

AGRICULTURE

INTRODUCTION

In 1980 agriculture occupied approximately 2,000 acres in the Willow sub-basin. These acres produce mainly hay and grass with a few acres in potatoes, barley, and rape seed. Crop production has never developed substantially in the sub-basin due to limited amounts of productive soils, inadequate markets, poor access, high clearing costs, and the lack of a regional agricultural infrastructure - including processing plants, storage and transportation facilities, and cooperative financing arrangements.

Farming has recently declined in the sub-basin. The estimated 2,000 acres in production in 1980 is a quarter of the land previously devoted to crops. The remainder has grown to brush or sprouted houses. The decline of agriculture in the Willow Sub-basin mirrors conditions in the entire Matanuska-Susitna Borough where agricultural production peaked in the mid-1960's. Since then, the decline in the numbers of farmers and production has been dramatic. By 1977, the number of full-time farmers dropped from 70 to 30-40, the number of dairy farms dropped from 47 to 12, and the number of vegetable farms declined from 22 to 17. By 1980 only 10 dairy farms remained in production.

In the Willow Sub-basin, as in most of the borough (and much of the U.S.), agricultural land provides more income to the owner when sold for residential development than when farmed. Between 1975 and 1978, 27 farms were subdivided within the borough. Land in the area which sold for \$70 per acre in the mid 1960's sold for \$7,500 per acre in the mid 1970's. A Soil Conservation Service economist has calculated that to compete with such land prices, a crop would have to net \$1,350 per acre per year. That is possible only for very high value production such as truck crops and livestock farming.

It is clear that agricultural development in the Willow Sub-basin faces a number of problems, from a limited land base to limited markets. However, the proposed commitment of 15,000 acres of public land in the Point MacKenzie area to farming, and the policies and land use commitments presented in this plan should help provide the basis for a stable agricultural industry in the borough. Through this plan, 41,000 acres of state and borough land are designated for large scale commercial agriculture; 40,000 acres are designated for grazing; and small farm disposal targets of 4,000 acres for the borough and 3,000 acres for the state are established for the period 1981-1986.

The remainder of this section of the plan is divided into three parts: 1) a summary of issues; 2) a description of sub-basin's agricultural

potential; and 3) a discussion of public lands designated for agricultural development.

SUMMARY OF ISSUES

A number of issues and problems have been identified which must be addressed through this plan, and through other government policies, in order to strengthen the agricultural industry in the Willow Sub-basin. These issues are as follows:

- a. the need for a stable and adequate land base.
- b. the need for access to potential farm lands.
- c. limited export markets for Alaskan products.
- d. shortage of low-cost farming inputs, such as fertilizers, lime, power, equipment, etc.
- e. the need for a developed agricultural infrastructure, such as processing facilities, storage, ports, etc.
- f. the need to achieve economies of scale necessary to take advantage of current technology.
- g. high public demand for small farm units (less than 80 acres in size).
- h. the importance of salvaging timber with high commercial and personal use value when lands are cleared for agriculture.
- i. potential conflicts between agricultural activities and other land uses.

Some of these issues can be addressed through land use planning for public lands, principally those which concern land availability and infrastructure. This plan addresses these issues in two ways: first, by establishing goals, policies, and land management guidelines (Chapter III, Agriculture) which commit the borough and state to supporting agricultural development; and second, by designating public lands which will be made available for private agricultural use.

POTENTIAL FOR AGRICULTURAL DEVELOPMENT
LAND CAPABILITY

The Willow Sub-basin is generally characterized by acidic soils which require extensive applications of lime (initially 3-5 tons of high grade lime per acre) for most crops. The growing season is short and precipitation irregular. The longer and warmer growing season in the Matanuska Valley makes it better suited for agricultural development than is the Willow Sub-basin. However, certain soils in the basin are capable of producing crops - principally grains, hay, and potatoes. In addition, a number of soil types in the area are suited to truck farming. Uplands between the Little Susitna River and the Talkeetna Mountains, and between Willow Creek and the Kashwitna River have good grazing potential.

Map 7 shows the location of soils with high agricultural potential in the sub-basin and shows the ownership of these areas. Soil capability classes range from I-VIII; the higher the number, the greater the limitations for agricultural use. Class II and III soils are the Willow Sub-basin's (and the state's) best potential agricultural soils.

As Map 7 shows, there are five areas within the sub-basin containing significant concentrations of class II and III soils in public ownership.

1. Point MacKenzie Management Unit

The approximately 15,000 acres of state-owned class III soils in this area and 600 acres of borough land have been committed to agricultural use.

2. Fish Creek Management Unit

East of Flathorn Lake the state and borough own approximately 20,000 acres of class II and III soils. Though remote, these lands have high agricultural potential.

3. Susitna Corridor Management Unit

Just east of the Susitna River along most of the western border of the sub-basin there are approximately 26,000 acres of state and borough-owned class II and III agricultural soils. Much of this area is hilly, divided by numerous drainages and interspersed by wetlands. It does not have road access.

4. Kashwitna and Iron Creek Management Units

Within these two units between Willow Creek and the Kashwitna River, there are approximately 22,073 acres of state and borough class II and III soils. Most of this land is rugged upland currently much more suited to grazing than crop production.

5. Susitna Game Flats

Along the banks of the Little Susitna River east of the Point MacKenzie agricultural project are a few thousand acres of class II and III soils. This area is a state wildlife refuge and is not presently being considered for agricultural development.

Private Land

In the Wasilla Management Unit between and around the towns of Palmer and Wasilla there are approximately 49,556 acres of prime agricultural soils in private ownership. However, much of this land has been subdivided and land prices generally preclude economical farming.

Grazing Lands

Aside from the potential agricultural areas discussed above, the Hatcher Pass Management Unit contains important grazing lands in river valleys and on the lower slopes of the Talkeetna Mountains. Important potential grazing areas are also located between the Willow Creek and Kashwitna River drainages (Kashwitna Management Unit) and adjacent to the Susitna River northeast of Flathorn Lake. These areas, which total approximately 120,640 acres, are shown on Map 8.

ECONOMIC FEASIBILITY

The United States Department of Agriculture has evaluated the implications of current market conditions for agriculture in the Willow Sub-basin as follows:

Future agricultural development in the sub-basin will be a function of economic feasibility which in turn depends largely on demand for both agricultural products and other competing land uses, e.g., urban, recreation, etc. Feasibility is a function of demand for agricultural products because prices are partially established by that demand. In Alaska, prices received by farmers tend to approximate the Seattle, Washington price plus transportation to Alaska markets. This price remains in effect up to the point when the local demand has been largely saturated; beyond this point the prices received by farmers would tend to drop sharply towards the Seattle, Washington price less transportation to Alaska markets. For the products analyzed, i.e., barley, oats, potatoes, and brome, feasibility does not exist at the latter price for yields which can reasonably be expected in the Susitna Basin. In many cases, however, feasibility does exist at the former price; farming can survive in the basin, but production in excess of the quantity that will be readily used locally will cause economic failure.

It should be noted that the preceding discussion assumes the existence of only two markets - Alaska and the lower forty-eight states. There has been much recent discussion of a third market, the Orient, which now counts the contiguous U.S. west coast as one of its major suppliers of grains. Alaska can compete on the world market if it can produce and ship grain to the Orient at a cost equal to or less than production and shipping costs from the west coast. Labor, equipment, and building costs per unit of output are usually higher in Alaska, but the distance from Seattle to the Orient exceeds the distance from Alaska to the Orient. Whether or not Alaska's mileage advantage can offset its higher production costs will be known soon from the Delta Barley project.

Regardless of the world market situation, a good deal of agricultural potential exists at the local level yet Alaska continues to import every product which economically could be grown and processed locally. (Susitna River Basin Study, 1981, United States Department of Agriculture, Soil Conservation Service.)

In sum, although there are economic constraints, the potential exists for an expanded agricultural industry in the Willow Sub-basin.

PUBLIC LANDS DESIGNATED FOR AGRICULTURE

Public lands designated by this plan for agricultural use fall into three categories: commercial agriculture, grazing, and small farms (40-80 acres). These descriptions are shown on Map 8. Approximately 25,000 acres of state and 19,500 acres of borough lands are designated for commercial scale agricultural use (parcels larger than 80 acres). These figures include approximately 15,000 acres in the Point MacKenzie agricultural project. In addition, approximately 120,000 acres of state land and 3,000 acres of borough land are designated for grazing. Lands designated for small farm use are discussed under the settlement section of this appendix.

The Fish Creek Management Unit is the major commercial agricultural project proposed by this plan. The borough owns about 60% of the unit and the state 40% (except for several small parcels in private ownership). The unit contains approximately 16,000 acres of prime agricultural land.

Areas opened for grazing include the southern two-thirds of the Kashwitna Unit, the southern and western portions of Hatcher Pass Unit, the Moose Range, and the southern portion of the Susitna Corridor Unit. Grazing is controlled by guidelines in Chapter III, Agriculture. These guidelines are principally intended to minimize the impacts of grazing on wildlife habitat and water quality.

Borough and state lands designated for use as small farms are in the Kashwitna, Ronald Lake, Pear Lake, Little Willow Creek Corridor and Iron Creek Units. Agricultural land in the Fish Creek unit not suitable for large farms because of topography will be sold for small farms. Although specific tracts have not been identified, small farms are a "recommended use" in the Knik Unit, where private landowners and the borough own considerable land suitable for that purpose. (There are also several thousand acres of private land suitable for small farms in the Wasilla Management Unit.)

It is difficult to specify an acreage figure for small farms because the plan frequently designates small farms as one of several permitted uses within a management unit. Sites for small farms will be identified specifically through more detailed planning. However, the plan designates approximately 3,000 acres of state land and 2,500 acres of borough land for primary small farm use. Through this plan, the state and borough have also set small farm disposal targets of 3,000 acres and 4,000 acres respectively during the next 5 years.

Approximately 4,000 acres of borough land in the northern portion of the Susitna Corridor Management Unit, west of Nancy Lake, are designated for agricultural use. State land in the Susitna Corridor Management Unit which has high agricultural potential (agricultural capability classes II and III) is to remain in non-intensive uses: forestry, habitat, or recreation. Management of this unit will be designed to minimize negative impacts on potential agricultural development.