	28.16	25.43	22.58	20.66	20.54
Fixed Tariff[1]	20.54	20.54	20.54	20.54	20.54	20.54	20.54
Deficit/hd.	(23.36)	(9.75)	(7.62)	(4.89)	(2.04)	(.12)	-0-
Total Deficit	(54,896)	(45,825)	(42.443)	(35,741)	(27,593)	(2,403)	
Cumulative Deficit	(54,896)	(100,721)	(143,164)	(178,905)	(206,498)	(208,901)	

[1]Does not include feed.

7 year moratorium necessary to affect deficits of operation through development period
(500,000) (.06) (7) = $210,000

Table 5. Facilities, Buildings, Equipment and Stock Investment Schedules

	81 & prior	82	83	84	85	86	87	88
FARM & RANCH INVESTMENT								
Delta I								
Buildings	432,000	778,000	162,000					
Equipment	2,560,000	240,000	960,000					
Delta II								
Buildings			135,000	270,000	324,000			
Equipment			800,000	1,600,000	1,920,000			
Nenana I								
Buildings				135,000	594,000			
Equipment				800,000	3,520,000			
Nenana II								
Buildings					270,000	945,000	594,000	
Equipment					2,400,000	5,600,000	3,520,000	
Point MacKenzie								
Facilities	6,208,555	12,417,110	6,208,555					
Crop Equipment	750,000	1,500,000	750,000					
Stock	720,000	2,344,000	2,712,000	1,272,000	184,000			
Swine Production								
Facilities			5,000,000	5,500,000	5,000,000			
Stock			900,000	990,000	900,000			
Beef Production								
Facilities & Equip.		4,830,000	4,830,000	1,787,100	3,574,200	4,235,910	3,775,128	1,326,318
Stock		6,666,667	6,666,667	2,405,000	4,810,000	5,700,500	5,080,400	1,784,900
Subtotal	10,670,555	30,375,777	29,124,222	14,759,100	23,496,200	16,481,410	12,969,528	3,111,218
INFRASTRUCTURE INVESTMENT								
Feedlot				300,000				200,000
Slaughter Facility	1,172,633	1,172,633	586,387	586,317				
Country Elevators								
Delta	1,182,835	467,165	1,650,000					
Nenana				1,650,000	1,650,000			
Export Facility	5,700,000							
Subtotal	8,055,468	1,639,798	2,236,317	2,536,317	1,650,000	1,650,000		200,000
Total	18,726,023							
Cumulative Total	18,726,023	32,015,575	31,360,539	17,295,417	25,146,200	18,131,410	12,969,528	3,311,218
	18,726,023	50,741,598	82,102,137	99,397,554	124,543,754	142,675,164	155,644,692	158,955,910

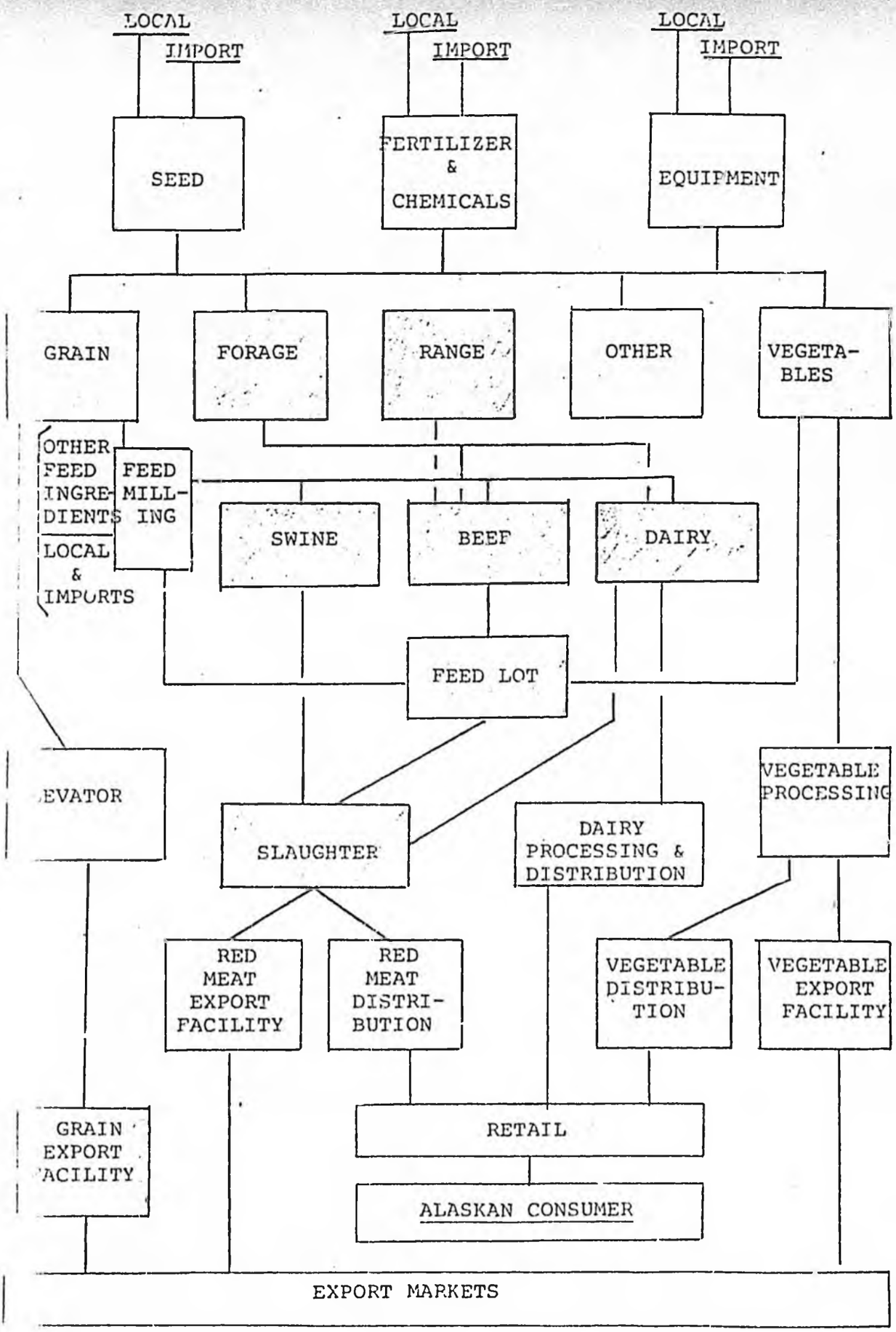
Table 6. Landclearing Costs Investment Schedule

	81 & prior	82	83	84	85	86	87
Delta I $165./acre	7,425,000	1,485,000					
Delta II $165./acre		1,237,500	2,475,000	2,970,000			
Nenana I $165./acre			1,237,500	5,445,000			
Nenana II $165./acre				3,712,500	8,662,500	6,682,500	
Point MacKenzie $230./acre	287,500	862,500	862,500	287,500			
Range and Hayland (Cattle)($165./acre)	3,300,000	3,300,000	1,221,000	2,442,000	2,894,100	2,579,280	906,180
Total	11,012,500	6,885,000	5,796,000	14,857,000	11,556,600	9,261,780	906,180
Cumulative Total	11,012,500	17,897,500	23,693,500	38,559,500	50,107,100	59,368,880	60,275,060

Table 7. Land Purchase Costs Investment Schedule[1]

	81 & prior	82	83	84	85	86	87
Delta I @$51/acre	2,958,000						
Delta II @$100/acre	4,000,000						
Nenana I @$100/acre		4,000,000					
Nanana II @$100/acre			10,000,000				
Point MacKenzie @$100/acre	1,000,000						
Range & Hayland (Cattle) $100/acre	2,000,000	2,000,000	740,000	1,480,000	1,754,000	1,563,200	549,200
Total	9,958,000	6,000,000	10,740,000	1,480,000	1,754,000	1,563,200	549,200
Cumulative Total	9,958,000	15,958,000	26,698,000	28,178,000	29,932,000	31,495,200	32,044,400

[1]This is capital required for land investment at prices currently set by state policy. However, it is money to be paid to the state for purchase of land from the state.


LOCAL
IMPORT
LOCAL
IMPORT
LOCAL
IMPORT
SEED
FERTILIZER & CHEMICALS
EQUIPMENT
GRAIN
FORAGE
RANGE
OTHER
VEGETA-BLES
OTHER FEED INGRE-DIENTS
LOCAL & IMPORTS
FEED MILL-ING
SWINE
BEEF
DAIRY
FEED LOT
EVATOR
SLAUGHTER
DAIRY PROCESSING & DISTRIBUTION
VEGETABLE PROCESSING
RED MEAT EXPORT FACILITY
RED MEAT DISTRI-BUTION
VEGETABLE DISTRIBU-TION
VEGETABLE EXPORT FACILITY
GRAIN EXPORT ACILITY
RETAIL
ALASKAN CONSUMER
EXPORT MARKETS

The Farmer January 17, 1981

Farmland will continue to shrink, says economist

THERE APPEARS to be no slackening in the trend toward larger U.S. farms, says Karl T. Wright, professor emeritus of ag economics at Michigan State University. At the same time, he adds, the number of persons able to make a living solely from farming 100 to 500 acres is shrinking.

Primary culprit is the rising cost of doing business — inflation — which will continue to force dramatic changes in the farm production of food and fiber. Wright believes that, by the year 2000, total U.S. farmland will have shrunk from just over one billion acres in 1974 to about 964 million acres. Greatest reduction will come in what he calls the "middle-class" farm.

"Farms of 100 to 219 acres declined from 27% of the total number of U.S. farms in 1959 to 23% in 1974," Wright says. "Farms of this size are projected to decline to 17% of the total farms by 2000. This size farm simply cannot survive on its own merits."

Farms of 200 to 499 acres made up about 18% of the total in 1959 and are projected to make up 15% of all farms by 2000, Wright adds.

Some of the lost farms will be absorbed by larger farm operations. Wright points out that farms of 500 to 999 acres accounted for only 5% of all U.S. farms in 1959 but are expected to account for 10% by 2000. Farms of 1,000 or more acres likely will contain 70% of all farmland by the turn of the century, he adds.

At the other end of the spectrum — among farms of less than 100 acres — there will be only a slight drop by 2000. Currently, this size farm accounts for about 47% of all farms and is expected to remain at that level. These operations, however, will continue to be heavily supported by off-farm income.

There is little chance for a livable net farm income from sales of less than $20,000 per year," Wright points out. Farms with sales of less than $20,000 declined from 91% of all farms in 1960 to 72% in 1974. The percentage is projected to fall to 50% by the turn of the century."

The shift in farm size likely will continue the trend toward increased specialization in production. Statistics show increased numbers of farms which produce high volumes of two or three crops — corn, soybeans, wheat — rather than a variety of crops plus livestock. "From 1959 to 1974, the number of farmers reporting livestock declined 68%," Wright says. "This includes cattle and calves, milk cows, hogs and pigs, sheep or lambs and chickens. But the average number of head per farm in 1974 was approximately 2½ times the number in 1959."

There also has been what might be called specialization in the performance of services to the farm.

"More farmers now hire nonfarm specialists to perform specific services, either to save time, to save investment or to get a better job done," Wright says. "There also has been a tendency for specialization in resource ownership, with farmers concentrating their investment in machinery rather than land and expanding operations by using larger equipment and renting, as opposed to buying, more land."

Because of this concentration and specialization in farming, projections for the year 2000 call for more than 95% of the total U.S. farm production to come from farms with sales of $100,000 and over. Farms with sales of $20,000 to $99,999 will require approximately $1 million in capital investment, and economically viable farms will probably require almost $2 million per farm.

Most of these commercial farms will be family farms, but many probably will have to be operated by two or more families whose members have outstanding management abilities.

"Due to these larger farms, the correspondingly larger machinery and improved management methods, farmers will continue to be shining examples of increased productivity and efficiency," Wright says.

The trend toward higher investments required to do business disturbs Wright, because the number of dollars turned over by the farm does not necessarily indicate a high profit level.

"This trend is creating problems for young people who want to start farming," he says. "The investment required for farm machinery alone is so high that many will be excluded from farming.

"Barriers such as these, plus the problem of transfer of highly-valuable property to surviving sons or daughters who want to operate the farm, are two of the most troublesome developments confronting the farming community," concludes Wright.

(9)

Project Title	Location(s)	Area Served	Election District(s)
Grain Export Terminal	Tidewater	Statewide	Statewide

Obj. Nos.		Appropriation Request	Option 1	Option 2
	1002	Federal Receipts		
	1003	G/F Match		
	1004	General Fund		
	1005	I/A Receipts		
		G.O. Bonds		
5		RRIF	4,425.5	
		Total	4,425.5	

Operational Cost & No. Personnel Increase -- (Decrease)		Option 1 Ultimate Annual Year	Option 2 Ultimate Annual Year	Previous Yr. Priority
Funding Source	Federal Receipts			Agency Priority
	General Fund			
				Governor's Priority
Total Annual Operating Cost				
Position (FTE)				

Project Description

This project will provide the State of Alaska an economical and efficient grain export facility capable of handling the projected grain export needs up to 200,000 tons.

Project Justification

The State of Alaska currently does not have the capability of transporting commercial agricultural products to either outside foreign markets or markets on Kodiak Island and the Aleutian Chain. Agricultural development in the areas of grain production and livestock production are absolutely dependent on this ability of export.

37 POTENTIAL CAPITAL PROJECT

CATEGORY Transportation

AGENCY Office of the Governor/AAAC

PROGRAM Economic Development

Page of
Revised Date

FY 82

05304

Implement the Delta Agricultural Project Expansion

Year Achieved: 1982

Project Layout, Planning and Disposal	$ 99,100
Administrative Expenses	150,000
Survey	600,000
Construction of Access Roads: Option 1:	2,472,750
Option 2:	1,572,750
Maintenance of Roads	150,000
Initial Phase of Clearing Loan Money (Purchase of Root Rake)	4,030,000
Loan for Infrastructure Expansion	1,500,000
	$9,001,850

Continuation of Delta Agricultural Project Expansion

Year Achieved: 1983

Second Phase of Clearing	$4,000,000
Administrative Expenses	150,000
	$4,150,000

Continuation of Delta Agricultural Project Expansion

Year Achieved: 1984

Final Phase of Clearing	$5,000,000
Administration	75,000
	$5,075,000

Objective: to develop the basis for an economical and efficient transportation system specifically for agriculture by constructing a grain export terminal.

Year Achieved: 1982

Complete Facility Construction	$2,607,483
Site Preparation and Piling	400,000
*FOB Spokane, Washington	$3,007,483
**FOB Alaska	$4,210,476

*This estimate was based upon information from the Haskins Company. Preliminary plans and specifications are included, as are the qualifications of the consultants.

**This estimate is based on a 40 percent increase in cost per DOT/PF.

Project Title	Location(s)	Election Districts Served	Start Date	Completion Date
Livestock, Slaughter & Processing Fac.	Statewide	Statewide	FY 1982	FY 1983

AGENCY REQUEST			Operational Cost & No. Personnel Increase -- (Decrease)		First Operating Year ____	Ultimate Annual Year ____	GOVERNOR'S REQUEST Approved ✓	Deferred	Disapprove
1002	Federal Receipts		Funding Source	Federal Receipts			1002	Federal Receipts	
1003	G/F Match			General Fund			1003	G/F Match	
1004	General Fund						1004	General Fund	2650.0
1005	I/A Receipts						1005	I/A Receipts	
	G.O. Bonds		Total Annual Operational Cost		-- no change --			G.O. Bonds	
	RRIF	2,650.0	Position (FTE)						
			Previous Year-Priority	Agency Priority	Governor's Priority				
	Total	2,650.0	0	82-4				Total	2650.0

PROJECT DESCRIPTION

Under this project, the Alaska Agricultural Action Council will determine the basic information necessary to provide a complete, modern and efficient livestock slaughtering, processing, and marketing facility. This project will entail the administration, necessary investigations, design, engineering, and construction of the complete facility. It will also explore feed lot organization and various marketing alternatives for livestock and their by-products.

35a PROJECT DESCRIPTION – PROPOSED CAPITAL PROJECT

CATEGORY Development

AGENCY Office of Governor/AAAC

PROGRAM Economic Development

Page of

Revised Date

FY 82

06295

Capital Project Expenditures (Cash Flow)	Total	Budget Year	Budget Year Plus 1 :	Budget Year Plus 2	Budget Year Plus 3	Budget Year Plus 4	Remaining Cost
Planning and Engineering	100.0	100.0					
Land							
Construction	2,500.0	2,500.0					
Equipment							
Administration and Other	50.0	50.0					
Total Annual Expenditure (Capital Cost)	2,650.0	2,650.0					

Project Justification

Project Need Statement: It is absolutely critical that the livestock industry in the State of Alaska grow and expand to

1) provide a greater self-sufficiency for the citizens of the State;
2) utilize non-exportable grain.

It is a fact that the livestock industry cannot and will not expand without this project.

Documentation of Estimated Capital Costs: These are the best estimated costs at this time, but admittedly need considerable refinement.

Analysis of Estimated Operational Expense: Maintenance and operational costs of this project will be borne by the users.

Identification of Alternatives Considered: There are no alternatives.

Project Type

- [x] Building Construction (C)
- [ ] Other Improvement (I)
- [ ] Equipment (E)
- [ ] Land (L)
- [x] Professional Services (P)
- [ ] Other (O)

Project Characteristics

- [x] Totally New Facility
- [ ] Addition to Existing Facility
- [ ] Renovation of Existing Facility
- [ ] Major Maintenance or Repair
- [ ] Supplement Previously Authorized
- [ ] Funds to Enable Completion
- [ ] One of Several Phases
- [ ] Major External Funding Source
- [ ] Other

Site Features

NO	YES	
[x]	[ ]	Site Currently Owned?
[x]	[ ]	All Utilities Available?
[x]	[ ]	Access Already Available?

PROJECT TITLE Livestock, Slaughter & Proc.

CATEGORY Development

AGENCY Office of Governor/AAAC

PROGRAM Economic Development

Page of

Revised Date

FY 82

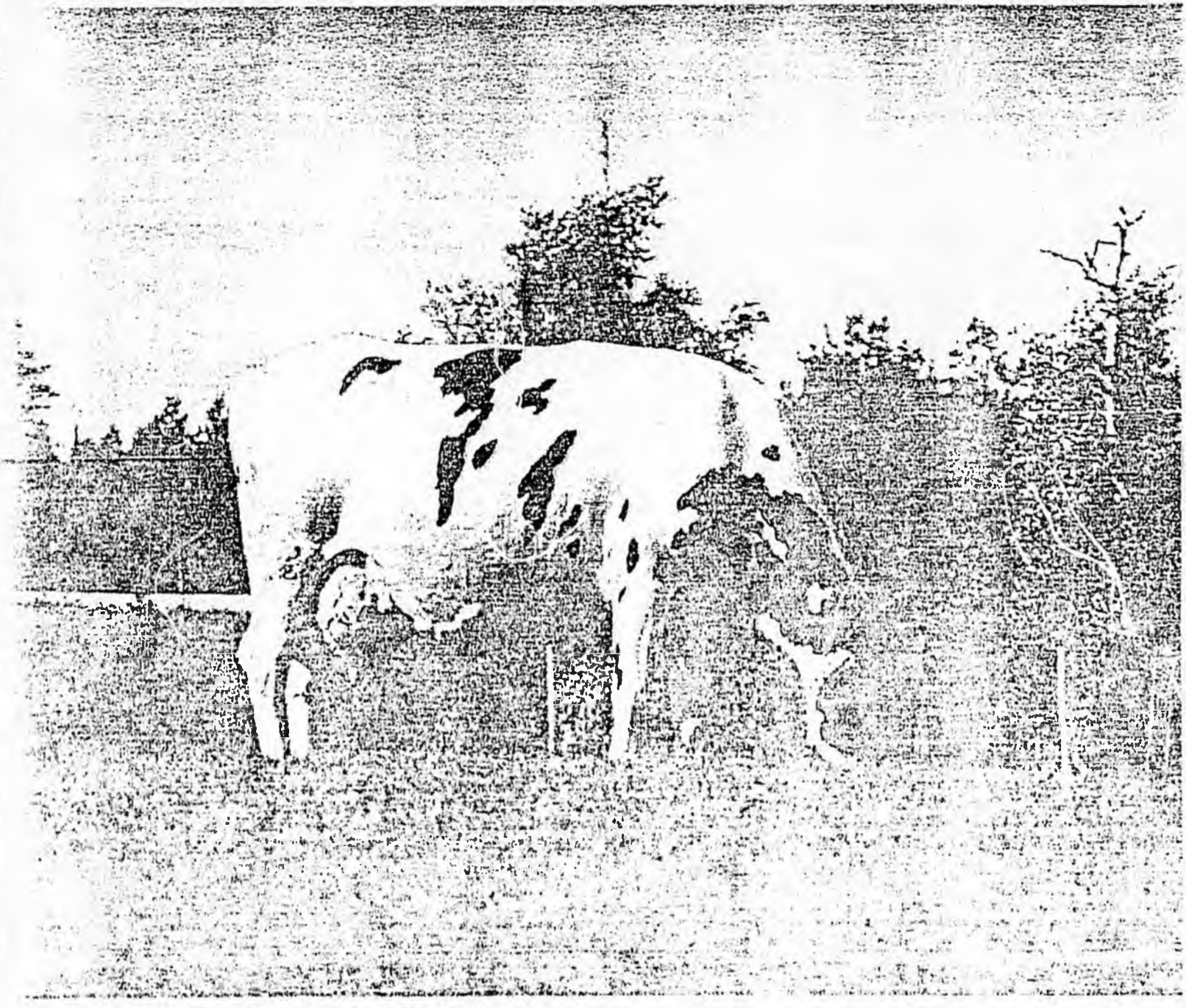
00300

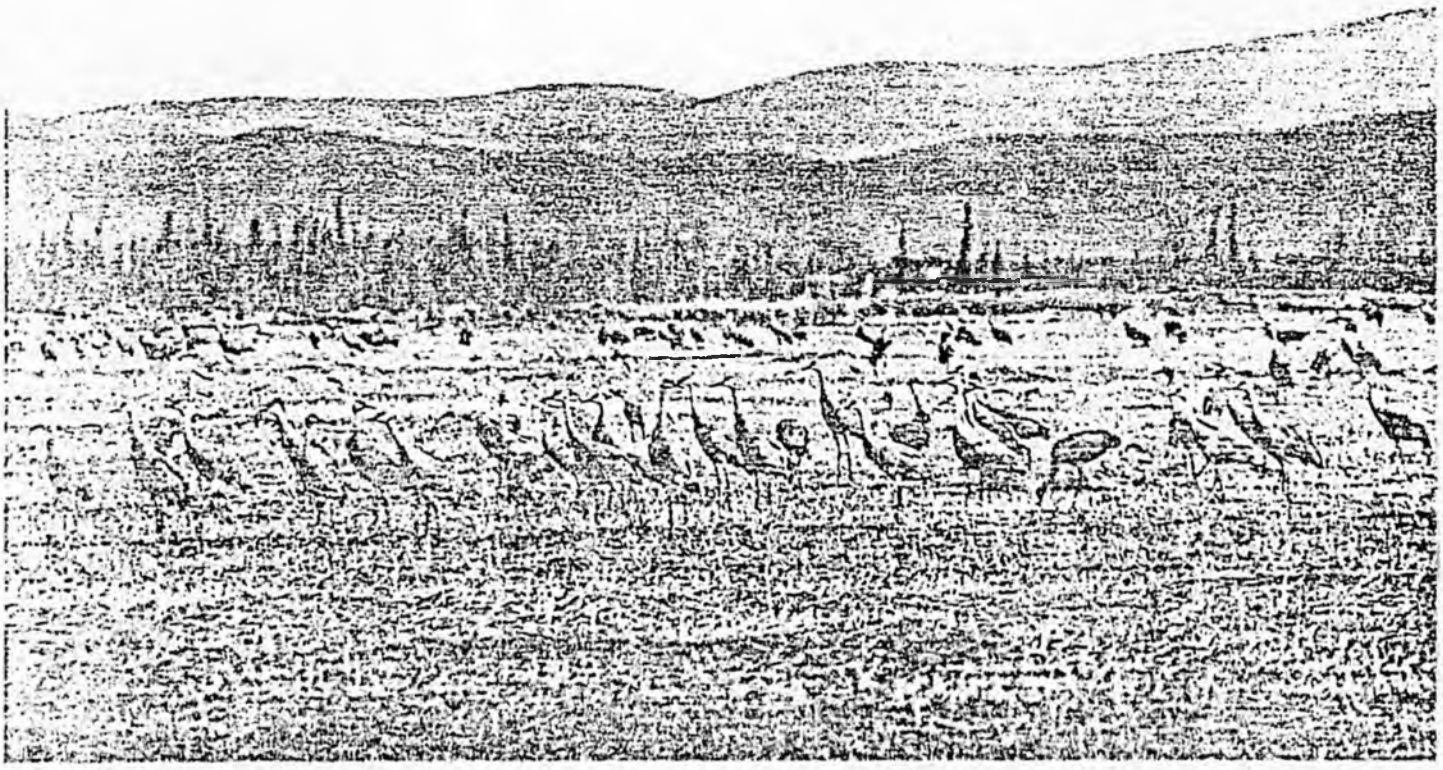
35b PROJECT JUSTIFICATION PROPOSED CAPITAL PROJECT

(8)

Agrobeads

Volume 2, January 1981





Two-thirds of the world's Sandhill Crane population migrate through Delta Junction, Alaska, in spring and again in fall. Some of these 230,000 migrants are shown on the OHM farm in Delta Junction 8 May 1978. Cranes use these fields for resting and feeding in the spring, but hunters prevent such use in the fall when the hunting season is open.

Agriculture and Wildlife

Are They Compatible in Alaska?

by

L. J. Klebesadel* and S. H. Restad**

Some interesting differences exist across our nation regarding the relationships of agricultural and wildlife interests. In [illegible] and other eastern seaboard states, wildlife and environmental interests ally themselves with farmers to keep land in agriculture in attempts to forestall urban, commercial, and industrial uses of the same land. In Alaska, however, many of the same interests currently are arrayed against agricultural development, some because they may favor wilderness over any [illegible], and because they may be unaware of [illegible] and much of Nature's wildlife [illegible].

[illegible] are not universally compatible, [illegible] grizzly bear, timber [illegible] necessary agriculture [illegible] scope of agricultural

areas. Agriculture and the coyote coexist with difficulty, but the wily, resourceful coyote has survived admirably in agricultural areas, despite the costly efforts of farmers and ranchers to drive out the coyote. Even wildlife that normally coexists with agriculture without conflict can become troublesome if crop damage becomes excessive.

But there is another side to the coin—wildlife and agriculture actually share many compatibilities. What follows here is a look at Alaskan land-use decisions, what agriculture is and does, and some of the conflicts and compatibilities between agriculture and wildlife, both in Alaska and elsewhere.

LAND-USE DECISIONS

Extremely important decisions are now being made by state and national legislators and appointed officials that will have far-reaching effects in determining the destiny of the people of Alaska and the nation. Many of these decisions involve such [illegible]

Some vocal advocates of land-use categories for Alaska that would omit agriculture urge hasty decisions in favor of wilderness and parklands.

Few areas within Alaska are suited to agriculture, but areas that are suited for agriculture have been identified and many feel strongly that these should be set aside for agricultural purposes. These people also feel that one of the few things worse than ignoring the need for wilderness, parks, and other nonagricultural areas in land-use planning would be to ignore the need for meeting mankind's most basic need—that for food—provided principally by agriculture.

The middle-of-the-road position is that, in Alaska, there is adequate room for agriculture as well as other land uses. Alaska contains 586,000 square miles or just over 375,000,000 acres, one-fifth of our nation's total area. Decisions on future land uses in Alaska must consider not only the desired area for each type of use, but the suitability of an area for the purpose intended. The U.S. Department of Agriculture's Soil Conservation Service has identified approximately 20 million acres of soils suitable for cropland in areas of Alaska where the climate is conducive to agriculture (Freeman, et al., 1974). This may seem a large area, especially since only about 30,000 acres are presently cropped in Alaska. However, these 20 million acres of potentially arable soils represent only about 5% of Alaska's total land area.

If agriculture in the state were to expand to its fullest potential, adding rangelands for reindeer and domestic livestock to the 20 million acres of cropland soils, *most* of Alaska would still be left for such other uses as National Forests, National Parks, Wildlife Refuges, Wilderness Areas, Wild and Scenic Rivers, urban and other nonagricultural uses, such as industry.

Some statements by one of America's pioneering and visionary wildlife biologists, Dr. Olaus J. Murie, especially his insight into land-use priorities, are of special interest. In a discussion of planning for Alaska's large wildlife species, Dr. Murie states:

> . . . planning for wildlife in Alaska involves a procedure that completely ignores the spirit of personal exploitation of resources. *It means careful study of land-use possibilities, on a regional basis, with an eye to determining what areas are best fitted for agriculture,* what localized places, if any, are suitable for national parks, which should be left in a primitive state for the wilderness type of recreation. Several of these needs, especially in the diverse field of recreation, can be combined in the same area, provided that the management or administrative plan is not too narrow in application. For example, conservation of caribou and mountain sheep could well be combined with *a system of wilderness areas, selected so as not to encroach on agricultural land.* These two purposes go very well together.
>
> *Above all, in planning for Alaska's big game, personnel should be called on who are competent to evaluate the emerging human needs.* (Murie, 1950, italics for emphasis are ours).

WHAT IS WILDLIFE?

Taken as a whole, "wildlife" embraces all fauna or animal life not domesticated or under direct human control; in this discussion, the term "wildlife" is used to encompass all birds and mammals, but not fish, reptiles, insects, arthropods, or other lower animal forms.

WHAT IS AGRICULTURE?

During ancient times, when human beings first began to coexist with the other fauna and the flora of this planet, all was "wildlife." Humans coexisted on a near-equal basis with the world's "wild" animals and plants. To feed themselves, humans hunted wild animals and gathered other food where and when they could find it. There was little or no disturbance of the natural environment; however, short- or long-term food scarcity leading to hunger or starvation was a never-ending problem to be surmounted.

Agriculture evolved as man's culturally contrived insurance against hunger; and it remains that today—the artificially managed production of crops and livestock from the land—ensuring a more stable and adequate food and fiber supply than was possible through hunting and gathering.

Agriculture is pursued at many levels of scale, from part-time to full-time farms and ranches, and from backyard gardens to large farm and ranch units comprised of hundreds, even thousands, of acres. And America's agriculture, often little appreciated in a nation where it has succeeded so marvelously in meeting food needs, feeds daily both its practitioners and, in addition, the vast uninvolved populace.

Agriculture is mankind's original and only truly essential industry. America's history of agricultural development and productivity is one of the greatest success stories in humanity's relatively short history. Some critics of agriculture seem to feel that there will always be adequate food in grocery stores. These critics are perhaps victims of media saturation during the 'fifties and 'sixties when crop surpluses were rampant, farm production subsidies were common, farmers were paid to take land out of production, and a general public resentment was generated against agriculture's production successes.

WHY AGRICULTURE IN ALASKA?

The United States has become a key food supplier to many nations of the world. However, per-acre crop yields that climbed steadily over the past several decades are now beginning to level off. Currently, nonagricultural developments nationwide claim each year from two to five million acres of America's best farmlands; these acres disappear to urban growth, new highways, and other developments. Demographers and others project that the growing world population will require as much *additional* food production in the next 25 to 50 years as world humanity has learned how to produce since cave-man days.

Where will that food come from? With such influences as desert advances, urban expansion, growing water shortages, and soil erosion—all of which deplete soils productivity—Alaska's considerable agricultural potential should be neither ignored nor thwarted, but thoroughly evaluated for its potential to produce food and fiber.

Alaskan agriculture currently produces less than 10% of the total food consumed in the state. Alaska's long food lifeline, dependent on long transportation routes and production in far-away areas, places this state's ever-growing populace in a precarious position, considering the future global food outlook and . . .the uncertainty Alaskans would face if military hostilities severed food-supply routes. An expanded agricultural industry in Alaska can reduce dependence on distant food supplies and provide a more diversified economic base in the state.

WILDLIFE IN AMERICAN HISTORY

The early chapters of the history of European settlement in North America read like an account of exploitation and decimation of wildlife. Before early mistakes forced the collective conscience of the nation to take stock of those errors and the values and limits of our wildlife, the passenger pigeon was gone forever.

As white settlers moved westward across the continent, the vast wildlife resources were looked upon as inexhaustible.

Uncontrolled market hunting of the American bison, that had totalled 40 to 60 million animals, reduced them to mere scattered remnants in less than 50 years (Allen, 1954). Market hunting of whitetail deer, pronghorn antelope, elk, passenger pigeon, and waterfowl also decimated those species in America, mostly during the last half of the nineteenth century.

These abuses of wildlife populations occurred because of market hunting, lack of alternative food sources for a growing human population, and absence of a conservation ethic and the laws and enforcement necessary to limit wildlife harvests to tolerable levels.

A list of endangered species around 1900 would have included the snowy egret, trumpeter swan, whooping crane, pronghorn antelope, and wild turkey. Conservation measures have brought all of these species back from the brink of extinction to the extent that thousands of the latter two species are now safely harvested each year.

AGRICULTURE AND WILDLIFE

Early depredations of American wildlife occurred at the time of, but very few directly because of, agricultural settlement in the country. It has been amply demonstrated over the last half century that much alliance and harmony, exists between agriculture and a great many wildlife species.

Over 200 million acres of the U.S. have been set aside, with wildlife production one of the primary aims. These include Wildlife Refuges, National Parks, Wild and Scenic Rivers, National Seashores, nature preserves, wilderness areas, etc. However, in some instances, agricultural lands of the United States produce and sustain more wildlife than the lands specifically set aside for wildlife and other natural values. Approximately one-half of the total land area of the conterminous 48 states consists of land in farms. Yet, this one-half of the nation's land, devoted by its owners to the main purpose of producing food and fiber, succeeds peripherally in producing and sustaining an estimated 80% of the nation's wildlife (Spencer, 1971). Could it be that agriculture and wildlife are compatible? Shouldn't most wildlife thrive best where lands are set aside for wildlife alone?

FOOD FOR WILDLIFE

Many natural ecosystems are relatively sterile and support wildlife in surprisingly low numbers. This is especially true in northern regions of the world (Elkins, 1950). In mature forests, and in other types of climax, woody vegetation, nutrients are tied up in organic forms poorly available as food for wildlife. Spencer (1971) emphasizes this point, stating that "... the unbroken forest, where the closed canopy shades out the ground cover, is almost a biological desert for game."

A rich, fertile soil supporting only a dense, closed stand of tall timber offers little food for humans or domestic animals and little for wildlife, for the nutrients there are tied up in largely inedible, organic forms. A mature, virgin forest may represent an incorporated abundance of nutrients in a tall stand of timber permitting no available browse or understory for food, and yielding only a modest annual production of food in the forms of seeds in cones or nuts. The same land under agricultural production engages nutritional elements in a dynamic flux within an area of [illegible] producing crops that are edible and [illegible] directly, humans, domestic animals, [illegible].

[illegible] of the food produced on farms that can feed [illegible] that [illegible] in and near [illegible] of blocks of cropland and peripheral [illegible] are immensely productive of seeds. These are a valuable and much-used food source in the sustenance chain of many wildlife forms.

To be economically viable, agriculture other than at the subsistence level must be highly productive and competitive. This means culturing crops on productive soils that are either naturally very fertile or in which deficient nutrient supplies are reinforced by added animal manures and/or concentrated commercial fertilizers. It is this artificially managed concentration of nutrients for production of crops that makes agricultural areas so much more productive of food, domestic animals, and some wildlife species than is afforded in natural ecosystems.

The heaviest concentration of nesting ducks in North America is not found in the pristine parklands or wilderness areas, but coexists with the grain-farming region of Nebraska, the Dakotas, and the Canadian provinces of Alberta, Saskatchewan, and Manitoba. Approximately 13 to 15% of the ducks and geese that migrate south in North America originate in Alaska (USDA, 1977) and the waterfowl that do nest in arctic and subarctic areas are most concentrated in river-delta areas which contain the concentrated fertility from the respective drainage basins (Allen, 1954).

Allen (1954) reports that, in the midwestern states, numerous forms of wildlife (rabbits, raccoons, muskrats, wild turkey, quail) were more abundant, larger, healthier, and more reproductive in areas of fertile agricultural soils than where soils were infertile or where no farming was practiced. A food-habit study of 497 Hungarian partridge collected throughout the year in North Dakota showed that wheat, oats, and barley from farm fields constitutes 56% of the total food consumed (Spencer, 1970). In Idaho, a study showed that relative jackrabbit densities, as influenced by demonstrated choice of food plants and with counts averaged over the entire year, were: 11 jackrabbits for barley and alfalfa, 7 for crested wheatgrass, 4 for potatoes, and 0.6 for unplanted rangeland (Fagerstone et al., 1980). These examples serve to illustrate a poorly appreciated principle of agriculture/wildlife interrelationships and help explain why many forms of wildlife in America are more abundant now, when agriculture stretches the length of our land, than when European explorers first reached this continent.

WILDLIFE HABITAT

Not only is food production stimulated by agricultural development, but new habitat is created, much of it favorable to wildlife. "Habitat" is defined as "the place or type of site where a plant or animal naturally or normally lives and grows" (Morris, 1976). Fence-rows, the margins created between separate farm fields, and the interface between farm fields and woodlots are all ideal sites for nesting and concealment of wildlife.

Biologist Dr. Donald A. Spencer has devoted over 50 years to studying wildlife and its relationship to various environmental and habitat influences, including those of agriculture. Of the nearly half of the United States area that is listed as "land in farms," Dr. Spencer (1971) relates:

> Only about a third of this area is in cultivated fields, the remainder in permanent pastures, in wooded areas, in ponds and aquatic habitat, and lanes and farmsteads. To the extent that these differing plant communities occur in association with one another, diversity is achieved that does much to enhance game and wildlife abundance.
>
> The forested areas on farmlands—145 million acres—are of particular significance for wildlife in that they are characteristically small blocks interspersed with open areas of croplands and pastures. Wildlife is the product of the forest margin—not the closed canopy within where little food and ground cover exist.

During the first half of this century, much aquatic wildlife habitat was eliminated where swamps and marshlands were drained in order to develop farmlands. This practice aroused much antipathy and adverse publicity has led to legislation protecting wetlands. However, a much less publicized but important counteractive contribution of agricultural development in the conterminous 48 states that has enhanced wildlife is the artificial provision of water through irrigation, impoundments, and construction of farm ponds. There are now over two million farm ponds in the U.S., and some 50,000 are added each year. Many farm practices encouraged by the Soil Conservation Service are specifically designed to foster wildlife habitat; for example, constructing a small island in farm ponds enhances their value for nesting of Canada geese and ducks. The U.S. Department of Agriculture has assisted in the construction of 260,000 ponds in North and South Dakota, Montana, and Western Minnesota, and duck counts there reveal an average of two breeding pairs per surface acre of water. According to data compiled by the U.S. Fish and Wildlife Service, the number of breeding ducks per square mile is substantially greater in North and South Dakota than in the Yukon Flats of Alaska (U.S. Dept. Int., 1964). It could be assumed from these data that agricultural development on well-drained soils of the Yukon Flats could result in increased duck production.

A further consideration on agriculture and wildlife habitat involves a relatively recent trend, fostered by larger equipment and larger fields, that tends to operate to the detriment of wildlife. Allen (1954) notes that large-scale, intensive agricultural development that completely occupies the land leaves little area for wildlife "...when high agricultural value means laying bare the land from one road to another for production of cultivated crops...there may be practically no place at all for wildlife in the land-use economy."

The trend to larger fields, thus fewer fence-rows, more intensive agriculture during recent decades in many of the vast farming areas, especially in the midwestern states and the Canadian prairies, has eliminated some wildlife habitat and lowered populations of several wildlife species that formerly benefited from close coexistence with smaller agricultural areas. This trend toward more intensive agriculture and sharply increased yields on the most productive soils made possible by technological advances, has, however, permitted a market reduction in cropland soils required in the U.S., thus releasing land for other uses (Barrons, 1971). The potential for future increases in per acre yields probably cannot match those of the most recent half century, however, and future needs for food production increases likely will require more agricultural lands, such as Alaska can provide.

Alaska does not possess broad, extensive areas conducive to agricultural development as in the Great Plains; areas in this state that do offer potential for agricultural development are relatively limited in extent and are almost invariably interrupted by wetlands, rough terrain, and streams that will undoubtedly remain as wildlife habitat and cover. Moreover, the total 20,000,000 acres of Alaskan soils identified as suitable for agricultural production exists as several separate areas in widely scattered localities within the state (Freeman et al., 1974).

No single habitat type is suitable for more than a few species of wildlife; for this reason a wide variety of habitat types is desirable for maximum wildlife diversity and numbers. Management for optimum wildlife populations recognizes that other factors beyond food availability and habitat abundance limit the numbers of a wildlife species that will occupy a given land area. The phenomenon called "territorialism" (Allen, 1954) represents a social intolerance within many species, the effect of which is a "self-imposed," upper limit on the number of individuals or pairs that will occupy a given land area.

HUMANITY/WILDLIFE CONFLICTS IN GENERAL

Agriculture is not the sole human activity that leads to incompatibilities with wildlife; rather, almost all human activities conflict with certain wild species such as the grizzly bear, timber wolf, and mountain lion. Dahlberg and Guettinger (1956) record the demise and disappearance with white settlement in Wisconsin of such former native wildlife species as the cougar, lynx, marten, fisher, wolverine, elk, moose, caribou, buffalo, and wild turkey. Effective early limits on hunting, trapping, and in some cases, habitat destruction would probably have perpetuated there many of the species listed.

Certainly a number of conflicts exist between agriculture and wildlife in addition to those involving large predators. Some conflicts common in the 48 conterminous states include prairie dogs vs. livestock; foxes, weasels, and skunks vs. poultry; eagles and coyotes vs. sheep; rabbits, mice, and grouse vs. fruit orchards; wild duck flocks vs. small grain farming (Burton, 1978); and some instances of competition for forage between domestic livestock and mule deer, bighorn sheep, and pronghorn antelope.

AGRICULTURE AND WILDLIFE IN ALASKA

Conflicts

Although Alaskan agriculture is limited in scale, some conflicts exist between agriculture and wildlife. However, these are not of great extent, and efforts are being made to minimize such occurrences.

Perhaps the oldest continuous conflict between agriculture and wildlife in Alaska is found on Kodiak Island, where some livestock is lost or injured each year to predation by the brown bears of the island. The bears are indigenous to the island, and some livestock has been raised on the northeast portion of Kodiak since first introductions of cattle by the Russians during the eighteenth century, and this problem will probably continue. The present range of the bears includes most of the island and this will remain their inviolate province. Conflicts arise when the bears move into the range areas and livestock became their prey.

Sheep ranchers on islands in southwest Alaska are free of large predators such as wolves and bears. However, they report frequent injury or death of lambs in their domestic sheep flocks from smaller predators during the critical period when lambs are immobile and defenseless immediately following birth. Ravens sometimes blind lambs by pecking out their eyes, and eagles and foxes often kill lambs. One rancher reports some relief for lambs by providing predators with alternative food sources at lambing time, thereby luring the predators away and sparing the helpless lambs until they become ambulatory and less susceptible to harm.

Another agriculture-wildlife conflict involves the free-roaming bison herd of 400-600 animals in the Delta-Clearwater area. Twenty-three American bison were introduced in this area from Montana about 50 years ago. Agricultural development started in the same area two to three decades ago, and there has been crop damage by bison in some of the grain fields. More recently, considerably expanded land clearing and grain farming has been undertaken in the Delta-Clearwater area. Both Department of Fish and Game personnel and farmers are trying to devise methods to reduce future bison incursions and damage in farm fields.

Figure 1: Pintail ducks take wing from a field of small-grain stubble in the Matanuska Valley where the birds have been feeding.

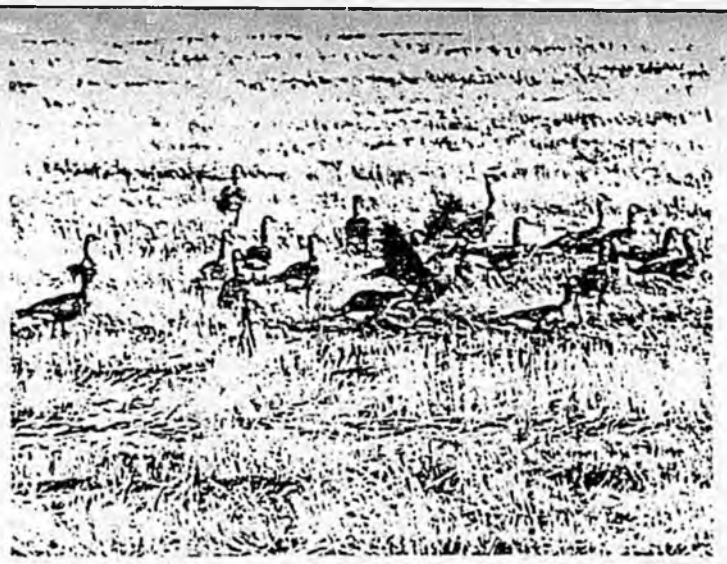


Figure 2: Geese stop in an Alaskan stubble field in spring to glean grain missed during previous summer's harvest.

Compatibilities

Having take note of certain agriculture/wildlife conflicts in Alaska, it must be stated that there are numerous examples of compatibility as well as enhancement of wildlife contributed by Alaskan agriculture.

Waterfowl

The early spring migration of ducks and geese through southcentral Alaska to nesting areas in the more western and northern portions of the state reveal an interesting affinity of the migratory waterfowl for agricultural lands (Figures 1, 2, and 3). Flocks often stop for a few days of feeding in farm fields of the Matanuska and Tanana Valleys to glean grain left in the stubble from the previous growing season. Weather conditions before or at grain harvest time often cause some grain heads to snap off and fall to the ground, and some heads of lodged plants also escape harvest to remain in the fields. Most of the feeding in Alaskan farm fields occurs during the inward migration in spring. The birds' return south in autumn occurs after most of the grain is harvested, resulting in little or no crop loss.

Winter snow melts earlier in spring from agricultural fields than from neighboring, wild vegetation, providing a place for rest and food for the migrating waterfowl as they pass through settled areas toward their nesting grounds. In late spring, the migration is often held back as birds wait in areas like Matanuska Valley fields and coastal tideflats before continuing north and westward to nesting areas. Increased agriculture in the Fairbanks and Big Delta areas of interior Alaska has increased the spring resting and feeding areas for the birds there also.

A specific example that demonstrates agriculture/waterfowl compatibility involves fields of a several-hundred-acre former dairy farm just north of the city of Fairbanks. For many years, Fairbanks residents enjoyed seeing large flocks of migrating ducks, geese, and cranes in the farm fields each spring. When the farm was to be sold for real estate development, a local group organized to encourage the purchase of the open field area by the Alaska Department of Fish and Game for the continued use by waterfowl. However, following the purchase the fields were not planted to crops as had been done when the land was actively farmed (Johnson, 1978). As a result, the geese and ducks did not stop there the next year, but went instead a few miles away to other farm fields that had been planted to small grain the year before, and where the waterfowl could find food. When a grain crop was planted the next year on the farm fields that had been purchased for waterfowl use, the geese and ducks then returned to those fields in great numbers the following year.

Wildlife, like all other living creatures, requires an adequate food supply. They prefer, and thrive best in, areas in which food is abundantly available. Not infrequently, this is where agriculture is practiced.

Cranes

Early settlers in the Susitna River Valley report that the lesser sandhill (little brown) crane (Figure 4) was unknown in that area when the valley was covered by unbroken forest (Saunders, 1979). Since the advent of land clearing and agricultural development there, however, flocks of these migratory cranes, that winter in New Mexico and west Texas, are commonly seen in grain fields throughout the summer. They now frequently visit most cropland areas of southcentral and interior Alaska.

Matanuska-Susitna Valley Moose

Chatelain (1951) reports that while a great many species of food plants are generally available during the summer, the availability of browse, principally willow, determines whether moose can survive the winter and what the carrying capacity of a winter range will be. He reported that winter aerial surveys in undisturbed forested areas of the Susitna Valley showed average moose population densities of 0.61 per square mile. In other areas where the virgin forest cover had been disturbed by natural or unnatural causes (changes in river channels, beaver activity, fires) increased food availability resulted in moose populations ranging from 5.2 to 57.5 per square mile. He states:

> The largest and most important of the moose winter ranges lies adjacent to the Alaska Railroad between the towns of Palmer and Talkeetna. Here, fires occurred during the railroad construction and afterward, destroying much of the original forest. A great amount of second growth willow and other food plants came in and created an excellent moose winter range.

When the first white settlers arrived, Alaska's Matanuska Valley was covered by dense birch-spruce-cottonwood forest. Moose were virtually nonexistent here when the mature, unbroken, climax forest provided little in the way of desirable habitat, especially browse for food (Chatelain, 1951, Elkins, 1950).

The rural farming activities of the 1930s and 1940s, with the clearing, wood cutting and range-management activities,

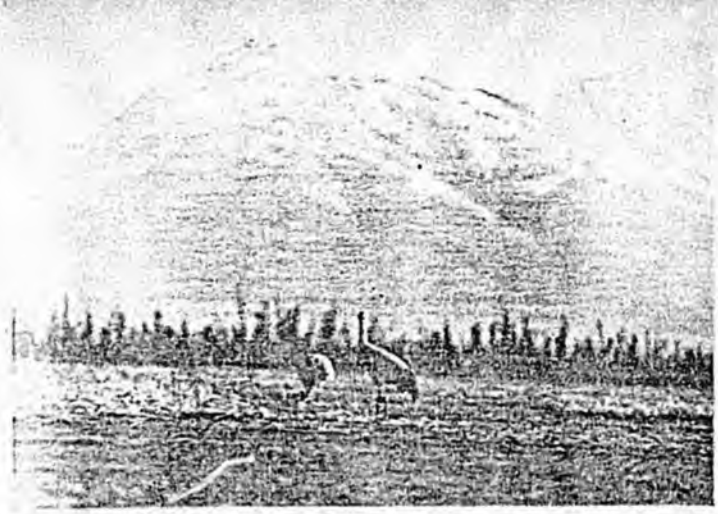


Figure 4: Little brown (sandhill) cranes nest during summer near farming areas and often seek food in farm fields.

caused moose browse to flourish in the periphery of man's activities. Moose numbers expanded so much that game counts of the Palmer area in 1967 (ADF&G, 1972) were higher than ever previously recorded. (See Figure 5).

It is informative that about 60,250 moose were killed in 1976 in Sweden (National Board of Forestry, 1977), a subarctic country one-third as large as Alaska, but where agriculture and forestry are relatively much more extensive than in Alaska; in Alaska the moose harvest for the same year was only about 4500 (ADF&G, 1980).

Midwest Whitetail Deer

Increased moose populations in the Matanuska Valley, as a result of agriculturally induced habitat alterations are not unique; they follow somewhat the population trends of the whitetail deer in the northern part of the midwest states. That species, the most widespread big-game animal in the U.S., is also much influenced by habitat change and relative food abundance (Dahlberg and Guettinger, 1956; Taylor, 1969; Trefethen, 1970).

In the late nineteenth and early twentieth centuries, major logging efforts removed the great mature forests across northern Michigan, Wisconsin, and Minnesota. Prior to the logging, whitetail deer had been scarce in the mature, heavily shaded forests. With opening of the forests, followed by the subsequent generation of new, lower-growing browse, the deer populations grew dramatically.

With creation of large national forests, rigid control of fires, and consequent return of tall, heavily canopied forests, browse plants have become more scarce and deer populations in several areas have declined. Areas repeatedly cut for pulp wood and areas where farmsteads provide both food and a break in the uniform forest cover retain better deer numbers.

A few hundred miles to the south, other habitat changes, more directly affected by agriculture, also have had a dramatic impact on the whitetail deer and other wildlife. Before the arrival of white settlers in the undulating area that is now southern Wisconsin and Minnesota and northern Iowa and Illinois, much of the area was composed of open prairie grassland and savanna. It had been kept in that state by great sweeps of periodic fires effectively preventing forest cover on the land. With settlement and agricultural use of the relatively level areas, the prairie fires were stopped and unfarmable steep slopes formerly covered with prairie grasses now support dense forest cover of oak, hickory, and red cedar.

This patchwork of dense woodlands, alternating with farm fields, now presents an array of diversified habitat which sup-

Figure 5: Two moose are photographed on an Alaskan farm as they forage for food.

ports increased wildlife numbers. Whitetail deer, raccoon, ringneck pheasant, ruffed grouse, opossum, Hungarian partridge, and many other species formerly unknown, or present in low numbers, are now plentiful in the area. Cropland food available to wildlife in fields adjacent to the unfarmed woodlots and marshlands provide an area supporting such an abundance and diversity of wildlife that numbers must be kept in check through annual harvests by hunters and trappers.

Agriculture favors many forms of wildlife, but the reverse is true, also. For example, such wildlife as hawks, owls, foxes, coyotes, and bobcats preying on destructive rodents that damage crops is an instance of wildlife's contributing direct benefits to agriculture. Moreover, many birds consume insects harmful to crops and livestock.

WILDLIFE IN BALANCE

In natural ecosystems, such as wilderness areas, predator and prey usually maintain an effective balance, but with fluctuations common in both types of populations. With suppression of many natural predators through human activities, wildlife populations must be monitored and kept in balance with their food supplies and other limiting factors of their environment, and to prevent excessive crop damage. This is most effectively achieved through harvest of surplus animals and birds by hunting.

Hunting, both for recreation and for the meat provided by game birds and animals, is much in demand in America. For example, from 4 to 16 million ducks are harvested for food annually in the U.S. (USDA, 1977), and in a single year it was estimated that 54,000,000 pounds of dressed meat, principally deer, was harvested from American forests (Taylor, 1969). The recreational values and food supplies afforded by wild-game harvest also benefits the wildlife itself. Left to multiply unchecked, wildlife populations can rapidly outstretch food supplies, resulting in weakened, starving animals and wildly fluctuating populations.

The recent, justified national concern for a certain few threatened and endangered species, resulting in much-publicized cases should not obscure the much broader, but less-publicized, general status of wildlife in North America; current populations and the outlook for a great many wildlife species in North America are better now than at any time during this century. To illustrate, the surplus numbers of a few of the wildlife species that must be harvested annually in order to keep remaining numbers healthy and in balance with food supply and habitat increased during the 20-year period, 1948-1968. These include whitetail deer, mule deer, elk, pronghorn antelope, fisher, black-

tail deer, black bear, peccary, wild boar, fox, nutria, raccoon, moose, mountain goat, and bighorn sheep—the first five by a factor of 2 or more, the last three by a factor of 10 or more (U.S. Dept. Int., 1970).

Excessive wildlife inroads into croplands can also be controlled by the provision of "lure crops." The pothole regions encompassing the prairie provinces of Canada, the Dakotas, Montana, and Minnesota represents the largest and most productive breeding ground for ducks in North America. However, it is also one of the world's greatest small-grain producing areas. Occasionally, extremes such as wet field conditions slow grain harvest, allowing fall-feeding ducks to consume millions of dollars worth of grain. Provision of large grain acreages as lure crops, intended for duck feeding, and compensation payments to hard-hit farmers, are being used there with some success to offset these losses (Burton, 1978).

SUMMARY

The foregoing discussion presents some viewpoints on agriculture/wildlife interrelationships often overlooked in deliberations on land-use planning for Alaska. Inasmuch as whole volumes are compiled on wildlife, its habitat and food considerations and the interrelationships of wildlife and various human uses of land, this discussion is necessarily less than comprehensive in scope and depth.

Agriculture is not only compatible with a great many wildlife species, it clearly enhances the existence of many forms of wildlife. Wildlife must have food—and one of agriculture's prime objectives is the production of food. And, coincident with agriculture's main objective of food production is the inadvertent or planned creation of habitat beneficial to wildlife.

Are agriculture and wildlife compatible in Alaska? Because the term "wildlife" encompasses so many species, there is no clear 'yes' or 'no' answer. Some wildlife species are clearly incompatible with agriculture. However, only a small portion of Alaska's total area possesses soils and climatic conditions suitable for cropland farming and ranching. Alaska currently produces less than 10% of the food required to feed itself and the remainder must be imported from other areas over lengthy transportation routes at increasing transport costs. The critical importance of agriculturally produced food to the future well-being of an increasing human population here and worldwide suggests that most of the roughly 5% of Alaska's area that is suited to agriculture should be reserved for that purpose. This will leave the vast majority of Alaska's landscape for other land uses, including parks, mineral extraction, wilderness, industry, forestry, communities, etc. Wilderness wildlife will have abundant areas within which to exist apart from agricultural lands. Moreover, many forms of nonwilderness wildlife will not only be compatible with and coexist with agriculture, but many species will be enhanced in health and numbers by the existence of agriculture in Alaska.

Without healthy agriculture, transportation, manufacturing, processing and other industries that provide jobs, taxes, and other underpinnings to propel an economically healthy nation and society, there can be no public funds to be used for wilderness preservation and wildlife protection, management, and conservation. Human economic well-being and viable public programs for wildlife are inextricably linked.□

REFERENCES

Alaska Department of Fish and Game. 1972. Moose Sex and Age Composition Counts Unit 14A.

Alaska Department of Fish and Game. 1980. Unpublished data, personal communication.

Allen, D. L. 1954. Our Wildlife Legacy. Funk and Wagnalls, New York. 422 pp.

Barrons, K. C. 1971. Environmental benefits of intensive crop production. Agricultural Science Review. 9(2):33-39.

Burton, B. 1978. No room for ducks. Outdoor Life. November. pp. 59-61, 150-158.

Chatelain, E. F. 1951. Winter range problems of moose in the Susitna Valley. Proceedings, Second Alaskan Science Conference, A.A.A.S. pp. 343-347.

Cosby, H. E. 1978. Range management benefits wildlife. Rangeman's Journal. 5:159-161.

Curtis, J. T. 1959. The vegetation of Wisconsin. The University of Wisconsin Press, Madison. 657 pp.

Dahlberg, B. L., and R. C. Guettinger. 1956. The white-tailed deer in Wisconsin. Wisconsin Conservation Department, Technical Wildlife Bulletin No. 14. 282 pp.

Elkins, W. A. 1950. Pressing problems in administration of wildlife resources in Alaska. Proceedings, Alaskan Science Conference, A.A.A.S. pp. 268-281.

Evans, K. E., and G. E. Probasco. 1976. Wildlife of the prairies and plains. U.S. Department of Agriculture, Forest Service General Technical Report: NC-29. 18 pp.

Fagerstone, K. A., G. K. Lavoie, and R. E. Griffith, Jr. 1980. Black-tailed jackrabbit diet and density on rangeland and near agricultural crops. Journal of Range Management. 33(3):229-232.

Peterson, T., C. E. Logsdon, L. J. Klebesadel, and J. A. Smith (eds). 1974. Alaska's Agricultural Potential. Alaska Rural Development Council Publication No. 1. 152 pp.

Johnson, D. 1978. Creamer's caters to waterfowl. Fairbanks Daily News Miner, edition of 6 June.

Morris, W. (ed.). 1976. The American Heritage Dictionary of the English Language. Houghton Mifflin Co., Boston. 1550 pp.

Peek, C. J. 1960. Planning for Alaska's big game. IN. Science in Alaska. Selected papers of the Alaskan Science Conference, National Academy of Sciences, National Research Council, Washington, D.C. pp. 258-267.

National Board of Forestry. 1977. *Swedish Forest* S-551 83, Jonkoping, Sweden. p. 16.

Saunders, A. D. 1979. Personal communication.

Spencer, D. A. 1970. Habitat is the key to wildlife abundance. Presentation at Workshop on Soil and Water Management for the Abatement of Agricultural Related Pollutants, Aug. 24, Fort Worth, Texas. 14 pp.

Spencer, D. A. 1971. Agricultural lands: Quality that productivity affords. Presentation at American Agricultural Editor's Association, Dec. 1, Chicago, Illinois. 10 pp.

Spencer, D. A. 1971. Wildlife in a changing scene. Presentation at Colorado Association of Soil Conservation Districts, Denver, Colorado. 16 pp.

Taylor, W. P. (ed.). 1969. The deer of North America, their history and management. The Stackpole Co., Harrisburg, Pa., and the Wildlife Management Institute, Washington, D.C.

Trefethen, J. B. 1970. The return of the white-tailed deer. American Heritage. 21(2):97-103.

U.S. Department of Agriculture, Forest Service. 1977. The nation's renewable resources—an assessment, 1975. U.S.D.A. Forest Resource Report No. 21. 243 pp.

U.S. Department of Agriculture. 1979. Agricultural statistics—1979. 603 pp.

U.S. Department of the Interior, Fish and Wildlife Service. 1964. Waterfowl tomorrow. 770 pp.

U.S. Department of the Interior, Fish and Wildlife Service, Bureau of Sport Fisheries and Wildlife. 1970. Big game inventory of the U.S.

Editor's Note: Opinions expressed in this article are solely those of the authors and do not imply either agreement or disagreement by the U.S. Department of Agriculture or the University of Alaska.

ACKNOWLEDGMENTS

The authors would like to thank Dr. Brina Kessel for the use of her photograph of cranes used on the title page of this article as well as Gary Michaelson for the use of his photographs in Figures 2, 3, 4, and 5.

NONPROCESSED MEAL RATIONS MIXED BY THE FARMER

INGREDIENTS	COST OF INGREDIENTS 1/81 market at the RR yard in Fairbanks*	OPTION 1 SOYBEAN BASE		OPTION 2 FISH BASE		OPTION 3 CRAB-FISH BASE	
		lb/100	Total Cost	lb/100	Total Cost	lb/100	Total Cost
SOYBEAN MEAL	$ 400/ton	11.6	$ 2.32	none		none	
FISH MEAL	$ 420/ton	none		6.5	$ 1.37	4.0	$ 0.84
CRAB MEAL	$ 200/ton	none		none		6.3	$ 0.63
BARLEY	$ 130/ton	85.4	$ 5.51	91.0	$ 5.92	88.7	$ 5.77
LIMESTONE	$ 5.77/100 lb	1.0	$ 0.58	1.0	$ 0.58	none	
DICALCIUM PHOSPHATE	$25.82/100 lb	1.0	$ 0.26	.5	$ 0.13	none	
T. M. SALT	$31.20/100 lb	.5	$ 0.16	.5	$ 0.16	.5	$ 0.16
VITAMIN PREMIX	$51.00/100 lb	.5	$ 0.26	.5	$ 0.26	.5	$ 0.26
TOTALS :		100 lbs.	$ 9.09	100 lbs	$ 8.42	100 lbs.	$ 7.66

* Excludes RR handling fees and any other handling charges.

NOTE: It takes 630 lbs. of mixed ration to raise a pig for market. Using the crab meal substitute results in savings of $ 9.01 per hog/year. A farm of 3000 hogs could save about $ 27,000/year using the crab meal mix (OPTION 3).

AGRESOURCES
Box 387 – Palmer, Alaska 99645 – (907) 745-2413

(5)

Recommendation to Mr. James Fisher

Feb. 11, 1981

Recognizing that most USDA programs are designed to support the well-developed agriculture of the lower 48 states and not at all designed to assist either in agricultural development, per se or agriculture as related to high latitudinal conditions of daylight, temperature, permafrost, etc., conditions existing nowhere else under the American flag except Alaska, reality dictates that unique program approaches are necessary to provide the assistance USDA is mandated to provide to each state that will be useful, helpful, cost-effective, and in the National interest. The following suggestions are provided to assist in implementing a new USDA program in Alaska that would have these aforementioned characteristics.

RECOMMENDATIONS FOR A NEW USDA PROGRAM IN ALASKA

1. Instruct all USDA agencies in Alaska to adopt a policy which says that development of a new agricultural industry in Alaska in line with Alaska's stated goals and objectives is in the national interest.

2. Designate Alaska as a separate region of the US for purposes of agricultural development.

3. Create a Special USDA Board comprised of all USDA agency heads in Alaska under the direction of and responsible to the Secretary of Agriculture through the Secretary's Program Representative in Alaska.

4. This Special USDA Board will cooperate with the Alaska Agricultural Action Council to help achieve the goals and objectives in agricultural development as officially adopted by the State of Alaska.

5. The USDA and the State of Alaska will cooperatively staff the various Service Centers listed in the report as need and dollars dictate.

6. Develop a cooperative agreement between the State and the USDA which will allow interagency personnel transfers between state and federal positions with funding for salaries to come from either State or federal funding during the temporary transfer with staff benefits hours of duty, vacation and leave, etc. to be determined by the agency of original hire.

Charles F. Logsdon
Consultant

(6)

QUESTIONS AND ANSWERS

1. Why 500,000 acres?

   50,000/year - 10 years

2. Priorities

   a. Export elevator, transfer facility, Delta Expansion

   b. Red meat processing facility

      Nenana
      Unimak Island
      Kenai
      Kodiak
      Aleutian Islands

   c. Farm development projects, at:

      Point MacKenzie Expansion
      Galena - Yukon Flats
      Kuskokwim & Yukon River Valleys

   d. Village Gardening & Marketing Programs

      While we have not been asked to assist in this program, we're very willing to help in any way that we can.

3. Why hurry on elevator?

   1. We have discussed this for three years and emphasized its necessity as an essential key to the whole project. But not needed 'til 1981.

   2. Last year, there was a very tight cap on the capital budget. Since this was an item that could wait until this year, it was delayed.

   3. We had the initial sales drawings and prices a year ago.

   4. Co-op

      13 carloads
      16,000 acres
      20,000 tons
      No place for surplus

4. Markets

   Domestic - 6,000 tons
   World - 15,000 tons

LAWS OF ALASKA

1979

(7)

Source

FCCSSB 14

Chapter No.

75

AN ACT

Relating to agricultural development; and providing for an effective date.

BE IT ENACTED BY THE LEGISLATURE OF THE STATE OF ALASKA:

THE ACT FOLLOWS ON PAGE 1, LINE 9

Approved by the Governor: May 31, 1979
Actual Effective Date: July 1, 1979

Chapter 75

AN ACT

Relating to agricultural development; and providing for an effective date.

* Section 1. AS 44.33 is amended by adding new sections to read:

ARTICLE 9. ALASKA AGRICULTURAL ACTION COUNCIL.

Sec. 44.33.400. CREATION OF COUNCIL. (a) There is established in the Department of Commerce and Economic Development the Alaska Agricultural Action Council. The council is composed of five members appointed by the governor. The chairman of the council is to be designated by the governor from among the members.

(b) The council may invite representatives from the United States Soil Conservation Service, the United States Forest Service, or from other federal agencies to participate in the deliberations of the council in an advisory capacity.

(c) The term of a member of the council is four years. Vacancies are filled in the same manner as original appointments, but a member appointed to fill a vacancy serves for the unexpired term of the member he succeeds.

Sec. 44.33.405. COMPENSATION OF MEMBERS. (a) Members of the council who are not state officers or employees are entitled to per diem and travel expenses provided for boards and commissions under AS 39.20.

(b) State officers or employees appointed as members of the council serve without compensation but are entitled to receive per diem

and travel expenses from council funds.

Sec. 44.33.410. MEETINGS. The council shall schedule regular meetings during the year, and may hold special meetings upon the call of the chairman or four members of the council.

Sec. 44.33.415. QUORUM. Three members of the council constitute a quorum. An affirmative vote of at least three members is necessary to approve any action of the council.

Sec. 44.33.420. POWERS AND DUTIES OF THE COUNCIL. (a) The council has the power to

(1) adopt and amend bylaws for the management and regulation of its affairs; and

(2) maintain an office at any place or places in the state.

(b) The council has the duty to

(1) hold public hearings in areas of the state considered for agricultural development;

(2) evaluate the need for farm conservation plans for land under agricultural production in the state;

(3) serve as coordinator for gathering information and data relating to agriculture;

(4) recommend appropriate activities for the promotion of agriculture in the state;

(5) provide technical information and make recommendations to the commissioner of natural resources regarding the classification of state land having a potential for agricultural use;

(6) act as administrator of the Delta agricultural development project and any other agricultural development project authorized under AS 44.33.425;

(7) contract for the clearing, draining and breaking of agricultural land located in the Delta agricultural development project;

(8) contract with the owners of land prepared for agricultural use under (7) of this subsection for reimbursement to the state of the cost of the clearing, draining and breaking of the land;

(9) contract for the construction of access roads in the Delta agricultural development project;

(10) conduct studies and carry out experimental and pilot projects to develop markets for agricultural products produced in the state; and

(11) recommend legislation to the governor to improve agricultural development in the state.

Sec. 44.33.425. AGRICULTURAL DEVELOPMENT PROJECTS. (a) Before January 15 of each year the council shall report to the governor and the legislature concerning the activities of the council during the current fiscal year. The report shall contain recommendations for the development of agriculture in the state during the next fiscal year.

(b) An agricultural development project recommended under (a) of this section may not be implemented unless authorized by law. The report required by (a) of this section shall include recommended legislation which

(1) sets out the type of agricultural development to be accomplished and, if state land is to be developed for agricultural production, describes the boundaries of the land to be developed;

(2) defines specific tasks to be performed by appropriate state agencies to the extent the tasks are identifiable at that time; and

(3) grants to the council sufficient authority to insure cooperation of all state agencies involved in the implementation of the agricultural development project.

Sec. 44.33.450. DEFINITIONS. In AS 44.33.400 - 44.33.450,

DNR
DCED

(1) "council" means the Alaska Agricultural Action Council;

(2) "Delta agricultural development project" means the state-funded program to develop agricultural land located in the Big Delta, Tanana Loop region for the production of small grains and other related agricultural products.

* Sec. 2. Notwithstanding the terms of office specified for members of the Alaska Agricultural Action Council in AS 44.33.400(c), enacted in sec. 1 of this Act, the terms of the first appointees shall be one member serving a term ending June 30, 1980, one member serving a term ending June 30, 1981, one member serving a term ending June 30, 1982, one member serving a term ending June 30, 1983, and one member serving a term ending June 30, 1984.

* Sec. 3. AS 39.50.200(9) is amended by adding a new subparagraph to read:

(QQ) Alaska Agricultural Action Council.

* Sec. 4. This Act terminates July 1, 1984.

* Sec. 5. This Act takes effect July 1, 1979.

Aggie News

DELTA EXPANSION PROJECT

The Agricultural Action Council is recommending to the legislature that the Delta Expansion Project lottery be held September 1, 1981. It will encompass approximately 55,000 acres total, with 45,000 acres of the land located on the north and east boundaries of the established Delta Agricultural Project. An additional 10,000 acres is west of Delta Junction and located on the west bank of the Delta River. As with the original Delta Project, only tract sizes capable of supporting economically viable operations will be considered and detailed farm plans with development schedules will be required to qualify for the lottery.

In order to promote the best usage of natural resources all tracts with identifiable stands of commercial value added to the price of the land. The tract owner will then become responsible for the management or harvest of those timber stands.

FEATURE OF THE MONTH

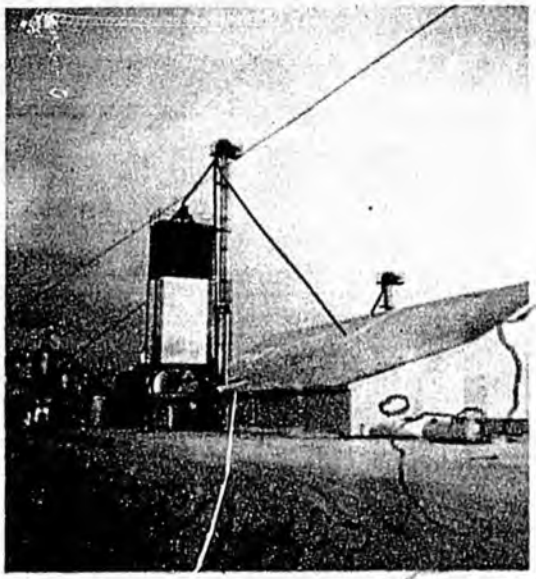
The Alaska Agricultural Action Council is proud to introduce Mike Gilleland, Planning Coordinator. In addition to his other qualifications, Mike adds a special touch to his duties as a staff member because he's actually been a farmer in Wauseon, Ohio. Like many people, his first visit to Alaska was courtesy of the United States Air Force. After serving in the military, Mike returned to Ohio to manage a fertilizer plant for Sohio and to concentrate on his dream -- farming

Mike started farming part-time with 40 acres of land and milking 25 cows. Three years later, in 1970, he expanded his herd to 60 cows, leased another 600 acres, and went full time farming. In 1976, "due to escalating land costs and the high cost of expansion, "Mike sold his farm, moved to a new agricultural frontier, and started a new dream -- Farming in Alaska.

Since coming to Alaska, Mike has contributed so much to Alaska's agricultural development. He knows how hard it is to farm because he's actually farmed at Delta Junction. He knows how critical the infrastructure is and how important it is to work together because for a short time, he managed the Alaska Farmers Cooperative, Inc. Presently, as an employee of the Alaska Agricultural Action Council, Mike coordinates the State's grain marketing, works with various farmer organizations, and advises to the Ag. Council in many areas. If Alaska agriculture can attract people like Mike Gilleland to our state, it is already a success!

CONGRATULATIONS TO ALASKA FARMERS COOPERATIVE, INC.!

FERTILIZER PLANT



On December 8, 1980, Cenex Construction turned over the keys for a new 6,000 ton fertilizer plant to Alaska Farmers Cooperative, Inc. in Delta Junction. This facility has an eight hour through-put capacity of 80 tons bagged material and 400 tons bulk. The ability to move this amount of fertilizer will substantially reduce the waiting time that interior farmers have experienced in past years.

The construction contract for this plant was signed in August with a promised completion schedule of 120 days. The facility was actually finished in just 100 days. Cenex Construction Division, the prime contractor on the job, gave much credit for the speedy completion to the locally hired contractors and laborers who did most of the actual work.

The opening of this new facility is just the first step in providing high quality plant foods at the lowest possible unit cost to the farmer. The many problems involved in the transportation network are the next targets.

In order to provide an economical link between the railroad shipments of bulk fertilizer and the plant in Delta Junction, a transfer facility will need to be built. This unit will have the capability to receive and store several rail cars of material which will then be loaded onto bulk trucks, as available, for the final leg of the trip to Delta.

One more aspect of fertilizer economics that must be addressed is lime. With the inherent acidity of Alaskan soils lime is needed to raise the ph up to a level that provides the most efficient use of applied fertilization. There have been several deposits of suitable materials identified in Alaska and work will have to proceed soon on getting those made available for use and obtaining the necessary equipment for processing and application.

LEGISLATION

It's still early for the 1981 legislative process, but it appears this will be a very crucial year for Alaskan Agriculture. Production from the first phase of the Delta Project is to the point that the critical infrastructure segments of transportation, processing, and export capability must be dealt with. In addition to requesting funding for a livestock processing facility and a grain export terminal, the Agricultural Action Council also intends to support the expansion of the Delta Project and the creation of a state ide grain marketing system.

An interesting point to ponder -- Of all the major agricultural appropriations since 1977, greater than 86 ercent have been loan monies which will be returned to the State with interest! The direct appropriations were for roads, environmental studies, administration, and several grants for village gardening projects.

TEST CLEARING ON POINT MACKENZIE

The economic development of Alaska's renewable resources, including forests, is a major goal of the Agricultural Action Council. This has not been an easy task when considering the complexity of multiple resources, the lack of qualified information, and the controversial nature of this emotional issue.

In an attempt to determine the most efficient land clearing methods which will benefit both agriculturalist and utilize the wood, the Ag. Council has undertaken a test clearing operation on the Point MacKenzie Project. Upon completion, chain-down will have been effective on 720 acres, raking and stacking on 425 (at varying push-intervals to determine cost efficiencies) and 60 to 80 acres will have been sheared without chaining. Forty (40) acres have also been left to complete in the spring of 1981 to compare spring costs vs. winter costs. Additionally, some land will be left in a chained-down condition to determine the feasibility of salvaging logs for utilization by several local timber operations.

Homesites and wood lots of 40 acres each have been left standing on each parcel as well has natural-forest windbreaks at 660 feet intervals. Contrary to a grossly erroneous report published by the Anchorage Times, this test clearing work is not being done on parcels where salvageable timber exists.

With the test clearing near completion, it appears that clearing can be accomplished at a cost of $240 - $300 per acre as compared to earlier quotes as high as $2,200 per acre. This will amount to a considerable savings for both the State and farmers.

Alaska State Legislature

House of Representatives

Committee on Resources

Terry Gardiner, Co-Chairman
Fred F. Zharoff, Co-Chairman
465-3715

Pouch V
State Capitol
Juneau, Alaska 99811

MEMO

TO: House R irce Committee Members

FROM: Rep. Terry Gardiner T.G.
Rep. Fred Zharoff

DATE: March 2, 1981

RE: Agriculture hearings.

Attached is information regarding the Resource Committee's Agriculture overview hearings. Please review these materials prior to our 3PM meeting and bring this packet with you to the hearing. Today's hearing will be held in the Court Building, Court Room A.

A packet of information will be given each committee member prior to each hearing. I hope you will review each day's materials prior to the hearing.

Alaska State Legislature

House of Representatives

Committee on Resources

Terry Gardiner, Co-Chairman
Fred F. Zharoff, Co-Chairman
465-3715

Pouch V
State Capitol
Juneau, Alaska 99811

AGRICULTURE HEARINGS

House Resources Committee

Monday; March 2, 1981 3PM Court Room A

Scheduled Speakers:

Rep. Pappy Moss
Bob Palmer - Coordinator Special Projects, Covernor's Office; Alaska Agricultural ACtion Council
Bob Pollock - Executive Director Alaska Agricultural Council
Nick Carney - Director, Division of Agriculture, Dept. of Nat. Resources
Art. Davidson - Agricultural Land Planner, Dept. of Nat. Resources
James Fisher - U.S. Dept. of Agriculture
Doug McClain - S & K Farms, Delta Junction
Rep. Brain Rogers
Bill Ward - Vice President, Kenai Peninsula Stockgrowers Association

Tuesday; March 3, 1981 3PM House Resources

Issues which will be addressed:

Financing
Research and Education
Red Meat Industry

Alaska State Legislature

House of Representatives

Committee on Resources

Terry Gardiner, Co-Chairman
Fred F. Zharoff, Co-Chairman
465-3715

Pouch V
State Capitol
Juneau, Alaska 99811

AGRICULTURE HEARINGS
Proposed schedule

MONDAY MARCH 2, (3-5 pm)* Court Rm. A

OVERVIEW
-Bob Palmer, Governor's Office
-Bob Pollock, AK Ag. Action Council
-Nick Carney, Art Davidson, DNR, Div. of Ag.
-James Fisher, USDA, Coop Ext. Service

TUESDAY MARCH 3 (3-5 pm)

FINANCING
-ARRC
-CFAB
-DNR Ag Revolving Loan Fund
-Gregg Engellant, AK Grain Exchange, farmer

RESEARCH & EDUCATION
-Dr. James Drew, U of A
Wildlife/Fish & Game

RED MEAT INDUSTRY
-DNR
-Bob Pollock, Ag Action Council

WEDNESDAY MARCH 4 (3-5 pm) TELECONFERENCE

DELTA I & II
-DNR
-Ag Action Council
-Rep. Pappy Moss
-Adrian Fredrich, Ak Farmer's Coop.
-Don Quarberg, Coop Ext agent in Delta
Bison problems/Fires

THURSDAY MARCH 5 (3-5 pm)

PT. MCKENZIE
-DNR
-Ag Action Council

NENANA-TOTCHAKET
-DNR
-Ag Action Council
-Mayor Jack Coghill, Jerry Smetzer, Nenana

FRIDAY MARCH 6 (1-3 pm) TELECONFERENCE

VILLAGE AGRICULTURE
-Jimmie Farmer, Koyukon Develop. Corp.
-Penelope Horter, Kuskokwim Native Assoc.

SMALL SCALE AGRICULTURE
-Rep. Brian Rogers

*Pacific Standard Time
Location of Hearings: House Resources Committee Rm., Juneau unless otherwise posted.

alaska grain & oilseed export marketing

an analysis and suggested approach

By

Dominic L. Carney
Agricultural Specialist
Division of Economic Enterprise
Anchorage, Alaska

Wayne C. Thomas
Associate Professor of Economics
Agricultural Experiment Station
University of Alaska
Fairbanks, Alaska

Assisted By

Edward L. Arobio
Research Associate
Agricultural Experiment Station
University of Alaska
Fairbanks, Alaska

State of Alaska
Jay S. Hammond
Governor
Department of Commerce and Economic Development
Division of Economic Enterprise

February 1978

section 4

implications & recommendations

implications of export marketing

The Japanese Food Agency has given verbal approval for shipments of Alaska barley to Japan as long as the project is competitive in price and quality. No such approval is necessary for Alaska rapeseed.

There is no question Japan is the prime Oriental market for Alaska agricultural products with Korea and Taiwan a distant second or third, respectively. The Japanese market for all the various crops on which Alaska will concentrate—barley, rapeseed, forage, and buckwheat—are such that market size will not be restricted to future growth. Percentages of those markets which Alaska can foreseeably capture will not be of such a magnitude as to cause present large producers in other regions much concern. The Japanese market is firm enough to be used as a basis for establishing an industry. Its forecasted increase in barley consumption is sufficient for a new supplier to capture this trend market yet avoid eroding Canadian and Australian quotas.

Growth in Japanese demand for rapeseed will probably not be as rapid as that for barley. However, Alaska has one major advantage with this crop. Canada is Japan's only major supplier and the Japanese will benefit from the entry of new competition into the rapeseed market. The small quality of rapeseed to be produced in Alaska from the Delta project should have very little, if any, impact on world price.

To operate at best advantage in the Japanese market, the design of the marketing system for both barley and rapeseed should consider the following:

(1) This is a new project in an area with no past history of production. To build credibility in a market discussion, it is necessary to foster confidence that the project will enjoy government support and, therefore, will stand a sound chance of providing the desired consistent supply of quality product. Government control and backing in marketing is one way of convincing buyers of the sincerity of our efforts. This is especially important in the first few years until we reach the point where we have established a level of production and a track record.

(2) Much of Japan's present negotiations for grain and oilseed are with government agencies in the exporting countries.

(3) The Japanese buyer could work through a private trader, cooperative, or pool.

(4) Quantity and quality must be maintained.

(5) Price must be competitive.

(6) An effective market can only be developed slowly, and must begin years ahead of large-scale production. We were able to discuss market possibilities with the highest levels of government officials, principally due to contacts made by the hired consultant.[11] It is precisely this type of information, contacts, and track record we must continue to develop.

(7) The grain export business is highly competitive. Care must be taken that Alaska obtain and develop the best expertise available.

(8) Small marketing volumes do not appear to be a restrictive factor.

[11] Agritrade International, Inc.—James Hutchinson.

The Korean market for Alaska products, in contrast to that of Japan, is not substantial. A substantial Korean market should develop in the future, and there will certainly be sporadic Korean markets which Alaska could satisfy. To ignore Korea as a market because of the relatively poor immediate outlook would be shortsighted. Prudence dictates that the State needs to keep informed, to achieve and maintain possible market contacts, and to be alert to the possibility of taking advantage of any sudden Korean buying needs.

The significant points regarding the Korean market as it relates to Alaska's export market potentials are:

(1) The intermittent and sporadic nature of the Korean market makes it unwise to base development of an Alaskan agricultural industry to satisfy that market.

(2) Alaska, as part of United States, would have an inside track to such markets when they do exist because of the historical Korean reliance on the U.S.

(3) The type of marketing structure will not be a major factor in sales to Korea.

(4) The Koreans suffer from a lack of handling (dockside) and storage capabilities. Much of their grain is handled by the most rudimentary of methods.

Because of the extreme distance, the barley marketing agreement which presently is in effect and the Taiwanese lack of interest in rapeseed, it appears Taiwan can only become a market for a developed, proven, unique product such as hulless or high-protein barley.

recommendations

The major objective of a marketing structure is to create a mechanism so crops can be marketed to the best advantage of farmers. For the Delta project, a case can be made for government involvement at least in the beginning years of the development effort. Why is a government board preferred to private sector marketing? In our opinion, private sector marketing is less desirable in the early years of the project because it does not provide for a guaranteed market, may not offer for sale identified Alaska barley or rapeseed to foreign markets, and may require substantial effort by project farmers to establish the marketing system. These would be provided by a State marketing board.

To organize a board, Delta farmers should petition the State legislature to enact a statute allowing for a quasi-government agency (public corporation) to be formed to purchase all grain not used on the producer's farm and to be responsible for handling, storage, transport, and selling of the crops. After this has been enacted into law, the affected farmers should be given the right to vote to accept the board concept. A statutory requirement should also be included in the legislation which would provide for the farmers to reconsider the marketing board approach every three to five years. Such a provision would provide the vehicle for the farmers to take over the marketing aspect as they gain expertise and confidence in their ability and as their production problems are resolved.

Governmental involvement in marketing has already begun. In the fall of 1977, a State government mission was sent to the Orient to ascertain possible acceptance of Alaska grain and oilseed crops and if possible, to arrange for test marketing for the 1978 and 1979 crop seasons. That mission resulted in a verbal agreement to test market up to 6,000 tons of Alaska barley and rapeseed in Japan from the 1978 crop. The test marketing should benefit both buyers and sellers. It establishes a market for production from both small and large farmers. This market is based on world market conditions. The most obvious major benefit of this State action is that Alaska farmers do not have to worry about marketing their crop once it has been produced. By 1980, when as many as 22 new full-time large-scale farmers associated with the Delta project begin producing grain and oilseed, a State

marketing effort might serve to reduce concern on finding markets for the crops. Test marketing also establishes Alaska as a source of supply and will identify transportation and other market difficulties before larger quantities of grain and oilseed are marketed.

After the return of the trade mission, farmers in Alaska (primarily in the Delta area) were made aware that they could receive the world market price for barley and rapeseed in 1978. We recommend that the State buy the two crops and organize transport, handling, and marketing. The Japanese purchaser would be able to procure the two commodities at specified Alaska tidewater ports. Further, we recommend a grain pool be organized so that each farmer is paid according to quality and quantity delivered.

These recommendations imply that the State of Alaska will be functioning as a marketing board for 1978 test marketing. The 1979 test marketing should operate in the same manner. The formal transition to a State marketing board by no later than 1980 would be necessary to legalize the test markets-marketing board approach to grain and oilseed sales—domestic and foreign.

After its creation, the board could work with a private grain-trading firm to sell the crops. In this manner, it could obtain access to world market information and still provide a guaranteed market for Alaska farmers.

Who will pay the marketing cost? Under any system, the price the farmers received would be a combination of domestic and foreign market prices less the cost of marketing and transportation. Unless and until the volume is large enough to enable the farmer to absorb the marketing costs, these costs may prove to be prohibitive. A partial State subsidy for marketing and transportation costs may be necessary in the first few years of the Delta project to reduce marketing costs if they are substantially above industry standards. It is our belief that the board concept, by maximizing volume through the system, would minimize the required subsidy and hasten the arrival of that time when volume would permit such a subsidy to become unnecessary.

some final thoughts.

If a marketing board concept is used for the Delta project, a major effort must be made to develop marketing expertise in the State. This effort should have four facets. First is the organization of an intelligence network and personnel-training program aimed at becoming knowledgeable about the grain trading business throughout the world. This should include studying supply and demand fluctuations and price and market trends as well as the mechanics and intricacies of international trading. The second step toward this goal, and a vital part of it, is retention of a consulting firm to give advice on international grain marketing. Third, the State should adopt a policy of sending representatives on at least one annual visit to Japan and other buying countries in order to maintain contacts and develop expertise in negotiating with those governments. Fourth, a continuing effort must also be made to explore the possibility of future arrangements with private grain traders to sell crops, to gain information, or to acquire expertise. As the first step in this direction, we suggest representatives of leading international grain-trading firms be invited to Alaska in the fall of 1978, after the test marketing is completed, for the purpose of discussing possible

ALASKA'S AGRICULTURE
A
POSITIVE FUTURE

1981 ANNUAL REPORT

TO THE LEGISLATURE

ALASKA AGRICULTURAL ACTION COUNCIL

W.I. "Bob" Palmer, Chairman
Coordinator-Special Projects Office
Office of the Governor
Pouch AN
Juneau, Alaska 99811

Charles Webber
Commissioner
Department of Commerce and Economic Development
Pouch D
Juneau, Alaska 99811

Domonic Carney
Director
Division of Agriculture
Pouch A
Wasilla, Alaska 99687

Paul Huppert
Box 858
Palmer, Alaska 99645

Steve Hamilton
Box 239
Palmer, Alaska 99645

James Drew, ex-officio

Wayne Long, ex-officio

ACKNOWLEDGEMENTS

The Alaska Agricultural Action Council wishes to thank the many individuals and organizations who have contributed to this annual report. It is only through the combined efforts of these people that the true potential of Alaska's agriculture will be developed: Agricultural Experiment Station, University of Alaska; Cooperative Extension Service, University of Alaska; U.S.D.A. Soil Conservation Service; Division of Agriculture, Department of Natural Resources; Alaska Farmers Cooperative, Inc.; Commercial Fishing and Agriculture Bank; Department of Commerce and Economic Development; The Alaskan Farmers; and the Matanuska-Susitna Borough.

JAY S. HAMMOND
GOVERNOR

STATE OF ALASKA
OFFICE OF THE GOVERNOR
JUNEAU

January 15, 1981

This Second Annual Report to the Governor and the Legislature by the Alaska Agricultural Action Council presents an opportunity for sharing what can only be characterized as "remarkable" accomplishments in agricultural developments—accomplishments that to a large extent are those of the farmers of the Delta Junction area, who, for once, were given sufficient land and financing to prove to a doubting world that Alaska's long-heralded agricultural potential could be turned into solid reality that promises substantial benefits for all.

Just over two years ago—in August of 1978—Alaska's first lady, Bella Hammond, drew the names of 22 men in a lottery to determine ownership of farms, averaging 2,600 acres each, in Alaska's first large-scale agricultural demonstration project in interior Alaska.

Although those farmers were required by contract to have only one-third of the clearing work accomplished by June of 1980, approximately half of the work was completed, with some farmers totally finished, and approximately 13,000 acres of grain planted. We expect production on 15,000 to 25,000 acres in 1981, and perhaps 30,000 acres or more in 1982.

Of great significance are two facts from the 1980 production that convert theory into reality. Previous economic studies had concluded that barley production in interior Alaska could show a profit, if allowed to take advantage of the efficiencies of scale.

In 1980, some farmers were able to plant and harvest fields as large as 1,100 acres in size. University of Alaska agricultural economists working directly with these farmers were able to document costs of production at approximately $104/acre. Earlier estimates of 1¼ to 1½ tons of grain/acre were proven attainable by good farmers with some producers harvesting two tons/acre. At a $90 to $100/ton farm price necessary to be competitive on the world market, it became clear that Alaskan farmers can compete successfully for both the domestic market to feed livestock in Alaska and to export their surplus to the markets of the Orient.

A Domestic Livestock Industry

Alaskans presently import approximately 98 percent of the red meat they consume each year. The primary objective of the Delta Project is to provide the incentive necessary to stimulate the development of a red meat industry in Alaska and reduce the dependency on outside sources of supply. To accomplish that objective, four major factors are necessary:

1. *A stable supply of competitively priced feed grain;*
2. *Farmers with the desire and ability to produce livestock on a competitive basis with outside growers;*
3. *A meat processing facility, properly located, that can efficiently process the livestock produced;*
4. *An export market to assure the sale of any surplus grain.*

The 1979 production of grain at Delta Junction and the 1980 plantings are providing the incentives needed. In 1980, approximately 2,500 tons of locally produced grain were used in Alaska. It appears that approximately 6,000 tons will be used in 1981.

New herds of beef and dairy cattle, as well as hogs, were established in 1980 in the Delta Project area.

A new slaughterhouse and meat processing facility is now required and funding for that facility is requested in this report.

Expansion of the Delta Project

After a survey and analysis of the progress of Delta I, Governor Jay Hammond, in September, 1980, issued instructions to proceed with expanding the Delta Project. "Delta Expansion" will include 45,000—60,000 additional acres for disposal and development on approximately the same basis as Delta I. The increased volume of crops from the area will result in lowered unit costs for everyone. Most of the survey work has been completed. The AAAC is recommending approval of this project and the necessary funding by the 1981 Legislature and expects to have the farmers on the land by September-October of 1981.

Point MacKenzie

The 15,000-acre Point MacKenzie Project was designed by the AAAC in 1979, approved and funded by the Legislature and Governor Hammond in 1980 and will be ready for the farmers in March, 1981.

The Point MacKenzie Project, including 31 tracts ranging in size from 300 acres to 640 acres, has two principal objectives: (1) to provide new lands for dairy farms to augment the existing dairy production in the Matanuska Valley and Anchorage areas. This increased production is absolutely vital if unit costs of production, transportation, processing and marketing are going to remain competitive with subsidized milk from the Seattle-Tacoma area shipped to Alaskan markets. (2) to provide additional acreage for vegetables, livestock and forage production in the Anchorage/Mat-Su area.

Nenana

The Legislature appropriated $500,000 for the initial work in developing agriculture in the Nenana area. Five contracts were let to gather the basic information needed to develop that project. We expect project design and recommendations to be completed in time for farm disposal in 1982-83.

Why develop agriculture in Alaska?

1. *One of the most unanimous and consistent philosophies supported by Alaska voters and elected officials is this:*

   Non-renewable resource wealth must be used to develop renewable resource industries.

   There must be a renewable resource industry base to undergird the continued economic health of the state when the oil and gas resources are depleted. It is worth noting that the Prudhoe Bay reserves are expected to be 95 percent depleted by 1997—just 17 years from now. Also, in the 12 years since discovery of Prudhoe Bay, new discoveries amount to less than one-sixth of the Prudhoe Bay reserves.

II. *With a total of approximately 20 million areas of cropland identified in Alaska, adequate acreage is available to produce satisfying work and a very enjoyable lifestyle for many, many Alaskans. Agriculture can be for the interior areas of Alaska what fishing is to the coastal areas.*

III. *With the proven ability to produce considerable quantities of our own food within the State—food that is usually of higher quality and at competitive prices—Alaskans can no longer be satisfied to import 98 percent of their red meat supplies and depend on a transportation and distribution system that at times maintains only a four day supply of food within the State.*

IV. *Agricultural development in Alaska includes production of vegetables on native lands for home consumption and retail marketing. This can be of great importance for the diet of rural people as well as a source of cash income. Native lands can also play a major role in producing grain and livestock—including grain-fed reindeer for in-state consumption and export. This provides an important opportunity for those rural people who wish to increase their participation in the cash economy of the state, while remaining on their historic lands.*

V. *Alaska has of late developed a reputation in the "South 48" for unbelievable affluence (wealth transferred to Alaska from the petroleum "user" states) and lavish, irresponsible dissipation of that wealth. Already those "user" states and their Congressional delegations are considering laws to share Alaska's wealth with the rest of the Nation. Rational programs to develop the agriculture and fishing potentials of Alaska can demonstrate that much of its oil wealth is being used responsibly to produce high-quality foodstocks for the Nation and the world, build a stable economic base for Alaska's future, and very satisfying lives for many thousands of Alaskans.*

If one considers the food shortages of the world, the balance of payment deficits of the U.S., and the significant potential for production of food from Alaska's lands, the conclusion seems inescapable—it's time to get on with the job.

Walter I. (Bob) Palmer
Chairman, Alaska Agricultural Action Council
Special Projects Coordinator
Office of the Governor

SUMMARY AND OUTLINE

In 1976, Governor Hammond announced that a major goal of State government was to encourage the economic development of renewable resources, including agriculture. He set up the following goals;

- broadening the economic base of the State through agricultural production;
- stabilizing real food costs by increasing local food;
- providing alternative job opportunities through expanded agriculture;
- improving rural life by developing an economic base through agriculture;
- assisting in meeting national goals of increased food production for world needs.

In 1977, the Alaska State Legislature allocated the first funding toward the goals of developing a self-sustaining commercial agricultural industry. Since that time, each legislature has approved additional funding, several major projects have been started and more are planned, beginning infrastructure facilities are under construction, and many other activities have been taking place. This report will attempt to summarize many of those activities, analyze past events, and focus both on the present and the future.

Agriculture is a tremendously diverse industry, but yet totally interdependent. It would be easy to concentrate on any one individual sector, but initially it is critical to maintain an "overall approach" to development. It is not only important to do a good job of planning individual elements of the system but to plan how each separate element will coordinate with the entire system.

This report is divided into several sections, each consisting of a summary discussion, outline of past progress, current status, and recommendations of the Alaska Agricultural Council for the future.

MAJOR 1980 ACCOMPLISHMENTS

A. Delta Agricultural Project
1. Land clearing
   a. 54,000 acres of timber knocked down
   b. 37,000 acres of timber piled
2. Land in production
   a. 9,000 project acres, 4,000 non-project acres—the total doubled the 1979 production (new State record)
3. Entire 1979 grain production sold in-state
4. Barley feed trials with reindeer started
5. Exported 15 tons barley for Japanese feeding trial
6. Major world-class fertilizer plant completed
7. Utility road improvement completed (Hanson Road)
8. Farmer owned and controlled grain marketing system established
9. First major swine operation started
10. Two dairies began operation
11. Beef cattle population doubled
12. Major grass-seed operation started

B. Point MacKenzie Agricultural Project
1. Entire project surveyed and platted
2. Access road system connecting all farms completed
3. Qualification and disposal process completed

C. Delta Agricultural Project Expansion
1. Project area identified and survey started

D. Nenana
1. Initial feasibility studies for transportation, livestock and vegetable production were implemented.

As directed by the State Legislature, the Alaska Agricultural Action Council is involved in many areas of the State's agricultural development. Following is not only a summary of the Council's 1980 activities, but an indication of the complexity of this type of development:

1. **Marketing**—Research and coordination of test marketing programs and any other areas of state agriculture marketing involvement.
   a. Assist in organizing a state-wide marketing system and related functions (processing and transportation);
   b. Investigate new markets for Alaskan agricultural products;
   c. Maintain contact with "Lower 48" and world markets to remain informed of pricing direction and market trends.
2. **Transportation**
   a. Promote and coordinate State's efforts to set up an agricultural transportation system;
   b. Work with all modes of transportation (truck, rail, air) and the facilities to complement the system.
3. **Research and Extension**—Promote and review agricultural research and extension.
4. **Financial**—Maintain contact with various agricultural financial institutions and encourage the development of private financing.
5. **Livestock**—Coordinate efforts to expand State livestock industry in processing, transportation and marketing.
6. **Energy Coordination**
   a. Investigate and encourage alternate energy programs for agriculture, especially the best use of the biomass to be cleared from the farm tracts.
7. **Farmer Contact**
   a. Provide assistance to various farmer organizations.
8. **Public Relations**—Coordinate a detailed planned program aimed at informing and educating the general public about agriculture in general and Alaskan agriculture specifically.
9. **Contracts Administration**—Administer contracts involving project implementation, land clearing, road construction, transportation system, marketing programs, state equipment and facility construction.
10. **Intergovernmental Coordination**—Maintain communication between various Federal and State agricultural departments, i.e., SCS, ASCS, USDA, AMS, CES, etc.
11. **Legislation**
    a. Make recommendations on existing and proposed legislation;
    b. Provide assistance on agricultural legislation;
    c. Maintain contact with "Lower 48" agricultural groups, both Federal and State

MEETINGS

The Council had 21 scheduled meetings during 1980. The dates and locations were as follows:

DATE	LOCATION
January 14, 1980	Juneau
January 29, 1980	Anchorage
February 8, 1980	Juneau
February 22, 1980	Anchorage
March 13, 1980	Delta Junction
March 28, 1980	Anchorage
April 10, 1980	Juneau
April 24, 1980	Anchorage
May 12, 1980	Anchorage
June 6, 1980	Anchorage
June 27, 1980	Anchorage
July 11, 1980	Anchorage
July 25, 1980	Anchorage
August 13, 1980	Palmer
August 14, 1980	Anchorage
September 12, 1980	Anchorage
September 29, 1980	Anchorage
October 16, 1980	Anchorage
October 31, 1980	Anchorage
December 8, 1980	Anchorage
December 20, 1980	Anchorage

PUBLIC HEARINGS

In addition, there were six public hearings held on various projects under consideration by the Agricultural Action Council.

DATE	LOCATION	PROJECT UNDER CONSIDERATION
March 13, 1980	Delta Junction	Delta Expansion
August 13, 1980	Palmer	Point MacKenzie
August 14, 1980	Anchorage	Point MacKenzie
August 29, 1980	Nenana	Nenana Agricultural Development
October 6, 1980	Fairbanks	Point MacKenzie
October 8, 1980	Soldotna	Point MacKenzie

MISCELLANEOUS ACTIVITIES ACCOMPLISHED IN 1980*

1. Appointment of Export-Transportation Committee
2. Consultant Services of George Figdor (Develop a documentary slide presentation of agricultural development)
3. Consultation Services of Ray Fendenheim (Transportation)
4. Chairman's Trip to Australia and New Zealand
5. Participation of AAAC in Deltana Fair in Delta Junction
6. Participation of AAAC in Tanana Fair in Fairbanks
7. Invitation to (and acceptance by) the State Board of Forestry to serve as an Advisory Committee to determine the best use of the biomass growing on lands scheduled to be put into agricultural production
8. Visit of three agricultural consultants to Delta to organize Alaska Grain Exchange
9. Participation with Pacific Northwest Grain and Feed Dealers
10. Participation with Canadian Institute of Agriculture
11. Marketing Symposium
12. Met with Nicholson, Incorporated on Wood Utilization
13. Feeding Trails in Hokkaido
14. Reindeer Feeding
15. Interior Development Conference in Fairbanks
16. Governor's Visit to Delta Ag Project
17. Lieutenant Governor's Visit to Delta Ag Project
18. Argentina Attache's Visit to Delta Ag Project
19. Denmark Attache's Visit to Delta Ag Project
20. Various Tours of agricultural projects
    a. Successful Farming magazine
    b. Time-Life
21. Donated grain to Future Farmers of America
22. Donated grain to Fairbanks Kiwanas for Waterfowl Project

REIMBURSABLE SERVICES AGREEMENTS

University of Alaska for hydrological/meteorological studies at Point MacKenzie, Nenana and Delta.
DNR for Point MacKenzie Project Planning Costs.
DNR for Preliminary Survey of Ag Lands in Nenana Area.
DNR for Cadastral Survey of Point MacKenzie.
Contract with Matanuska-Susitna Borough for Point MacKenzie Road Construction.
Office of the Governor for Delta Ag Development Documentary.
DCED for Preparation of Proposal to DOE to Fund a Phased Program to Continue Biomass Utilization Study.
DNR to Fund Collecting Ag Statistics from 1979 Crop Year.
University of Alaska for Policy Information Needs.
Hanson Road Construction.

*Details concerning individual activities available upon request

1981 AGRICULTURAL RECOMMENDATIONS

The Alaska Agricultural Action Council was created by Chapter 75, SLA 1979, First Session, Eleventh Alaska Legislature. AS44.33.425 (a) states

"Before January 15 of each year the council shall report to the governor and the legislature concerning the activities of the council during the current fiscal year.

The report shall contain recommendations for the development of agriculture in the state during the next fiscal year."

The Council's duties as charged by the legislature range from coordination of agricultural data collection, recommendation of agricultural promotion activities and land classification to the administration of the Delta Agricultural Project and any other agricultural development projects as authorized. In addition, the council is charged with the clearing, draining, and breaking of land located in the Delta Agricultural Project and any other project authorized under AS44.33.425.

The Council is mandated to report to the Legislature annually, with recommendations for one or more agricultural projects; to propose legislation identifying the tasks of various state agencies necessary to accomplish the development project; and to propose legislation granting to the Council sufficient authority to insure cooperation of all state agencies involved in the implementation of the agricultural development project.

Considering the critical timeliness and need for orderly progression of agricultural development, the Alaska Agricultural Action Council recommends to the governor and the legislature the following items.

1. Appropriation for final phase of land clearing on Delta Agricultural Project
2. Appropriation to continue administration and provide two items of specialized land preparation equipment for Point MacKenzie Agricultural Project
3. Expansion of the Delta Agricultural Project
4. Construction of a livestock slaughter and processing facility
5. Construction of a Grain Export Terminal
6. Implementation of a state-wide grain marketing system
7. Reenactment of the State's Homesteading Credit
8. Continuation of Nenana feasibility, environmental baseline studies, and project development
9. Implementation of a program to compensate farmers for bison damage.

WHAT IS ALASKAN AGRICULTURE?

IN TERMS OF DOLLARS: The Alaska State Legislature has earmarked several million dollars to begin the development of expanded agriculture in the Delta and Point MacKenzie Projects. Over the next several years, private and State sources are expected to invest as much as 100 million dollars in a statewide development program. Most of the state funding will be loan money.

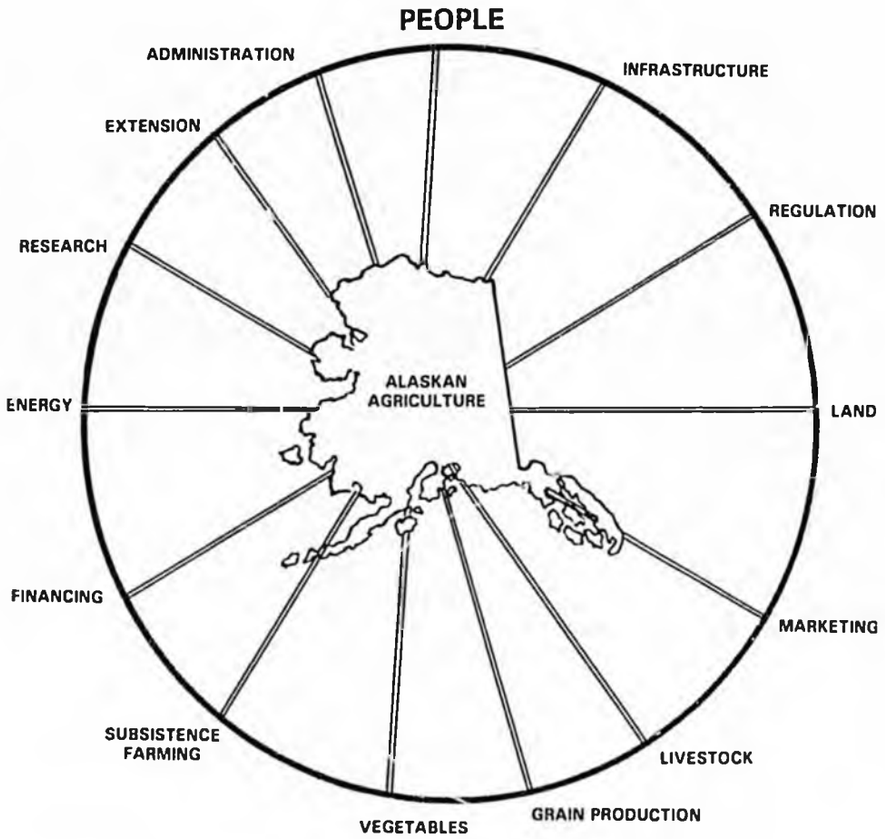
IN TERMS OF LAND: Right now, there are about 34,000 acres of land in agricultural production in Alaska compared to only 7,000 acres in 1978. By contrast, the State of Rhode Island has 23,000 acres. The Delta Project will put 50,000 acres of new land into production by 1983. By 1990, the timetable calls for at least 500,000 acres to be in cultivation. And for long term thinkers—out of Alaska's 378,165,760 acres, 20 million acres have been identified for potential cropland production.

IN TERMS OF JOBS: Agriculture doesn't have the glamour of gold or oil, but neither does it have the boom and bust cycle we've experienced in both. It offers steady, long term jobs for Aleskans, not only in direct agricultural employment, but in the support businesses as well that will grow up around agriculture on a local level; direct jobs such as farmers and farm hands, mechanics and elevator operators, and secondary support jobs such as grocery stores, hardware stores, and barber shops.

IN TERMS OF SELF-SUFFICIENCY: Right now, we import about 95 percent of all our food. It's high priced and oftentimes less than Grade "A" quality. A basic competitive feed grain industry will encourage a competitive livestock industry within the State. Once the basic support systems are set up, other forms of agriculture will be competitive such as vegetables, potatoes, and milk. Locally produced agricultural commodities will dampen the upward spiral of prices and will insure fresher meat and produce. Currently, it is estimated that Alaska has a four-day supply of food. Can Alaska afford to be so dependent on such a fragile supply system?

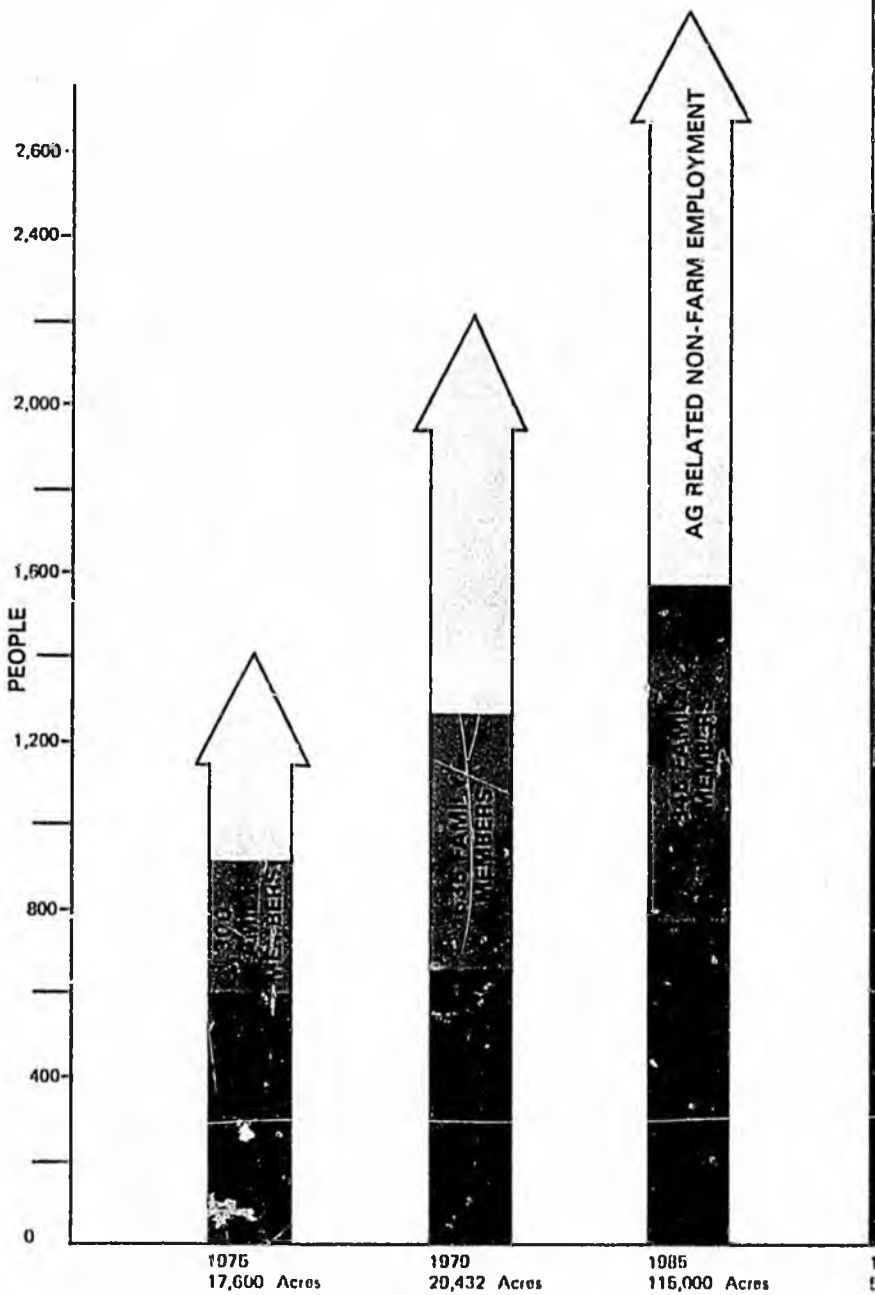
IN TERMS OF PEOPLE: Alaska has been buffeted by a boom and bust economy since the gold rush. Agriculture, properly organized on a competitive scale, can do a great deal to smooth out that chaotic cycle by introducing long term stable economic benefits in jobs, increased self-sufficiency, and in stabilized prices.

It's not going to be done by magic. It will be <u>people</u> who will build the new homes and till the soil. It will be <u>people</u> who will plan and organize the complex management and logistics system that modern agriculture requires. It will be <u>people</u> who will work the support jobs in Alaskan communities. It's <u>people</u>, with a lot of dreams, doing a whole lot of hard work, that will make expanded agriculture a positive force in Alaska's economy—How big a deal is that? We think it's a pretty big deal. We believe agriculture will become the dominant industry in Interior Alaska.



THE BEGINNING OF A STABLE ECONOMIC BASE PROVIDING JOBS AND FOOD FOR ALASKANS BY ALASKANS

ACTUAL AND PROJECTED JOBS DIRECTLY RESULTING FROM AGRICULTURAL DEVELOPMENT IN ALASKA



Employment figures for 1975 and 1979 obtained from USDA Statistical Reporting

DELTA AGRICULTURAL PROJECT

In August, 1978, a lottery was held to distribute nearly 60,000 acres of land for agricultural production near Delta Junction.

The land was platted in 22 parcels averaging 2,560 acres each. Studies conducted by the University of Alaska determined that these sizes were necessary to provide the economies of scale necessary for small grain production in a semi-arid climate such as found in the interior region of Alaska.

Clearing of the land began during the first winter following the lottery. The progress made during the two years succeeding the lottery has been phenomenal. The actual work that has been accomplished totals nearly 60 percent of completion. Vegetation on approximately 55,000 acres has been knocked down and has been piled into berm rows on 35,000 of these acres. Crops were planted in 1980 on about 9,000 project acres and 4,000 acres on other lands. It is expected that 1981 will show a significant increase.

In 1979, 1.3 million dollars were loaned to the Alaska Farmers Cooperative, Inc., for the purchase and construction of a grain elevator. During 1980, an additional $300,000 was used to expand their grain storage and handling capabilities. They now have secure storage for over 12,000 tons of grains.

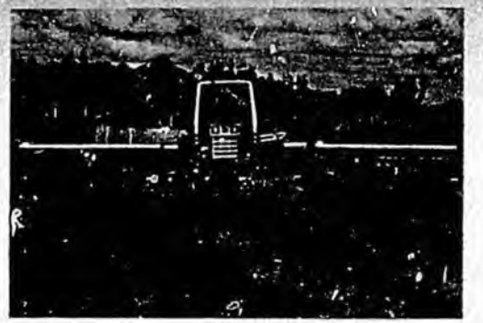
It has become apparent, however, that an additional facility must be added in the very near future. This elevator likely will be in a location separate from the existing facilities and will receive grain from the eastern portion of the Delta Agricultural Project (Delta I), and also production from the newly planned Delta Expansion Project (Delta II). It is expected that construction will be started in 1981.

Grain harvested in 1980 totaled approximately 7,800 tons from the Delta Area. Due to severe weather conditions and predator (buffalo) damage, field losses ranged as high as 50 percent. Despite these problems and the fact that late seeding resulted in some acreage being abandoned, the total acreage planted averaged over 30 bushels per acre. Several operators averaged greater than 75 bushels per acre harvested.

Since 1980 was the first year of any significantly large acreage planted, it served as an educational period. Much was learned from this season and this knowledge will be incorporated into farming plans for succeeding years. We have the technology to overcome the problems encountered in this year's harvest.

0 Acres

ervice



With the opening of new agricultural lands in Delta Junction, the private business sector has stepped in to supply farmers with needed equipment, parts, and service. There are now three equipment dealers operating in the area. They represent the three major manufacturers of agricultural equipment in the U.S. The financial commitments of the dealers are indicative of the faith they have in the potential for agricultural development in interior Alaska.

DELTA EXPANSION PROJECT (DELTA II)

A land sale by lottery is planned for September 1, 1981. Survey work is now underway to establish exact acreage, tract sizes, and layouts. The individual tract size will be 1,800 to 2,700 acres.

The project will encompass about 55,000 acres. Approximately 45,000 acres are located on the north and east boundaries of the existing Delta I project (Delta East). An additional 10,000 acres are west of Delta Junction and located on the west bank of the Delta River (Delta West).

In order to promote usage of existing resources, all potentially commercial timber stands will be sold with the farms to be managed privately. Proven timber stands will be assessed at a reasonable market value and that value added to the price of the tract. Farm development plans will allow adequate time for alternative uses of the timber resource.

A road transportation network to service all the tracts is being designed. It will be in place when the land clearing process begins.

To provide a broader base of climatological data for the area, the Alaska Agricultural Action Council has undertaken the task of having weather recording stations installed in both Delta East and West areas. These stations will provide information that will be invaluable to the farm owners when they begin to lay out their cropping plans.

The prospective farmer, for this and other projects, will be required to submit a complete qualification package to determine his or her eligibility for the farms. The information will include proof of actual farming experience or a contract for farm management services and sufficient capital to insure adequate financing for a farm project of this scope, Alaskan residency, and a farm plan. This plan must contain a general schedule of clearing and production intentions as well as a five-year cash flow projection. This will insure that the prospective farmer knows the financial commitments required on a large scale farming operations.

Several areas in the Delta Expansion Project have been reserved for wildlife habitat. In Delta West, a greenbelt along the river has been set aside to insure that the salmon spawning grounds will not be affected by siltation or human encroachment.

On Delta East, the headwaters of the Clearwater Creek have been protected in the same manner. Also on Delta East, an historic Peregrine nesting grounds plus all lands within a one mile radius have been reserved.

NENANA AGRICULTURAL PROJECT

Stalled in past years due to uncertainties regarding land ownership by State and Federal governments and Native Corporations, the planning process has gained significant momentum towards a major agricultural development near Nenana. The first phase of the Totchaket Project, as it is called, is located in two townships directly west of the City of Nenana, 60 miles south of Fairbanks.

Long considered one of the State's prime agricultural areas, this project is located adjacent to the Alaska Railroad, connecting Fairbanks and the State's tidewater ports. In addition to the positive aspects of this transportation link, the area has the capability of expanding agriculture into the river valleys to the west.

The 1980 Legislature initiated the planning process with an appropriation to determine transportation access, feasibility of livestock and vegetative production, and analyze other developmental stages. Five contracts have been let to provide that information. Presently, the U.S.D.A. Soil Conservation Service has identified 175,000 acres of soils determined to have excellent potential. It is anticipated that, due to access problems and the need to finalize other segments of the industry, the actual disposal will not take place until 1982 or 1983.

POINT MACKENZIE PROJECT

In 1980, the Alaska State Legislature appropriated funding to implement a 15,000 acre project designed mainly to revitalize the State's existing dairy industry. The tracts have been surveyed, roads have been built, and applications by prospective farmers have been analyzed prior to a lottery planned for March 6, 1981.

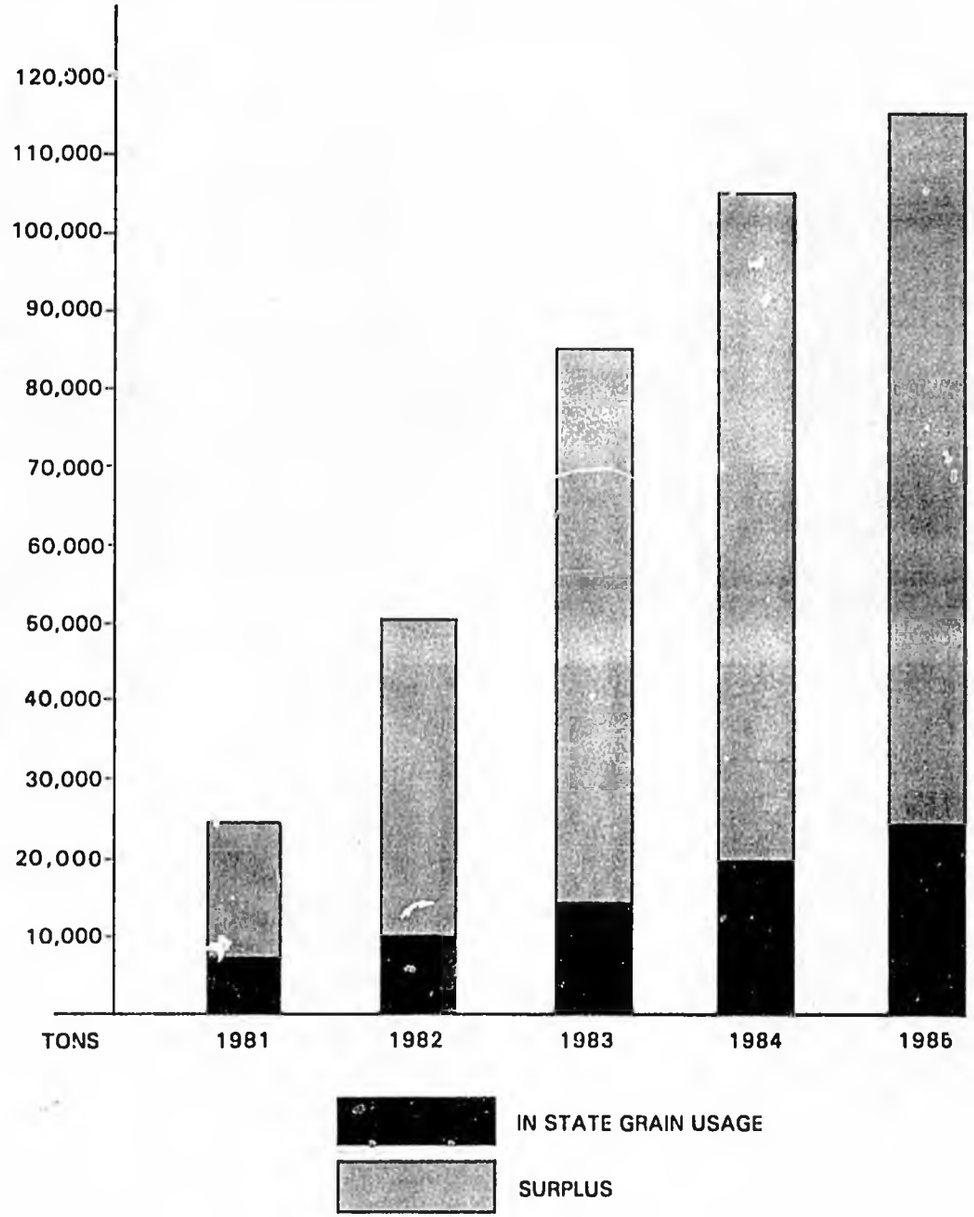
Prior to the initial funding, the University of Alaska Cooperative Extension Service and the Agricultural Experiment Station studied the local dairy industry. They concluded that the major reason the industry was declining was due to a lack of critical volume of milk to support modern and efficient processing and distribution facilities in addition to many other infrastructure components. A minimum of 19 dairies, within the Point MacKenzie Project are expected to begin milk production during the next three years, and some production may come from the project within one year.

At Point MacKenzie, several of the new tracts are expected to concentrate on general farming and vegetable production. This industry has long been the mainstay of the Matanuska Valley, but has also suffered from scarcity of land and production to expand to more efficient marketing and processing facilities.

Milk and vegetables aren't the only products coming from Point MacKenzie. Dairy and beef animals will be produced to help support the very critical segment of the State's livestock industry—a modern and efficient meat processing facility.

Additional areas with agricultural potential for subsequent expansion have also been identified near the Point MacKenzie Project and will be discussed in the next report.

Projected Production and Usage of Grain from Delta, Delta Expansion, and Nenana Projects
(in tons)



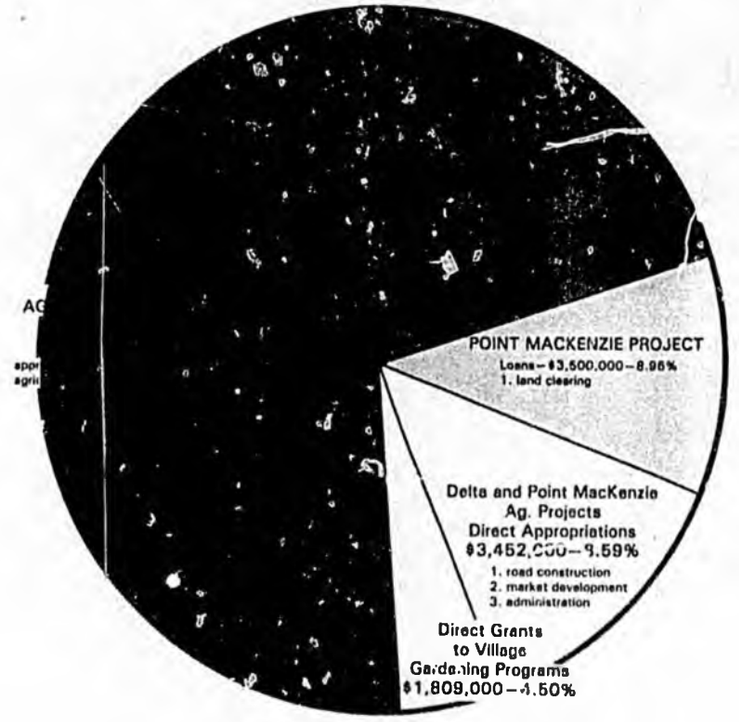
FINANCIAL SECTION

The primary source of development credit for Alaska's farmers continues to be the Agricultural Revolving Loan Fund (ARLF) administered by the Division of Agriculture. The fund ceiling and capitalization were increased from $7.8 million to 20 million to fund the Delta Project, and other farm production enterprises of the State. Authorization limits for processing facilities were also increased in 1980, allowing processing loans up to $2.5 million limit. Unfortunately, the increase in 1980 loan funds did not provide adequate monies for an expansion of the processing facilities in the state.

1980 also saw the new state-supported Commercial Fishing and Ag Bank become operational. However, given the restrictions under which commercial banks must operate and the lack of track records of the new farmers, this source has yet to make a significant contribution toward satisfying the financing needs.

If the Legislative and Administrative policy of expansion of the state's agricultural industry is to be successfully instituted, the state must continue to play the lead and major role of the industry. Alternative financing sources exist, but commercial sources of credit find it difficult or impossible to offer credit to enterprises in new areas of the State, to enterprises which are programmed to be in the development phase for up to three years, or to young farmers without an Alaskan track record.

In addition to the obvious need for additional loan funds, both the Council and the State Division of Agriculture are devoting considerable effort to look at the total spectrum of agricultural financing. This vital segment of the development effort merits a most thorough examination and analysis, and will require the full cooperation of all financial institutions. As the farmers become more financially stable, they will be turning to more commercial type sources of funding such as the Commercial Fishing and Agriculture Bank and the private financial sector.



Greater than 86% of agricultural appropriations, other than those grants to the village gardening program, have been in the form of loans for renewable resource development. All loans are adequately collateralized and will be repaid with interest to the state.

MARKETING

One of the key components of any industry is marketing. The Alaska Agricultural Action Council together with other agencies has been very involved in not only identifying potential markets but actually providing marketing for the past three years. Three specific grain markets have been identified. They are:

A. Instate Livestock Industry—This primary objective of our agricultural development is expanding faster than most people expected. Various livestock specialists and the University of Alaska have been outlining the tremendous potential for this domestic industry for many years. In summary their conclusion is that beef, and especially swine operations, are very viable but dependent on these conditions:

1. Livestock producers have a dependable supply of feed (Sufficient land in grain production)
2. Livestock producers can buy feed at prices competitive with feed prices in the "lower 48" states. (Feed prices in general are a function of world export prices.)
3. Livestock producers have access to modern and efficient slaughter, processing, and marketing facilities.

B. Export Markets—Several foreign countries have indicated an immediate desire to purchase Alaskan grain. This is a large volume market that can potentially consume any conceivable amount of grain, assuming the following conditions:

1. Products are price competitive
2. Products are quality competitive
3. Transportation facilities (tidewater ports) are modern and efficient.

C. In-State Alcohol Industry—Based on several studies sponsored by the Division of Energy and the Alaska Agricultural Action Council, the production of ethanol and subsequent gasohol appears feasible in the future. Presently, these studies are being expanded with hopes of a pilot project within the near future. In addition to utilizing high or low quality grain to produce alcohol for fuel, one by product will be a high protein mash that can be used as a protein supplement in a ration for livestock.

TRANSPORTATION

Transportation is a vital part of the agricultural industry in all parts of the world; so much so that the kinds of agricultural commodities produced, and where they are produced tend to be influenced by transportation costs. These costs include movement of goods into, as well as out of production areas.

Closely related to transportation of agricultural goods is the availability of facilities to transfer products from one form of carrier to another. In many cases, particularly in Alaska, an area is served by only one mode of transportation. It is therefore necessary to provide an efficient means to transfer goods between carriers.

Alaska is beginning to develop the production segment of its agricultural industry. It has begun by making land available largely for the production of small grains. In the early years, a major portion of the grain produced must be exported. However, as this grain base expands, it is reasonable to assume that the livestock and poultry industry will expand as well, allowing more of the grain to be used in-state. It is also expected that in the future more vegetables will be produced in the state, at least for the fresh, in-state market. Action must be taken now concerning the manner in which these agricultural products will be moved throughout the state as well as to tidewater ports for export.

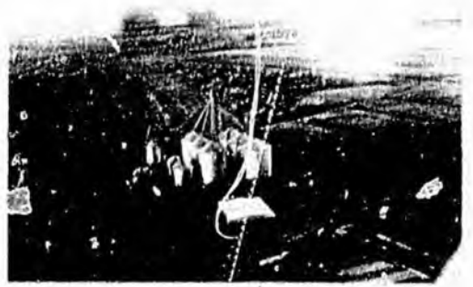
Today the transportation system in Alaska is not designed to haul and handle agricultural products. Railroads and roads, two of the principal means to transport bulk goods, service only a very small portion of the state. Yet, much of the land with agricultural potential does not lie near one or the other of these services.

Many rural communities are serviced only by air or infrequent barge traffic. In many cases, this makes the cost prohibitive to transport fresh products as well as transporting bulk commodities needed for production. Further, the regulatory policy of the state has not favored movement of these goods, or upgrading and extending its present agricultural transportation system.

This latter consideration should include provisions for better links between rail, road, and waterways. Further it will be necesary to develop regional transportation system in areas remote from major agricultural production areas. In this manner, these regions will be able to rely on a supply of food products produced in Alaska. If Alaskans wish to consider expansion of the State's agricultural industry, its transportation system for agricultural production requirements and commodities must be improved.

GRAIN HANDLING

During the 1979 Legislative session, $1,300,000 was appropriated to be used as a loan to purchase and construct a country grain elevator to handle the feed grains produced in Delta. These monies provided drying, handling, and storage for approximately 300,000 bushels of grain. In 1980 an additional $300,000 was used to expand the storage capacity to 500,000 bushels and add a second drying unit to this system to facilitate receiving and processing grain in a more timely manner.



This is only the first phase of a system for handling Alaskan grain. Production in 1982 from the Delta Agricultural Project alone will require three times the capacity that it now has available. In addition to storage, our export capabilities must be refined to provide the most economical method of moving grain to tide water. The two primary segments of this system will be a transfer facility to take grain trucked into Fairbanks from Delta and put it on rail for shipment to a port, and a dockside terminal to provide storage and loadout capabilities onto ocean going vessels.

This export elevator will be a key link in Alaska's future agricultural projects. Although the initial volume of grain will not fully utilize the export facility, it is a necessity at the early stages of development to complete the entire transportation network.

The additional volume of throughput resulting from the Delta Expansion and the Nenana area will enable the terminal facility to generate sufficient revenue to defray it's operating expenses and service all debts.

FERTILIZER

In 1980, two new fertilizer blending plants were added to Alaska's agricultural infrastructure.

Alaska Mill and Feed in Anchorage constructed a blending plant to service the South-Central region. This facility has 700 tons storage capacity with an 8 hour through-put capacity of 90 tons bulk and 30 tons bagged.

In Delta Junction, the Alaska Farmers Cooperative, Inc. has built a 6,000 ton plant to serve the needs of interior Alaskan farmers. This plant has an 8 hour capacity of 400 tons bulk and 80 tons bagged.

The final necessary link in the fertilizer supply line is a bulk materials handling and transfer facility to transfer incoming products from rail to truck for distribution to the final destinations.

ALASKA MEAT PROCESSING FACILITIES; PRESENT AND FUTURE NEEDS

In order to fill the needs of an ever expanding livestock industry and take advantage of economies of scale, a modern facility capable of processing 100 head of cattle and 400 head of hogs per day is necessary. Construction of this facility would provide three major benefits:

1. Provide the marketing outlet for the present and future needs of the industry.
2. Provide long range stability necessary to encourage large scale feeder operations utilizing state agriculture and fisheries feed products.
3. Provide the Alaskan consumer a quality product, delivered fresh at a competitive price.

Perhaps the most significant benefit is that the facility would provide the catalyst needed to complete the feed grain-livestock cycle. Given the reality of a strong facility, the livestock producers can make the commitment to growth confident of the future.

It should be understood, the proposed new facility would augment the existing in-state facilities, not replace them.

AGRICULTURAL RESEARCH AND EXTENSION

The Alaska Agricultural Experiment Station and the Cooperative Extension Service, University of Alaska, are important components of Alaska's agricultural system. The Experiment Station carries out research to increase the production of food and wood products in Alaska; the Extension Service transfers technology resulting from this research to farmers, ranchers and land managers.

Alaska, however, has a smaller research and extension program in agriculture than any other state. The success of current agricultural projects and the development of 500,000 acres of new land for crop production by 1990 will depend on how well agricultural research and extension in Alaska can be expanded to equal the effectiveness of these programs in other states.

In the absence of effective and continuing research, Alaska's agriculture cannot compete with the production of commodities in other states where strong programs in agricultural research are provided through the public sector. Specific gaps in Alaska's facilities and staff for research at the Experiment Station include plant breeding and genetics for interior Alaska, agricultural entomology, applied soil physics, plant physiology and biochemistry, soil classification and genesis, veterinary science, animal production on native rangeland, meat science, reindeer management, soil microbiology, forest management and human nutrition. Even in fully developed state Experiment Stations, agricultural scientists remain only about 8 to 10 years ahead of significant problems in plant and animal production; disease, insect and weed control; soil and water management; and changing economic and social conditions.

Much of the agricultural research and extension in Alaska will need to be done in the public sector. Researchers in the private sector rely on the Experiment Station to provide primary information for Alaskan agriculture. Investment through the public sector for agricultural research and extension will pay off in the formation of a successful and competitive agricultural industry for Alaska. Nationally, the annual rate of return on agricultural research expenditure in the public sector is on the order of 50 percent.

The following segments are recognized as vital components of the entire Alaskan agricultural development program. While it is necessary to consider these areas, it must be pointed out that they do not come under the legislative mandate of the Agricultural Action Council. We are therefore including these subjects for informational purposes.

NON PROJECT FARMLANDS

During the past three years, sales of agricultural land by the State not included in major project-type disposals has occurred at a fairly rapid pace.

Since the fall of 1978, there have been 266 parcels offered for sale, totaling approximately 46,000 acres. These units range in size from 20 acres to 1,120 acres with the majority of the units within the 160-640 acre size range. Sale areas included Delta Junction, Fairbanks, Talkeetna, Copper Center, Homer, and Gustavus. Approximately 14,000 acres of these disposals in the Potlatch Ponds area near Fairbanks continue to be held from final conveyance to lottery winners by court action against the State.

The majority of the units have been disposed of via the lottery process and applicant interest has been high. The fall 1979 sales at Talkeetna and Delta Junction averaged 50 applications per parcel offered. Disposals at auction which included Tanana Loop, Four-Mile Hill and the Two Rivers sale showed considerable bidder interest and most parcels sold over minimum bid. The auction type sale is popular in areas where farming is currently going on since preference rights are allowed to local farmers to expand their present units.

The majority of the parcels are sold with some type of development schedule required. These vary in years and percent cleared from one area to the next. Development schedules are considered by local area farmers as a necessary requirement on all future sales. A number of the parcels do not have current access such as the Talkeetna and Potlatch Ponds sales. In all cases where access is not currently available, the development schedule does not begin until access occurs.

While many of the smaller size tracts are not considered economic units from a commercial agricultural standpoint, they are popular land disposal units. The small tracts allow the subsistency type resident and the part time farmer to try their efforts at agriculture in Alaska without large capital outlays. The major problem with small tracts without commercial potential and sufficient cash flow is the inability to acquire financing for farm development activities. These farmers must rely on non-farm income to pay for the farm development costs.

The estimated 25 percent of these units that are in the 200 acre size or larger may become viable farms as the marketing infrastructure is established for livestock-type activities in Alaska. The second major requirement will be the availability of farm financing, particularly for land clearing on the units with development schedules.

SUBSISTENCE

As stated, there are many people who are farming small acreages in Alaska. They are farming for various reasons; subsistence, family income or just for pleasure. Whatever the reason, all contribute to the food supply for Alaskans. Yet, the State has no established policy which supports their efforts.

This lack of policy is particularly evident in the native communities. In the past several years, several millions of dollars have been spent in grant money to assist these communities in producing some of their own food products. This alone is not enough.

What is needed is assistance in producing the food products, assistance in using the products, and as efforts progress, assistance in marketing the products to those who are not involved in agricultural production but appreciate a fresh product. Evidence is very high that these services are desired.

Food production efforts have begun in the Galena, Kobuk and lower Yukon area with village gardens, on the Seward Peninsula with reindeer, and in the Kuskokwim River valley where a small commercial truck farm is operating. A coherent planning effort including loan programs, applied research and education with almost immediate application of the plan must be begun now to aid regional food producers.

REINDEER INDUSTRY

Reindeer herding is a major segment of Alaska's livestock industry. For 1980 it is estimated that 25,000 reindeer in 18 herds are grazing in Alaska. The majority of herds are on the Seward and Baldwin Peninsulas. Additional herds are located on Nunivak, St. Lawrence, and Hagemeister Islands.

Through most of the history of reindeer in Alaska, herding has been largely a part of the subsistence economy. In the past few years, however, the industry has started to move into the modern business world. Increases in prices for reindeer products such as meat and velvet antler have given the industry renewed potential. Current reindeer herd owners are attempting to expand their herds while interest is being expressed in starting new herds. It is currently estimated that the Seward Peninsula could support at least 45,000 reindeer. This number is sure to be increased as the results of the current SCS range survey of the Seward Peninsula are translated into range management plans. It has been estimated that Alaska has 100,000,000 acres of rangelands that are currently, or have in the past, supported domestic reindeer grazing. These lands have been estimated as capable of supporting 400,000 reindeer.

It is probably unrealistic to believe that the Alaska reindeer industry has real potential to expand to the above numbers. Even in the absence of economic consideration, land use conflicts or other difficulties would prevent this from occurring. However, it is not unrealistic to believe that the industry has the potential to expand significantly in areas where it now exists, as well as in specific areas where it formerly existed. The lower Kuskokwim area is an example of the latter.

What would it take for the reindeer industry to expand? As with all livestock agriculture, it will take, above all, herd owners and herders versed in modern animal husbandry and business management. A start is being made through research and educational programs of the University of Alaska's Agricultural Experiment Station, Institute of Arctic Biology, and Cooperative Extension Service. Adequate financing will be required as herd owners attempt to expand their facilities.

Sec. 44.33.410. Duties. The Advisory Council on Cultural Facilities shall

(1) by regulation, establish criteria for ranking applications for grants to municipalities for the purpose of construction or development of cultural facilities under AS 43.18.500; the regulations shall provide for the assignment of priority among applications transmitted by the commissioner of commerce and economic development; the criteria for ranking applications shall include facility need and suitability, public support for construction or development and maintenance of a facility, availability of land, management capacity, alternatives to completion of the facility proposed, redevelopment or rehabilitation of a structure qualifying as an historic property or a building of historic value which is part of an historic district, and cost;

(2) by application of the criteria adopted under (1) of this section, advise the commissioner of commerce and economic development regarding the approval of requests for financial assistance in the construction of cultural facilities submitted in accordance with AS 43.18.500;

(3) at the request of a municipality, provide assistance in the preparation of an assessment of needs and review proposals and plan for construction or development of a cultural facility, for which financial assistance is requested under AS 43.18.500; and

(4) submit an annual report to the commissioner of commerce and economic development and the legislature summarizing its activities and expenses. (§ 3 ch 62 SLA 1979)

Article 10. Alaska Agricultural Action Council.

Effective date. — Section 5, ch. 75, SLA 1979, provides: "This Act takes effect July 1, 1979.

Termination date. — Section 4, ch. 75, SLA 1979, provides that this article terminates July 1, 1984.

Sec. 44.33.450. Creation of council. (a) There is established in the Department of Commerce and Economic Development the Alaska Agricultural Action Council. The council is composed of five members appointed by the governor. The chairman of the council is to be designated by the governor from among the members.

(b) The council may invite representatives from the United States Soil Conservation Service, the United States Forest Service, or from other

federal agencies to participate in the deliberations of the council in an advisory capacity.

(c) The term of a member of the council is four years. Vacancies are filled in the same manner as original appointments, but a member appointed to fill a vacancy serves for the unexpired term of the member he succeeds. (§ 1 ch 75 SLA 1979)

Editor's note. — Section 2, ch. 75, SLA 1979, effective July 1, 1979, and terminating July 1, 1984, provides: "Notwithstanding the terms of office specified for members of the Alaska Agricultural Action Council in AS 44.33.400(c), enacted in sec. 1 of this Act, the terms of the first appointees shall be one member serving a term ending June 30, 1980, one member serving a term ending June 30, 1981, one member serving a term ending June 30, 1982, one member serving a term ending June 30, 1983, and one member serving a term ending June 30, 1984."

Section 4 of ch. 75 provides that this article terminates July 1, 1984.

Legislative history report. — For adoption of the Free Conference Committee letter of intent on Senate Bill No. 14 (ch. 75, SLA 1979), see 1979 Senate Journal, p. 1138; 1979 House Journal, p. 1373.

Sec. 44.33.455. Compensation of members. (a) Members of the council who are not state officers or employees are entitled to per diem and travel expenses provided for boards and commissions under AS 39.20.

(b) State officers or employees appointed as members of the council serve without compensation but are entitled to receive per diem and travel expenses from council funds. (§ 1 ch 75 SLA 1979)

Editor's note. — Section 4 of ch. 75 provides that this article terminates July 1, 1984.

Sec. 44.33.460. Meetings. The council shall schedule regular meetings during the year, and may hold special meetings upon the call of the chairman or four members of the council. (§ 1 ch 75 SLA 1979)

Editor's note. — Section 4 of ch. 75 provides that this article terminates July 1, 1984.

Sec. 44.33.465. Quorum. Three members of the council constitute a quorum. An affirmative vote of at least three members is necessary to approve any action of the council. (§ 1 ch 75 SLA 1979)

Editor's note. — Section 4 of ch. 75 provides that this article terminates July 1, 1984.

Sec. 44.33.470. Powers and duties of the council. (a) The council has the power to

(1) adopt and amend bylaws for the management and regulation of its affairs; and

(2) maintain an office at any place or places in the state.

(b) The council has the duty to

(1) hold public hearings in areas of the state considered for agricultural development;

(2) evaluate the need for farm conservation plans for land under agricultural production in the state;

(3) serve as coordinator for gathering information and data relating to agriculture;

(4) recommend appropriate activities for the promotion of agriculture in the state;

(5) provide technical information and make recommendations to the commissioner of natural resources regarding the classification of state land having a potential for agricultural use;

(6) act as administrator of the Delta agricultural development project and any other agricultural development project authorized under AS 44.33.475;

(7) contract for the clearing, draining and breaking of agricultural land located in the Delta agricultural development project;

(8) contract with the owners of land prepared for agricultural use under (7) of this subsection for reimbursement to the state of the cost of the clearing, draining and breaking of the land;

(9) contract for the construction of access roads in the Delta agricultural development project;

(10) conduct studies and carry out experimental and pilot projects to develop markets for agricultural products produced in the state; and

(11) recommend legislation to the governor to improve agricultural development in the state. (§ 1 ch 75 SLA 1979)

Editor's note. — Section 4 of ch. 75 provides that this article terminates July 1, 1984.

Sec. 44.33.475. Agricultural development projects. (a) Before January 15 of each year the council shall report to the governor and the legislature concerning the activities of the council during the current fiscal year. The report shall contain recommendations for the development of agriculture in the state during the next fiscal year.

(b) An agricultural development project recommended under (a) of this section may not be implemented unless authorized by law. The report required by (a) of this section shall include recommended legislation which

(1) sets out the type of agricultural development to be accomplished and, if state land is to be developed for agricultural production, describes the boundaries of the land to be developed;

(2) defines specific tasks to be performed by appropriate state agencies to the extent the tasks are identifiable at that time; and

(3) grants to the council sufficient authority to insure cooperation of all state agencies involved in the implementation of the agricultural development project. (§ 1 ch 75 SLA 1979)

Editor's note. — Section 4 of ch. 75 provides that this article terminates July 1, 1984.

Sec. 44.33.500. Definitions. In AS 44.33.450 — 44.33.500,

(1) "council" means the Alaska Agricultural Action Council;

(2) "Delta agricultural development project" means the state funded program to develop agricultural land located in the Big Delta, Tanana Loop region for the production of small grains and other related agricultural products. (§ 1 ch 75 SLA 1979)

Editor's note. — Section 4 of ch. 75 provides that this article terminates July 1, 1984.

Chapter 42. Department of Transportation and Public Facilities.

Effective date of chapter. — Section 14 of Executive Order No. 39 (1977) provides: "This Order takes effect July 1, 1977."

Editor's note. — Section 1, Executive Order No. 39 (1977), effective July 1, 1977, provides: "FINDINGS AND PURPOSE. As governor, I find that the diverse transportation needs of the state would best be served by the creation of a single department for the planning, study, development, management and operation of integrated, intermodal transportation systems. The purpose of this department is to evaluate, plan, design, construct, manage, operate and maintain all state transportation modes and systems, relying on analysis of the relative advantages of different modes and systems and considering their social, economic, and environmental consequences."

Section 8, Executive Order No. 39 (1977), effective July 1, 1977, provides: "All litigation, hearings, investigations and other proceedings pending under a law amended or repealed by this Order, or in connection with functions transferred by this Order, continue in effect and may be continued and completed notwithstanding a transfer or amendment or repeal provided for in this Order. Certificates, orders, and regulations issued or adopted under authority of a law amended or repealed by this Order remain in effect for the term issued, until revoked, vacated, or otherwise modified under the provisions of this Order. All contracts, rights, liabilities, and obligations created by or under a law amended or repealed by this Order, and in effect on the effective date of this Order, remain in effect notwithstanding this

STATE OF ALASKA

THE LEGISLATURE

BUDGET AND AUDIT COMMITTEE

AUDIT DIVISION
POUCH W — ALASKA OFFICE BUILDING

FINANCE DIVISION
POUCH WF — STATE CAPITOL

JUNEAU 99801

M E M O R A N D U M

DATE: February 27, 1981

TO: Mary Hakala
Administrative Assistant
House Resources Committee

FROM: Elmer Lindstrom
Fiscal Analyst
Legislative Finance Division

The following is a summary of state funding for agriculture from 1978 to 1980. Since the first major appropriation for Delta I was approved in 1978, I have not attempted to locate funding prior to that time. All amounts are in thousands of dollars.

Delta I

Sec. 1, Ch. 171, SLA 1978 (Special Appropriation) - Appropriated to the Department of Natural Resources 4,793.0.

Land Clearing	2,700.0
Surveying	300.0
Test Marketing	350.0
Environmental Studies	150.0
Grain Storage Facilities	1,000.0
Transportation of Grain	43.0
Administration	100.0
Miscellaneous	150.0

Sec. 25, Ch. 80, SLA 1979 (General Appropriations Act) - Appropriated to the Department of Commerce & Economic Development 7,070.8.

Final Clearing	4,736.0
Road Construction	1,080.0
Test Marketing	900.0
Administration	127.9
Extension Services	63.2
Pesticide/Herbicide Research	78.5
Miscellaneous	85.2

Sec. 53, Ch. 120, SLA 1980 (General Appropriations Act) - Appropriated to the Office of the Governor, Agricultural Action Council 2,000.0.

Delta I	2,000.0

Sec. 1, Ch. 40, SLA 79 (Special Appropriation) - Appropriated to the Department of Fish & Game.

Delta Bison Management Plan	20.0
Total	13,883.8

Point McKenzie

Ch. 90, SLA 1980 (Special Appropriation) - Appropriated to the Agricultural Action Council 5,025.0.

Survey Costs	200.0
Land Clearing	3,600.0
Administration	150.0
Construction of Access Roads	1,000.0
Dairy Specialist & Support	75.0
Total	5,025.0

Nenana/Totchaket

Sec. 281, Ch. 50, SLA 80 (HB 60) - Appropriated to the Office of the Governor, Special Projects Office.

Totchaket Agricultural Project	500.0

Department of Natural Resources

Sec. 14, Ch. 113, SLA 1978 (General Appropriations Act)

Red Meat Project	113.1

Sec. 286, Ch. 150, SLA 1980 (HB 60)

Plant Materials Center Lab Bldg	150.0

Sec. 53, Ch. 120, SLA 1980 (General Appropriations Act)

Equipment & Seed Storage Building Palmer	108.0
Plant Materials Center Animal Enclosure	14.6
Upgrade Seed Cleaning Building	110.0
Total	495.7

University of Alaska

Sec. 14, Ch. 113, SLA 1978 (General Appropriations Act)

Remodeling/Construction	
Sewage Facility, Palmer Agricultural Experiment Station	50.0
Storage of Hazardous Chemicals - Fbx Agric Experiment Station	30.0
Renovate Agricultural Experiment Station Bldgs, Fairbanks	70.0

Sec. 25, Ch. 80, SLA 1979 (General Appropriations Act)

Organized Research	
Feed Mill Bldg & Pellet Mill, Fbx	80.0
Animal Waste Disposal System, Fbx	120.0

Sec. 286, Ch. 50, SLA 1980 (HB 60)

Equipment Replacement & Additions	
Equip Agricultural Experiment Station, Fairbanks	300.0
Building Repair & Renovation	
Experimental Farm Renovation, Fbx	191.3
Other	
Facilities & Equip, Agric Experiment Station	113.0
Fairbanks School of Agriculture, Timber Thinning/Fire	140.0
Total	1,094.3

Rural Agriculture

Sec. 25, Ch. 80, SLA 1979 (General Appropriations Act)

Dept/Commerce & Economic Development	
Koyukon Development Corp - Farm Projects	400.0
Dept/Natural Resources	
Galena Agricultural Fair	5.0
Tanana Chiefs Conference - Agricultural Equipment	120.0

Sec. 197, Ch. 50, SLA 1980 (HB 60)

Dept/Natural Resources	
Koyukon Development Corp - Arctic Agriculture Training Program	117.0

Sec. 286, Ch. 50, SLA 1980 (HB 60)

Dept/Natural Resources	
Selawik Agricultural Project	412.0
Kuskokwim Native Assn - Agriculture	200.0
Koyukon Development Corp - Agriculture	200.0
Minto - Small Scale Agriculture	104.0
Dept/Community & Regional Affairs	
Mauneluk Garden Projects	61.0
Municipal Grant Account	
Bethel - Recreation/Agriculture Facility	528.0
Total	2,147.0

Agricultural Revolving Loan Fund (ARLF)

General Fund Capitalization through FY 81	20,000.0
Fund Balance	20,719.2

Governor's Proposed FY 82 Agriculture Capital Projects

Dept/Commerce & Economic Development	
Agricultural Action Council	
Point McKenzie	328.0
Delta I	949.0
Delta I - Mison Fencing	120.0
Delta II - Survey/Disposal	699.1
Delta II - Clearing Loans	4,000.0
Delta II - Roads	2,622.8
Delta II - Clearing Equipment	30.0
Delta II - Grain Storage Loan	1,650.0
Grain Export Facility Loan	4,425.0
Livestock Facility Loan	2,650.0
Dept/Natural Resources	
Economic Development	
Kenai Grazing	280.0
Interior - Plant Materials Center Bldg	177.0
Plant Materials Center Head House	25.0
Plant Materials Center Equip	85.0
Plant Materials Center Alarm System	11.5
Agriculture Revolving Loan Fund Capitalization	23,085.0
Total	41,137.4

Operating Budget Programs Related to Agriculture

Dept/Natural Resources, Division of Agriculture	
FY 79 Authorized: Agriculture Development	
State Fairs	165.5
Plant Materials Center	406.8
Administration & Support	138.8
Agricultural Loan Fund	160.2
FY 80 Authorized: Agricultural Development	
State Fairs	162.3
Plant Materials Center	343.0
Administration & Support	129.9
Agricultural Loan Fund	157.8
FY 81 Authorized: Agricultural Management	
Agricultural Development	353.5
Agric Financing & Promotion	203.8
Agric Research/Extension Services	361.9
State Fairs	294.5
Directors Office	113.1
University of Alaska	
Organized Research - Operating funds for the Agricultural Experiment Stations	--
University Center/Fairbanks - Operating funds for the School of Agriculture	--

NOTE: The University of Alaska's operating budget does not identify agriculture related programs spearately. The University has been requested to provide this information to Legislative Finance for FY 79-FY 81 along with an estimate for FY 82.

Governor's Proposed FY 82 Agriculture Operating Budget

Dept/Natural Resources	
Agriculture Management	
Agricultural Development	299.4
Agric Financing & Promotion	359.9
Agric Research/Extension Services	638.1
State Fairs	318.1
Dept/Commerce & Economic Development	
Agricultural Action Council	360.7
University of Alaska - Information on Request	

If I may be of further assistance, please let me know.

EL:vsw

Table BB. Total State Investment and Total Agricultural Sales, 1981-90 and 2000 (1981 dollars)*

Year	Total State Investment	Total Agricultural Sales
1981	$ 45,000,000	$ 11,300,000
1982	102,600,000	15,500,000
1983	129,000,000	21,400,000
[illegible]	78,500,000	31,300,000
[illegible]	40,900,000	48,200,000
[illegible]	28,200,000	63,900,000
1987	19,600,000	80,400,000
1988	14,200,000	99,800,000
1989	17,800,000	121,500,000
1990	12,100,000	145,100,000
Subtotal	$487,900,000	$ 638,400,000
Year 2000	275,900,000	631,000,000
TOTAL	$763,800,000	$1,269,400,000

*Land area in 1990, 500,000 acres in production; in 2000, 1,000,000 acres in production.

From: Wayne Thomas (U of A).
to Davidson ENR
Feb. 1981

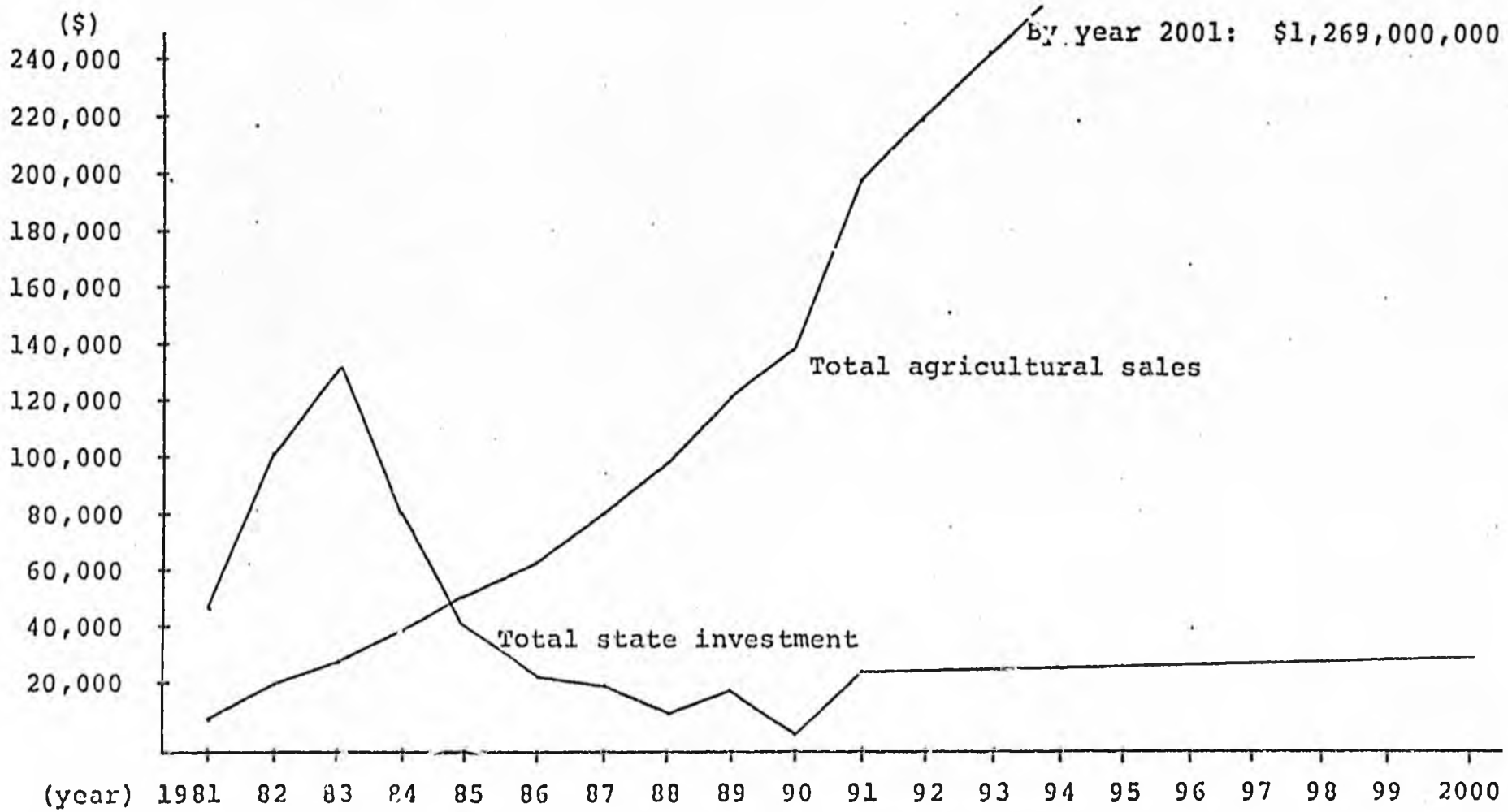


FIGURE A: Comparison of Total Agricultural Sales to Total State Investment: 1981-2000 AD.

AGRICULTURAL BRIEFING
TO THE
COMMITTEE ON NATURAL RESOURCES

February 23, 1981
by the Department of
Natural Resources

The purpose of this briefing is to delineate the cost and schedule of State investment in agricultural development through 1990. Three reports detail these costs and timetables:

1. Production Estimates for Planned Agricultural Development Projects

This report estimates agricultural production, development costs, employment generation, and other benefits.

2. Estimated Required State Funding for Ag Development Through 1990 by Task and Year.

3. Estimated Cash Flow for Various Infrastructure Investments

The Nenana Livestock Report, produced by Featherstone, Corporation on contract fro the Alaska Agricultural Action Council, was heavily used to detail costs, production, and benefits for the Nenana barley-cattle industry project. Because of its length, it is not reproduced here.

The reports included in this briefing are based on the goal of developing an economy of scale agricultural industry, in which each component is self-sustaining and subsidy-free, that will produce, at equal or lower prices than those currently available:

1. The majority of milk consumed in the railbelt area;
2. The majority of red meat consumed in the railbelt area;
3. All feed gains needed to satisfy local demand;

4. Sufficient surplus feed grain to competitively enter the export grain trade.

In order to fulfill these goals by 1990, the following actions will be required:

1. Development of basic government programs to provide plant and animal inspection, research, extension services, and market assistance;

2. Disposals of net farmable acres, and construction of roads for the

A. Delta II disposal of 40,000 acres in 1981;
B. Nenana I disposal of 46,000 acres in 1982;
C. Nenana-Susitna disposal of 129,000 acres in 1983;
D. Nenana-Susitna II disposal of 45,000 acres in 1984;
E. Nenana-Susitna III disposal of 25,000 acres in 1985.

3. Completion of handling processing facilities by 1983.

4. Commitment to provide farm financing, capital costs for facilities, and facility operating subsidies as identified for specific periods of time.

This schedule is predicated on the majority of financing originating with the State and all costs are given in 1981 dollars. The disposal and developement projections include the Point MacKenzie agricultural sale, but do not include small scale agricultural disposals scheduled by the Department of Natural Resources as part of the Land Disposal Program. These small disposals will total approximately 19,600 acres in 1981-82.

In summary the costs which will be incurred by the State to accomplish economy of scale agricultural development are:

1. Loans to individual farmers and for agricultural infrastructure capital projects such as grain elevators and processing plants:

A.	Farm Development	$195,448.6
B.	Infrastructure Development	14,706.2
	TOTAL	$210,194,800

2. Subsidy payments for the market organization, for infrastructure developers, for rural agricultural grants, for small farm clearing, and for the loss of opportunity costs, reflect the difference between the loan rates offered and prevailing market interest rates:

A.	Farm Development	$19,811,500
B.	Infrastructure Development	4,506,400
C.	Market Subsidy	300,000
	TOTAL	$24,617,900

3. Non-recoverable government costs for plant and animal inspection, research, extension services, market assistance, administration, data collection and land disposal.

Cost $141,090,300

Total Loans Subsidies & Government Costs $375,903,000

4. Multi-industry capital infrastructure, such as roads, rail spurs and railroad cars, which may be used for a wide variety of extractive and renewable resource development.

Cost $86,930,000

Total Development Costs $462,833,000

TABLE A

PROJECTED AGRICULTURAL STATISTICS FOR ALASKA GRAIN AND LIVESTOCK AGRICULTURE, 1981-1987

BARLEY CROP (Tons Sold)	1981	1982	1983	1984	1985	1986	1987
In-State Use	7,000	9,750	14,725	21,200	28,500	36,400	43,500
Export	11,000	24,250	32,275	42,800	92,500	124,600	148,500
Total	18,000	35,000	47,000	64,000	121,000	161,000	192,000
LIVESTOCK (NUMBER)							
Hogs		7,000	17,500	28,000	42,000	56,000	70,000
Cattle (beef)		650	1,300	2,600	3,900	5,400	6,500
Cattle (dairy)	1,500	1,500	2,000	3,000	3,500	4,000	5,000
Reindeer	1,800	2,000	2,200	2,500	2,700	2,900	3,200
LAND (ACRES)							
Delta I	16,000	30,000	36,000	36,000	36,000	36,000	36,000
Delta II	-0-	-0-	5,000	15,000	27,000	27,000	27,000
Nenana I	-0-	-0-	-0-	5,000	27,000	27,000	27,000
Nenana II	-0-	-0-	-0-	-0-	15,000	50,000	77,000
Total	16,000	30,000	46,000	56,000	105,000	140,000	167,000

Table B

SUMMARY OF ESTIMATED STATE AGRICULTURAL DEVELOPMENT COSTS

1982-1990

	82	83	84	85	86	87	88	89	90
Loans									
Farm Development	32,488.0	78,262.0	47,066.0	16,073.8	6158.8				
Infrastructure Dev.	11,532.1	1,807.1	165.0	345.0	857.0			3000.0	
Subtotal	44,020.1	80,069.1	47.271.0	16,418.8	7015.8			3000.0	
Subsidy									
Farm Development	3,441.2	5,604.1	3,636.3	1,785.0	1220.9	800.0	800.0	800.0	800.0
Infrastructure Dev.	440.0	437.8	910.5	778.0	579.1	315.1	334.8	340.2	310.6
Marketing Subsidy	300.0	-	-	-	-	-	-	-	-
Subtotal	4,181.2	6,041.9	4,546.8	2,563.0	1800.0	1,115.1	1,134.8	1140.2	1,110.6
Non-Recoverable Govt. Cost									
Land Base	3,191.8	3,883.4	3,454.6	1,914.7	1352.9	1,302.9	1,202.8	1102.9	902.9
Marketing Assistance	120.0	120.0	120.0	180.0	180.0	180.0	180.0	180.0	180.0
Research & Extension	26,069.5	15,526.5	7,425.0	7,476.9	8246.0	9,077.0	9,682.0	10,287.0	10,892.0
Adm.Ins. & Reg/	975.0	1,350.0	1,670.0	1,890.0	1960.0	1,960.0	2,040.0	2,040.0	2,040.0
Subtotal	30,356.9	18,879.9	12,669.8	12,791.6*	11,738.9	12,519.9	13,104.8	13,609.9	14,014.9
Total Loans, Subsidy & Govt.	78,558.2	105,990.9	64,487.6	30,443.4	20,654.7	13,635.0	14,239.6	17,750.0	12,125.5
Multi-Industry Capital Infrastructure	24,000	24,000	13,980.0	10,450.0	7,500.0	6,000			
Total Development Costs	102,558.2	129,990.9	78,467.6	40,893.4	28,154.7	19,635.0	14,239.6	17,750.0	12,125.5

* Corrected figure - not reflected in totals, adds 530.0 in survey costs.

Prepared by Department of Natural Resources 2/18/81

Table BB. Total State Investment and Total Agricultural Sales, 1981-90 and 2000 (1981 dollars)*

Year	Total State Investment	Total Agricultural Sales
1981	$ 45,000,000	$ 11,300,000
1982	102,600,000	15,500,000
1983	129,000,000	21,400,000
1984	78,500,000	31,300,000
1985	40,900,000	48,200,000
1986	28,200,000	63,900,000
1987	19,600,000	80,400,000
1988	14,200,000	99,800,000
1989	17,800,000	121,500,000
1990	12,100,000	145,100,000
Subtotal	$487,900,000	$ 638,400,000
Year 2000	275,900,000	631,000,000
TOTAL	$763,800,000	$1,269,400,000

*Land area in 1990, 500,000 acres in production; in 2000, 1,000,000 acres in production.

TABLE C

ESTIMATED EMPLOYMENT AND NUMBER OF BUSINESSES REQUIRED TO SERVE ALASKAN AGRICULTURE FOR EACH YEAR, 1981-198.

EMPLOYMENT (NUMBER OF WORKERS)

		1981	1982	1983	1984	1985	1986	1987
A.	On Farm	266	403	507	689	1,196	1,501	1,859
B.	Secondary Processing & Marketing	5	7	9	12	20	25	31
C.	Tertiary							
	General Business	53	81	101	140	239	300	372
	Government	20	31	39	53	92	115	143
	Total Employment	344	522	656	894	1,547	1,941	2,405

BUSINESSES (NUMBER OF)

A.	Contract Construction	1	2	2	3	6	7	9
B.	Manufacturing	1	1	2	2	4	5	6
C.	Trans., Communications and Public Services	0	1	1	1	2	2	3
D.	Wholesale and Retail Trade	6	9	11	16	28	35	43
E.	Finance and Real Estate	1	1	2	2	4	5	6
F.	Services	2	3	4	5	9	12	14
	Total Businesses	11	17	22	29	53	66	81

ASSUMPTIONS FOR TABLE C

1. Total acreage in Table A was increased by 17,000, which represents current Alaska production without any state agricultural development projects.

2. Starting in 1984 additional acreage was added to total in production. This represents various types of farming from the myriad of smaller state agricultural land sales. The additional acreage is as follows:

   1984 - 5,000 acres, 1985 - 10,000, 1986 - 15,000 acres and 1987 20,000 acres.

3. Method of forecast was to multiply total acreage for each year by estimates of secondary and tertiary employment and businesses per 10,000 acres as suggested in W.C. Thomas, Agriculture in Alaska: 1976-2000 AD. Alaska Review of Business and Economic Conditions. 13(2) June 1976, pp.21.

4. On farm employment was estimated by multiplying acreage per year by .0065 which is a composite of data provided in Thomas, 1976. pp. 20 and 24.

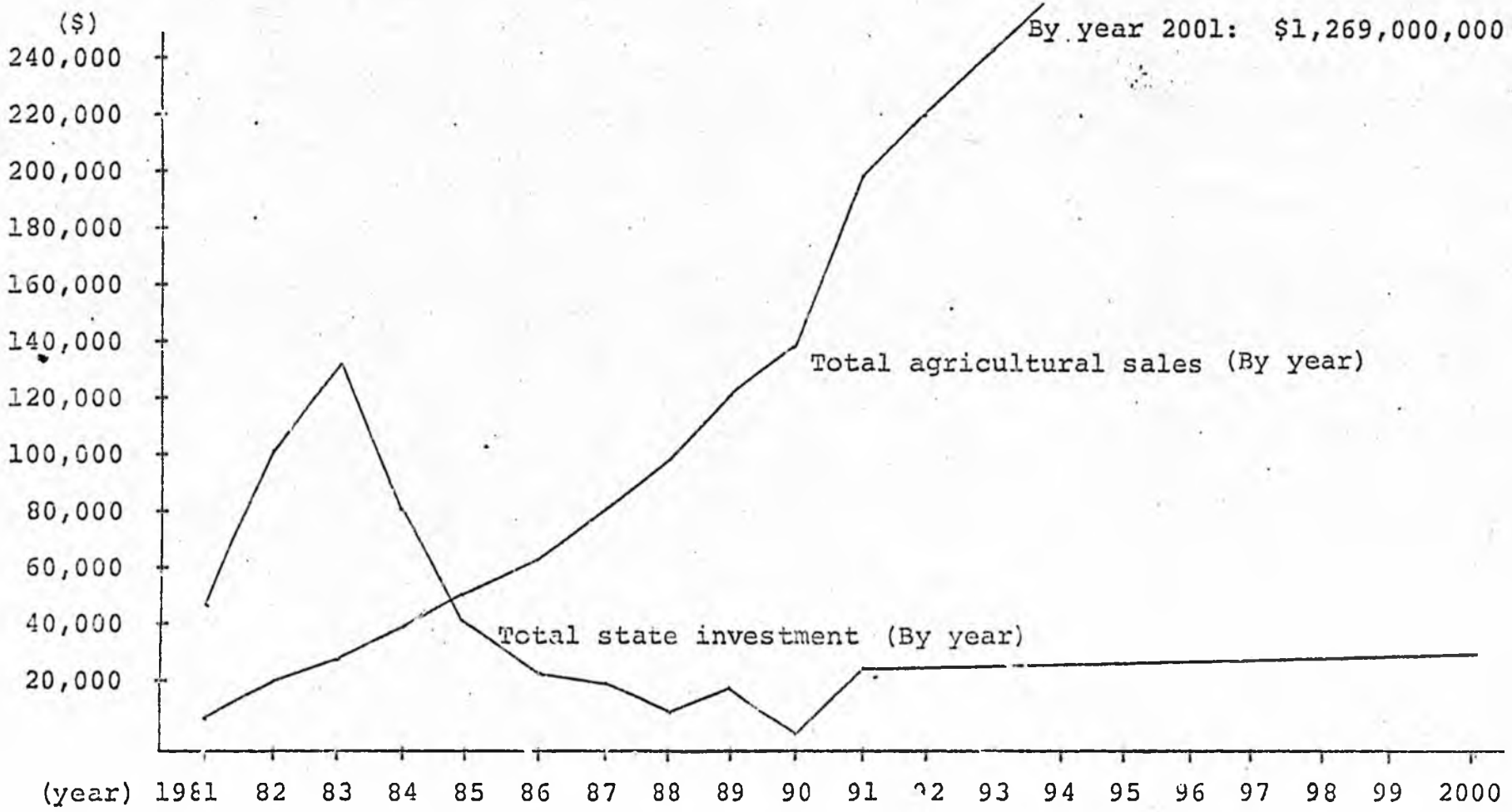


FIGURE A: Comparison of Total Agricultural Sales to Total State Investment: 1981-2000 AD.

TABLE G

PROJECTED GROWTH OF LIVESTOCK PRODUCTION
AND CORRESPONDING INCREASE IN GRAIN CONSUMPTION

YEAR	HOGS % OF TOTAL	# OF HEAD	TONS OF FEED GRAIN	CATTLE %	# OF HEAD	TONS OF FEED GRAIN
1982	10%	7,000	2,450	2.5%	650	1,300
1983	25%	17,500	6,125	5 %	1,300	2,600
1984	40%	28,000	9,800	10 %	2,600	5,400
1985	60%	42,000	14,700	15 %	3,900	7,800
1986	80%	56,000	19,600	20 %	5,400	10,800
1987	100%	70,000	24,500	25 %	6,500	13,000

IN-STATE CONSUMPTION OF FEED GRAINS

ANTICIPATED INCREASE

YEAR	CURRENT USAGE LEVEL	HOGS	CATTLE	TOTAL
1982	6,000	2,450	1,300	9,750
1983	6,000	6,125	2,600	14,725
1984	6,000	9,800	5,400	21,200
1985	6,000	14,700	7,800	28,500
1986	6,000	19,600	10,800	36,400
1987	6,000	24,500	13,000	43,500

ADMINISTRATIVE STRUCTURE AND RESPONSIBILITIES

During deliberations of this and other committees our analysis of and suggestions for improvement of the administrative structure and responsibilities for agricultural development has been requested. The Department of Natural Resources feels a redefinition of program responsibilities is needed and possible. At present, factors which will determine the success or failure of an industry such as availability of the base resource, developmental tools (financing, inspections), marketing programs, clearing programs, research, extension, and responsibility for construction of roads and infrastructure facilities are separated into a number of different agencies. We suggest the following realignment of responsibilities.

Agricultural Action Council Objective and Duties

1. To develop the State's overall agricultural development program and to advise the Governor and line agencies as to overall development goals and objectives.

2. Serve as Governor's liaison with the industry and the legislature on the overall ag program.

3. Provide the legislative liaison between the industry and the legislature.

To accomplish objective #1, the council would contract for feasibility studies for new industries and areas, hold public hearings to determine public needs and interests, collect and publish data and materials to "sell" the agricultural story in Alaska, and provide the Governor, the line agencies, and the legislature with a framework upon which to base the detailed operational program.

The Department of Natural Resources, Division of Agriculture, is the line agency with the staff structure and legal authority to be the principal program administrator. Responsibilities would include:

1. Administration of Ag Development Project upon funding by legislature

2. Platting of project and r[illegible]-project Ag disposals

3. Supervision and inspection of disposed lands for compliance with conservation and development requirements

4. Operation of direct market assistance and inspection and grading programs

5. Administration of village ag and rural ag grant program

6. Develop and maintain plant and seed material

7. Farm and processing loan program administration

8. Regulation and inspection for insects, disease, and noxious substances.

The Department of Commerce would be responsibile for

1. International market assistance and sales programs

2. Construction and operation, while State owned, of any infrastructure components such as elevators and processing plants

3. negotiating lease and sale of infrastructure components when desirable

4. Power and Communication network system development

5. Promotion and development of small supporting entrepreneural enterprise in the private sector.

The Department of Transportation and Public Facilities would retain the responsibility for design and construction of access and project roads, under the development schedules and guidelines set by the Council, and on the routes selected by DNR as part of the planning and farm layout process.

The Department of Natural Resources, Division of Forest, Lands and Water Management would continue to be responsible for land disposals and in cooperation with the Department's Research and Development Division for the necessary area and regional plans in the areas to be impacted by agricultural development disposals.

The Department of Natural Resources, Division of Research and Development would continue to be responsible for the land planning that identifies the resource base and coordinates agricultrual development planning with planning and development for other resources such as forestry, parts, minerals, etc.

The Department of Natural Resources, Division of Technical Services would continue to be responsible for the surveying required in agricultural land disposals.

The Department of Natural Resources, DGGS would be responsible for agricultural related data collection such as soil and vegetation surveys and climatic studies.

In effect, the AAAC would function as an advisory and coordinating board to the Departments, and its primary functions would be overall program development, selling that program to the legislature and the public and legislature, and obtaining funding from the legislature and other sources for the various programs. The line agencies would administer, within the framework of the Council's developed game plan, all programs.

The Council would also serve as the preliminary review agency for budgets for the line agencies, as well as for the relevant parts of the University of Alaska's budgets for research and extension. This review would allow total active support of the Council in obtaining funding, as well as providing the mechanism for coordination of programs, insuring that all facets are covered, yet eliminating any chance of duplication.

March 1, 1981

Dear: Rep. Smith,

Your bill in the lounge through February is $4.15.

You can enclose payment and return the bill to the lounge.

Thank you.

Sincerely,
Legislative Lounge

Judi

Tony and Judi