

## FORESTRY

One of the most notable features of the Willow Sub-basin is its timber. Thousands of acres of spruce, birch, and cottonwood are visible from the highways. Yet, the area imports almost all of its lumber, and the state is not able to keep up with the local or Anchorage-based demand for firewood and houselogs. Long range planning for the use of public forestry resources is an important goal.

This section is divided into three parts. First is a brief discussion of important forestry management issues in the study area. Second is a summary of forestry resources in the area, including analyses of existing and potential activity and of the resource base. Third is an identification of public lands designated for forestry management by this plan. (Goals, policies, and management guidelines which will guide forestry operations on public lands are presented in Chapter III, Forestry.)

## ISSUES

The following issues related to forestry in the Willow Sub-basin have emerged from public meetings and staff analysis. These issues have been addressed through the formulation of goals, policies, management guidelines and land use designations presented in this plan.

### 1. Lack of a Committed Land Base

Currently, there is not a continuous supply of commercial quality raw materials from a committed resource base with which to develop or support the local timber industry. It is not likely that loggers and mill operators will risk capital on the current tenuous and intermittent supply of timber. In addition, one of the major reasons why the industry has been unable to develop a market for processed products (finished lumber, veneer, etc.) is that they have been unable to guarantee an continuous supply of the products.

### 2. Short Term Contracts

Short term contracts offered in the past have inhibited loggers' acquisition of loan financing. Longer contracts (at least 3 to 5 years) are needed to alleviate this problem and to help offset the limited time available for logging in good weather conditions.

3. Timber Salvage on Cleared Lands

Forested land that must be cleared prior to road construction or agriculture offers substantial opportunities for salvage of timber products. Procedures need to be developed, however, that coordinate the timing of timber salvage with the schedules for road construction and agricultural production.

4. Firewood Demand

Demand for firewood cutting on public land is expected to increase in the near future as the borough population grows and private land currently used for cutting is developed.

5. Access

Lack of access is the factor which most limits the ability of the state and borough to sell timber. However, the costs of providing access are often prohibitive unless roads serve other uses.

## FORESTRY RESOURCES

### Existing and Potential Activity

° Commercial

Existing mills produce only a small amount of lumber and employ few people. Fourteen mills are located inside the sub-basin; eleven of these operate seasonally; and three, full time. Even though these mills are all small, "mom and pop" varieties, 1979 annual production was less than 9% of capacity, or 1.1 MBF. Reasons for this under-production were a restricted market and limited timber sales. The inability of Susitna mills to find local timber for sale have forced them to import from the Kenai Peninsula and Canada. The timber cut from within the sub-basin has been taken mostly from clearing projects on private land.

Just over half of the commercial harvest in the sub-basin is cottonwood used for rough dimensional lumber. Most of the remaining volume is cut from white spruce for manufactured houselogs. In addition some birch is cut for commercial firewood producers, and a very small amount is used for finished products (cabinets, veneer, etc.). No local timber is chipped for pulp.

Even if long term timber contracts begin to become available on a routine or continuous basis, it is not possible to predict to what extent the industry will develop. The quality of the timber is not good enough to be able to predict with assurance that an advanced industry can develop. In addition, sustained yield forestry in

Willow Sub-basin alone will not allow enough harvesting to keep more than a few mills operating full time. However, there are indications that low intensity operators which exist in the valley are beginning to grow. The Overall Economic Development Plan of the Matanuska-Susitna Borough, recommends a fully integrated timber facility to be established in the borough to operate off public forest and timber salvage lands. This facility would provide sawlog quality spruce to a mill near Moose Creek, would manufacture hardwood sawlogs and cants from high quality materials, use lower quality materials for firewood and use the tops, limbs, etc., for chips. Such a facility could be a harbinger of future operations. In addition, the existence of agricultural salvage, providing large amounts of inexpensive timber, could provide a tremendous opportunity for more industrialized facilities to develop.

- Personal Use

Personal use is defined as a harvest of less than 12 MBF. A personal use contract or firewood permit specifies that wood may not be sold; rather it must be used by the logger. Personal use areas (woodlots) are logged almost exclusively for houselogs and firewood. Personal use contracts are currently not issued by either the borough or Native landowners, although the borough is looking into the possibility of establishing firewood cutting sites.

The exact amount of personal use activity is unknown because of the availability of private land where no records are kept. In the six months preceding April 1980, the state issued 266 firewood permits in the Willow Sub-basin for a total of 915 cords or 0.46 million board feet (MMBF).

Residents expect to be able to cut firewood in the land near their homes. Presently, firewood is taken from state and private lands (though the amount taken from private lands is unrecorded). As the populations of Anchorage and the sub-basin grow and the area becomes more urban the amount of private land available for firewood harvest will surely decrease. More and more, residents will be forced to get their firewood from government land set aside for that purpose.

Projection of demand for personal use products is a difficult process. Making assumptions of per capita firewood usage, population, and forest productivity, one can calculate an average requirement of 12,000-50,000 acres to satisfy the year 2000 demand of the Willow Sub-basin population. Many times that acreage would be required to satisfy Anchorage. It seems clear that it is not possible to find this amount of state land in the Willow Sub-basin to dedicate to personal use firewood harvest.

- Multiple Use of Forest Lands

Most of the time people spend on forestry lands is spent for reasons other than logging - recreation and hunting, for example. Most of the management effort spent on the land is spent managing

the multitude of non-forestry values which are likely to be present there.

Forestry lands are important for maintenance of opportunities for dispersed recreation, hunting and habitat protection. Logging operations, managed correctly, can markedly improve the habitat for moose. The Matanuska-Susitna Borough, DNR and ADF&G have agreed to cooperatively manage the Moose Reserve for the production of moose. A crucial component of the agreement is clearcut harvests which create openings for the growth of moose browse.

In addition to moose habitat, forestry roads open up previously unaccessible areas to hunting and recreation. A well-managed forestry operation benefits most passive uses of the land.

### The Resource Base

The forest types in the Willow Sub-basin can be divided into four different categories: white spruce, black spruce, cottonwood, and mixed forest. Each of these types has a different value for different forestry uses.

#### ° White Spruce

Extensive, accessible closed stands of tall white spruce are highly valuable for sawtimber and houselogs. It is the most useable timber type in the area. Unfortunately, it occurs on only 730 acres in the sub-basin: 60 acres in the capital site, 110 acres near Flat Horn Lake, 40-60 acres on state land north of the Little Susitna River, and approximately 350 acres on University land north of the Little Susitna. This meager amount cannot support significant forestry activities. There are many acres of open white spruce stands in the basin (1,200 acres of tall, 29,900 acres short). Open stands are generally less desirable for commercial activities than closed stands because they have much less volume of merchantable wood per acre. Useable houselogs can be found in the open stands. If some of these acres fall on good woodland soils, it is possible that they can be managed to become closed stands.

#### ° Black Spruce

The stands of tall black spruce in the Willow Sub-basin contain a high proportion of white spruce and birch. Good black spruce is the second choice for house logs after white spruce; it is heavier and usually has more taper than white spruce. There are 6,070 acres of this type scattered over the sub-basin. Individual sites, if extensive and on good soil, would possibly be capable of supporting some personal use activity, and with time and good management would have the potential of emphasizing the white spruce. In areas of poor soils, the many years required to grow these tall trees precludes profitable sustained yield management.

Short black spruce stands are not considered valuable for conventional commercial or personal uses. This type is very extensive in the sub-basin - 123,530 closed and 830 open acres.

- Cottonwood

All of the Willow Sub-basin cottonwood lies inside the Little Susitna River floodplain on borough and private land in the approximately 25 miles between the Parks Highway bridge and Hatcher Pass and in the Susitna Floodplain Management Unit. The cottonwood is sought after for use as lumber, and the stands are capable of supporting commercial cutting on a sustained basis.

- Mixed Forest

This forest type is by far the most extensive in the sub-basin, covering 276,000 acres, over a quarter of the sub-basin. As it is predominantly birch, it is excellent firewood. Except for the better stands and trees, birch is not generally used for house logs or sawtimber. It is sometimes used for veneer or furniture cants, and the stands do have the highest fiber content of any local type and so would be the most useable for chipping. Trees of birch stands in the study area are small because of overstocking, but with time and appropriate management they could grow to sawlog size. Except for the best stands, their present use would be for chipping, veneer, and firewood. However, with extensive thinning or regrowing these sites could sometimes produce good lumber stock.

Mixed forest stands are divided into young (less than 40 years old) medium (40-100 years), and old (greater than 100 years). The succession typically begins with the young, almost pure stand of thin birch trees, but as the stand ages, the trees fill out and holes begin to form in the canopy. White spruce fills in these holes and becomes a significant but secondary species in the stand. The medium age category is a better category for cutting than either the young or old.

- Important Forestry Areas

Map 10, Forestry Areas in the Willow Sub-basin, shows the suitability of the Willow Sub-basin for commercial and personal use forestry. (Public lands actually designated for forestry management are shown on Map 11.) Long term commercial forestry requires large blocks of public land with high growth potential. These areas would also, of course, be excellent personal use areas. Public land in smaller blocks or of only moderate growth potential are suitable for personal limited commercial harvests. Size and productivity make these areas unable to support intensive commercial activity. In addition, forestry management of these areas would be more difficult and more expensive than their "high suitability" counterparts. Areas of small lot private ownership would be very difficult to manage for sustained yield forestry. The cost and difficulty of putting together enough private owners to sustain any sizeable commercial cuts is very unlikely and would probably

give an extremely low rate of return to the various owners. These areas are suitable for personal use activities only.

### Forestry Land Use Designations

The important forestry areas designated in the plan include the primary designations in the Kashwitna and the Susitna Corridor units, and a secondary designation in Fish Creek for agricultural timber salvage. These areas are shown on Map 11. In addition, there are a number of other areas under passive management which are available for limited harvest. None of these other areas is large enough to make a major contribution to either commercial or personal timber demand. However, they are important for local personal use and limited commercial harvests.

The Kashwitna area includes many areas of older forests where extensive management will be necessary to bring the amount and volume of the standing timber up to commercial quality. The area will require much initial cutting to create better growth conditions, but it will be one or two decades before the area's potential can be realized. In addition, much of the higher area in the unit is open forest which is not likely to support extensive harvest activity. However, the area is very important for moose habitat and hunting. Therefore, a joint forestry/habitat land use designation was made for the area. Access to the Kashwitna unit is very difficult, and is not likely to occur for at least a few years.

Susitna Corridor contains much currently harvestable timber. Access exists to the north edge of the unit. For the next few years this will be the only area in the sub-basin where long-term forestry management can begin. In addition, the unit is valuable for long term habitat enhancement which can replace the quality moose habitat currently being lost to development in the central portion of the sub-basin. The fact that the Susitna River runs adjacent to this unit makes it particularly valuable for recreation and habitat.

Timber salvage from agricultural lands presents a unique opportunity for the local forest industry. It can provide a large but short-term supply of timber to help a developing industry. For this reason secondary designation of Fish Creek (for timber salvage purposes) is particularly important.