

KIRTLAND'S WARBLER ESSENTIAL HABITAT PLANTING

The Kirtland's Warbler Recovery Plan, developed under the Endangered Species Act of 1973, calls for regenerating essential Kirtland's warbler jack pine habitat through harvest and natural regeneration from prescribed burning. However, prescribed burning has generally failed to provide the dense tree stocking required by the Kirtland's warbler. Experience has shown us that only natural fire through mature stands of jack pine is capable of achieving the required densities without supplemental planting efforts. The risk associated with prescribed fire in mature stands in this ecosystem is an unacceptable one for the Forests to assure natural regeneration. Recent research has confirmed the belief that the availability of suitable breeding habitat is the principle factor limiting the Kirtland's warbler population.

Our objective is to reforest Kirtland's warbler stands with 1600 jack pine trees per acre. This habitat is **machine planted at a density of 1100 trees per acre**. This is considerably higher stocking that is required to meet standard reforestation guidelines. In addition, **161 trees per acre are planted by hand** around small openings left during machine planting. These openings are utilized by the nesting birds. This planting density is needed to meet the critical requirements of the bird.

The Forest Plan identifies 1060 acres of Kirtland's warbler habitat be reforested annually. Since 1985, the Forests have planted a low of 444 acres to a high of 1718 acres. We plan to plant 1475 acres in the spring of 1995. The following chart describes the past several years reforestation efforts in essential Kirtland's warbler habitat.

Funding for the machine planting has been paid out of available KV reforestation funding and appropriated reforestation funding. Our current costs are between \$350/acre and \$400/acre. The hand planting needed to meet stocking densities has been paid out of appropriated threatened and endangered funds and costs approximately \$100/acre.

We intended to change the way we fund Kirtland's warbler habitat needs. It is recognized that we would not plant these densities for timber purposes only. In fact, we would most likely have natural regeneration and a small fill-in planting program to meet acceptable stocking densities for timber. We prepared our outyear budget with this in mind and the Forests decided to fund the restoration of habitat with more costs to the threatened and endangered appropriations. FY93 charged nearly half of the stock costs to threatened and endangered funds and the remainder to available KV and appropriated reforestation.

This has had a very big impact on the rest of the T & E program on the Forests. But, it does reflect charge-as-worked to the benefitting function and addresses concerns about the below cost timber sale issue. Our total Forest constraint has not changed and we are not receiving levels of funding in this EBLI to cover the ETS portion.

Fiscal year 1995 out year budget was prepared to take this funding change into account. The FY95 planned budget addresses this change with T & E accounting for 60% of the machine planting costs and all of the fill-in costs.

Concerns:

- * price of stock - especially in light of how easy jack pine is to grow
- * fill-in planting is behind schedule and might not happen, creating undersirable stand conditionns for the Kirtland's warbler.
- * number of acres being planted - because of lack of stock in 1990 & 1991
- * size and adjacent openings

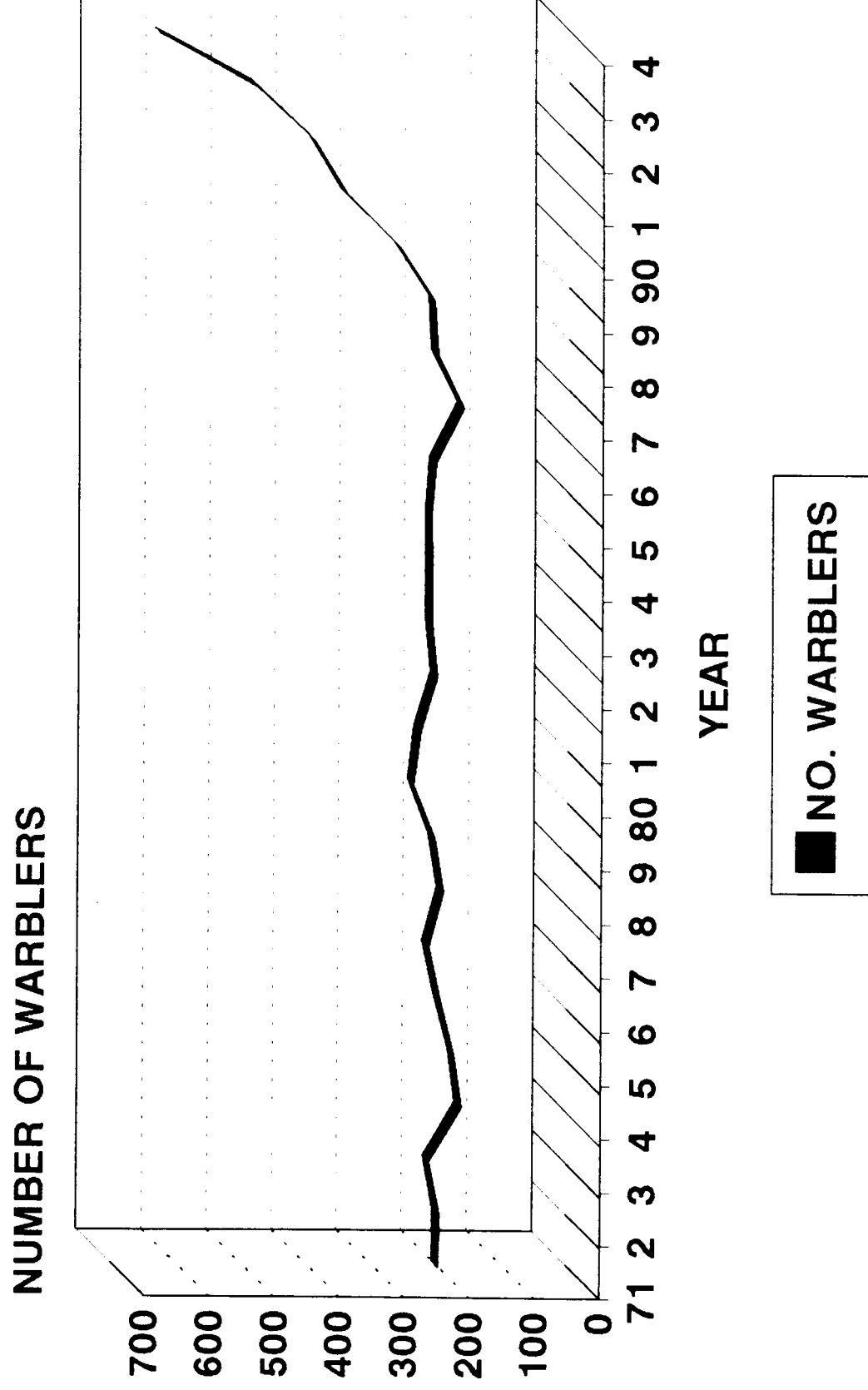
KIRTLAND'S WARBLER HABITAT MANAGEMENT PROGRAM

Huron-Manistee National Forests

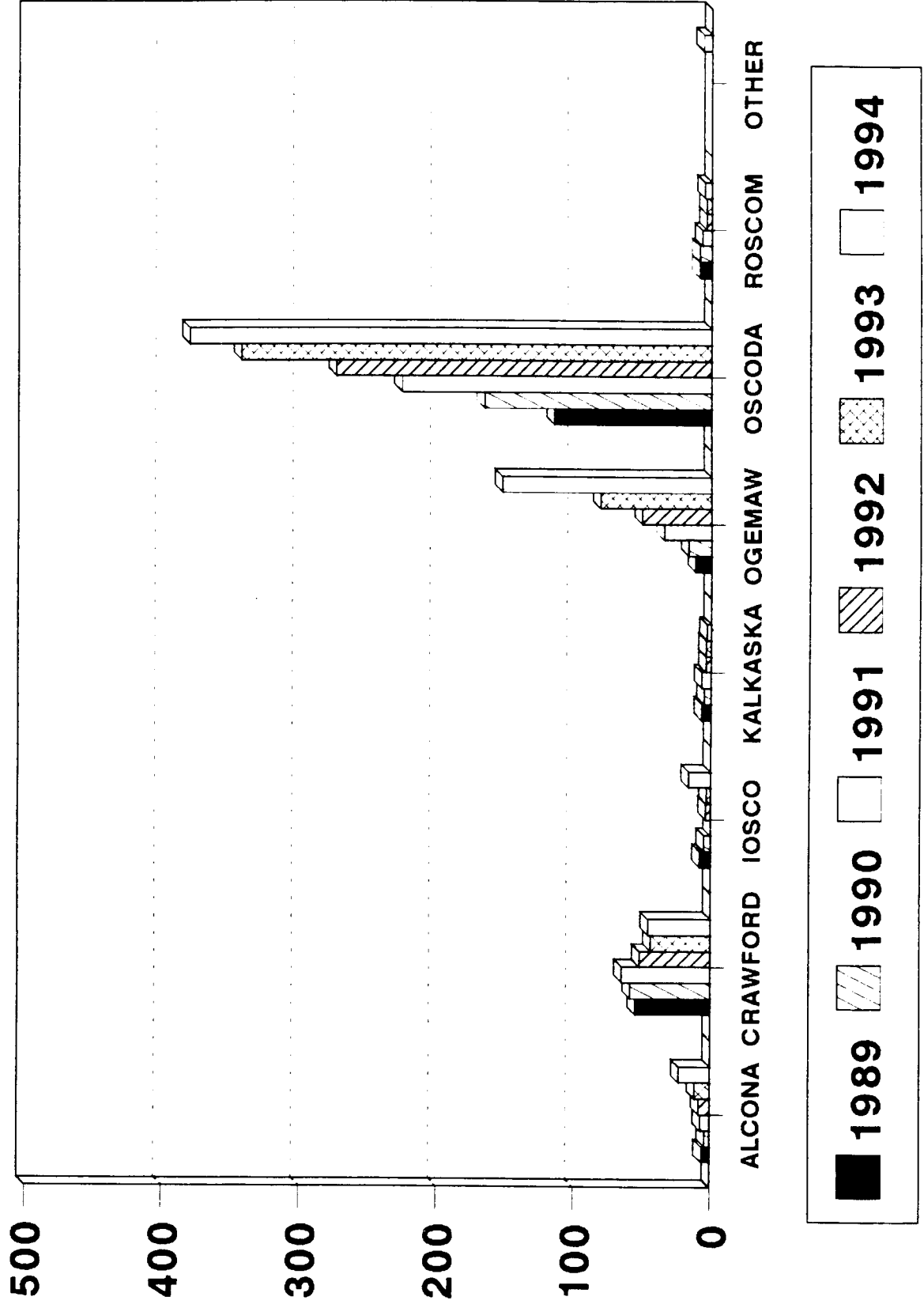
- ▶ **LAND and RESOURCE MANAGEMENT PLAN**
- ▶ **MANAGEMENT PRESCRIPTION 4.5**
(Kirtland's Warbler)
- ▶ **109,000 acres**
- ▶ **53,000 acres are ESSENTIAL KW HABITAT**
- ▶ **1,060 acres are the annual harvest objective.**

Kirtland's Warbler Census Results

Michigan Totals

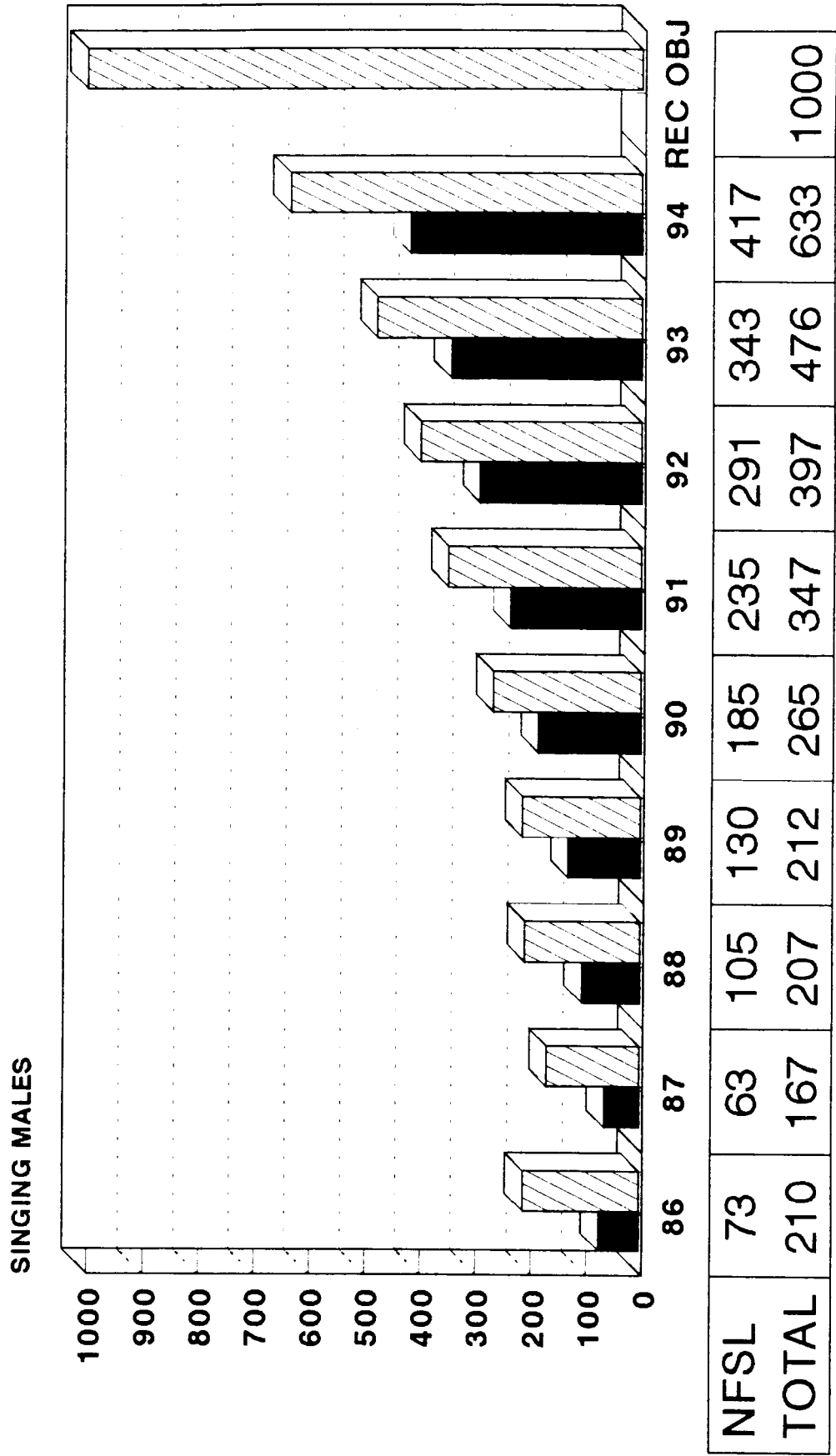


KIRTLAND'S WARBLER 6-YEAR POPULATION TREND

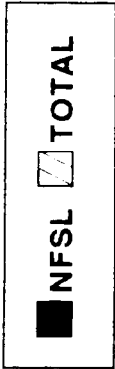


KIRTLAND'S WARBLER CENSUS

HURON NATIONAL FOREST

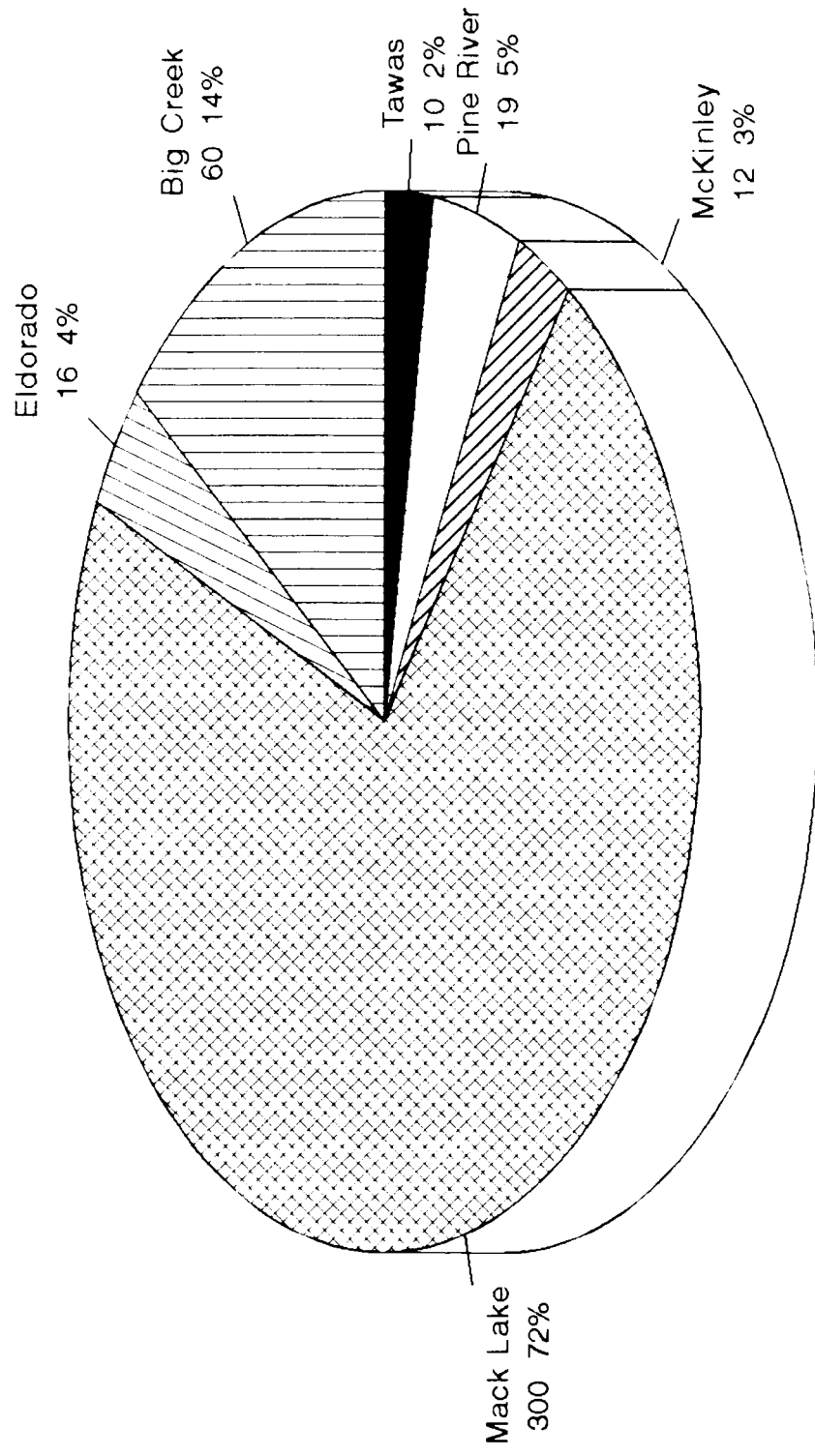


FISCAL YEAR



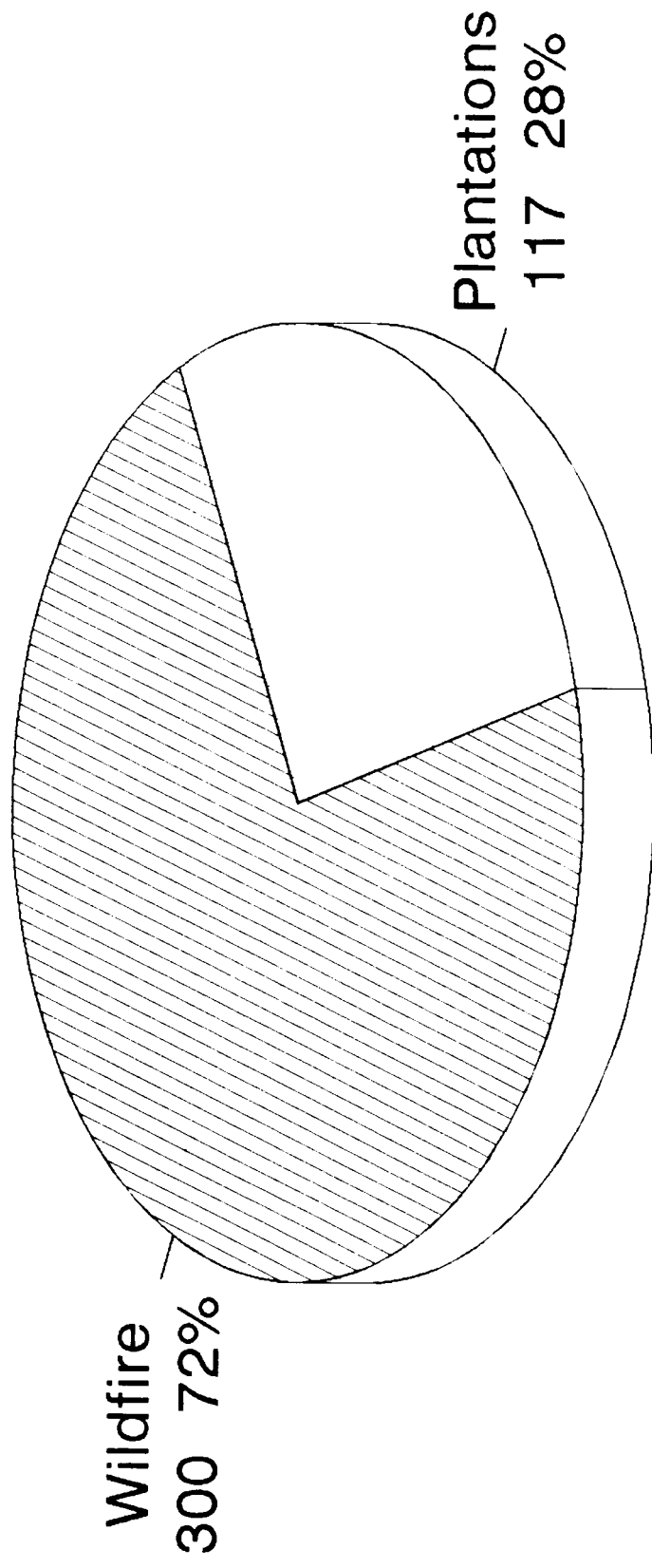
Kirtland's Warbler Management Areas

Huron National Forest



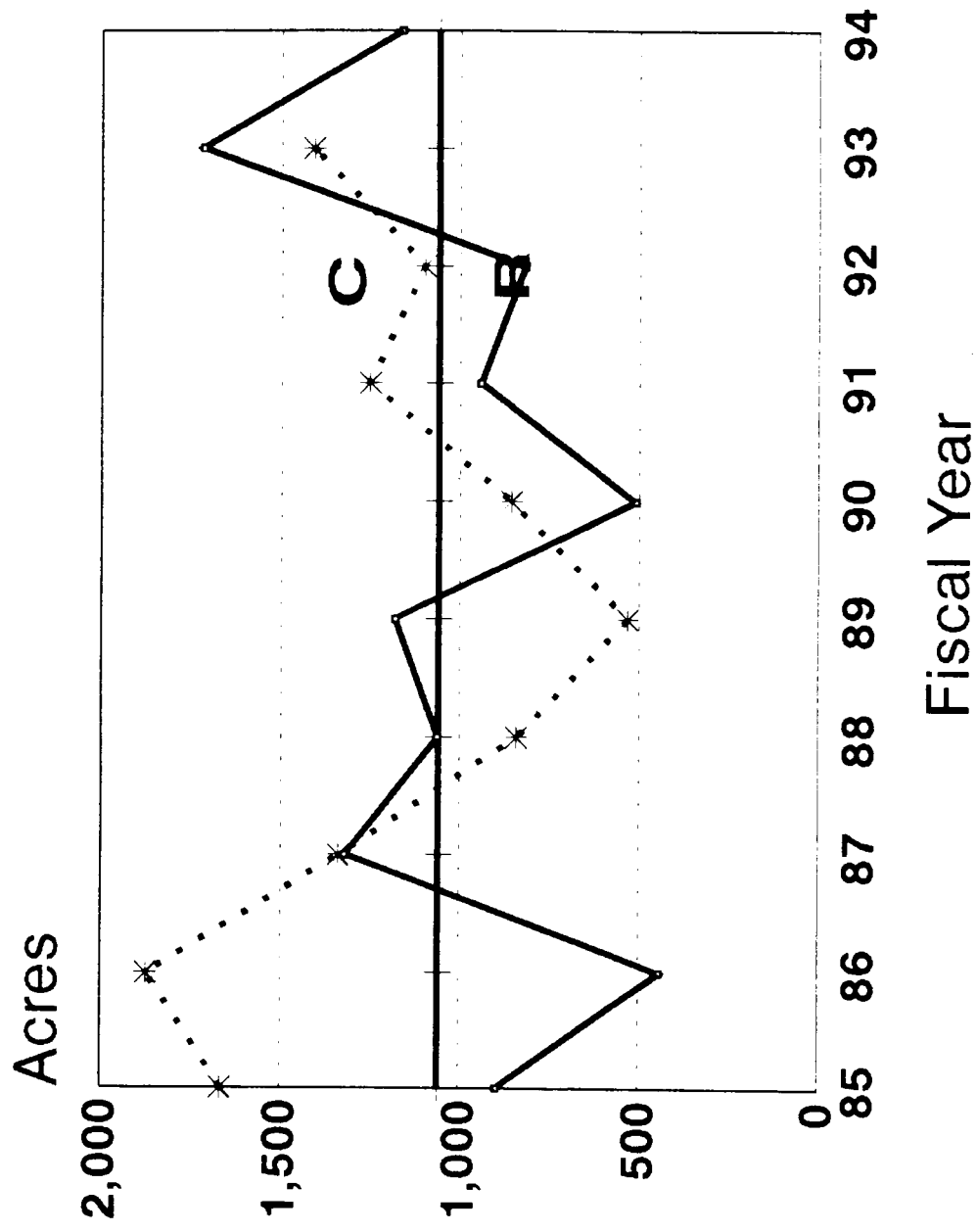
Types of Kirtland's Warbler Habitats

Bird Occupancy on Huron National Forest

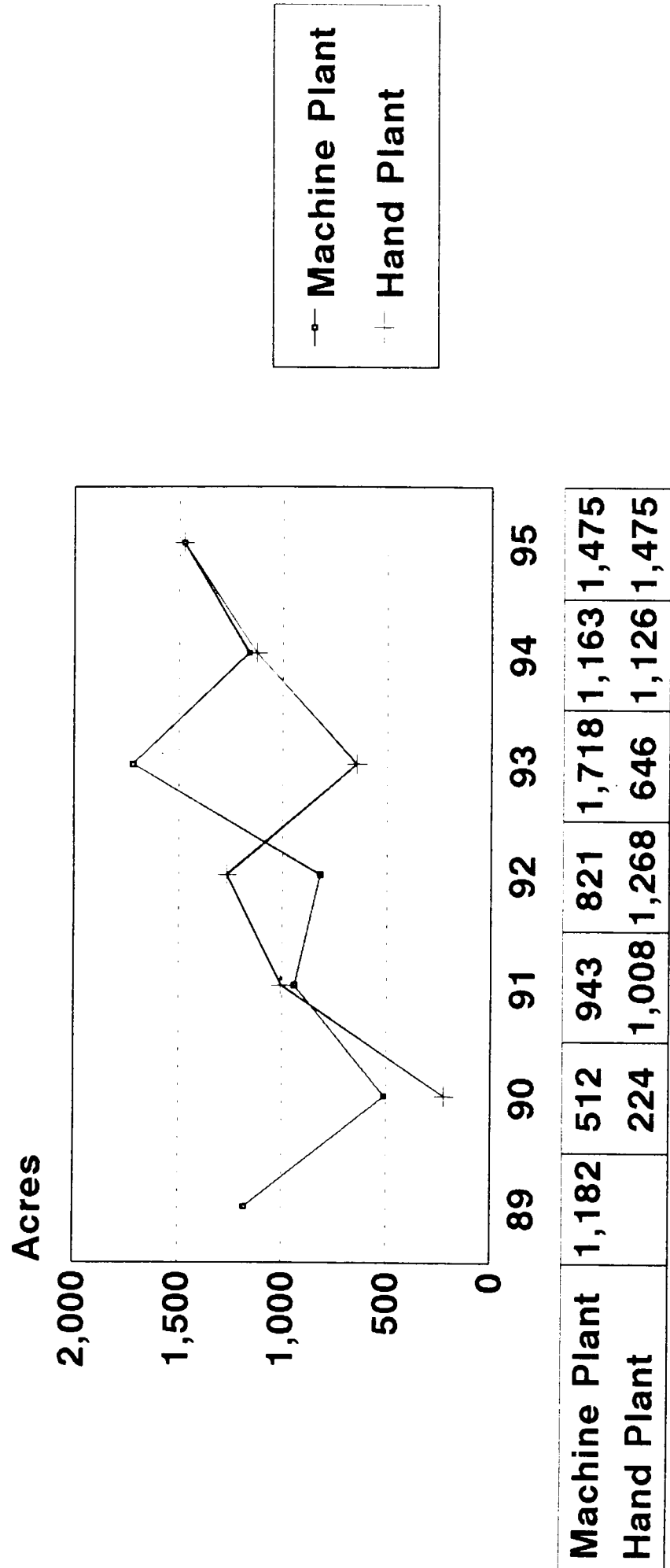


Habitats

Kirtland's Warbler Habitat Improvement Huron-Manistee National Forests

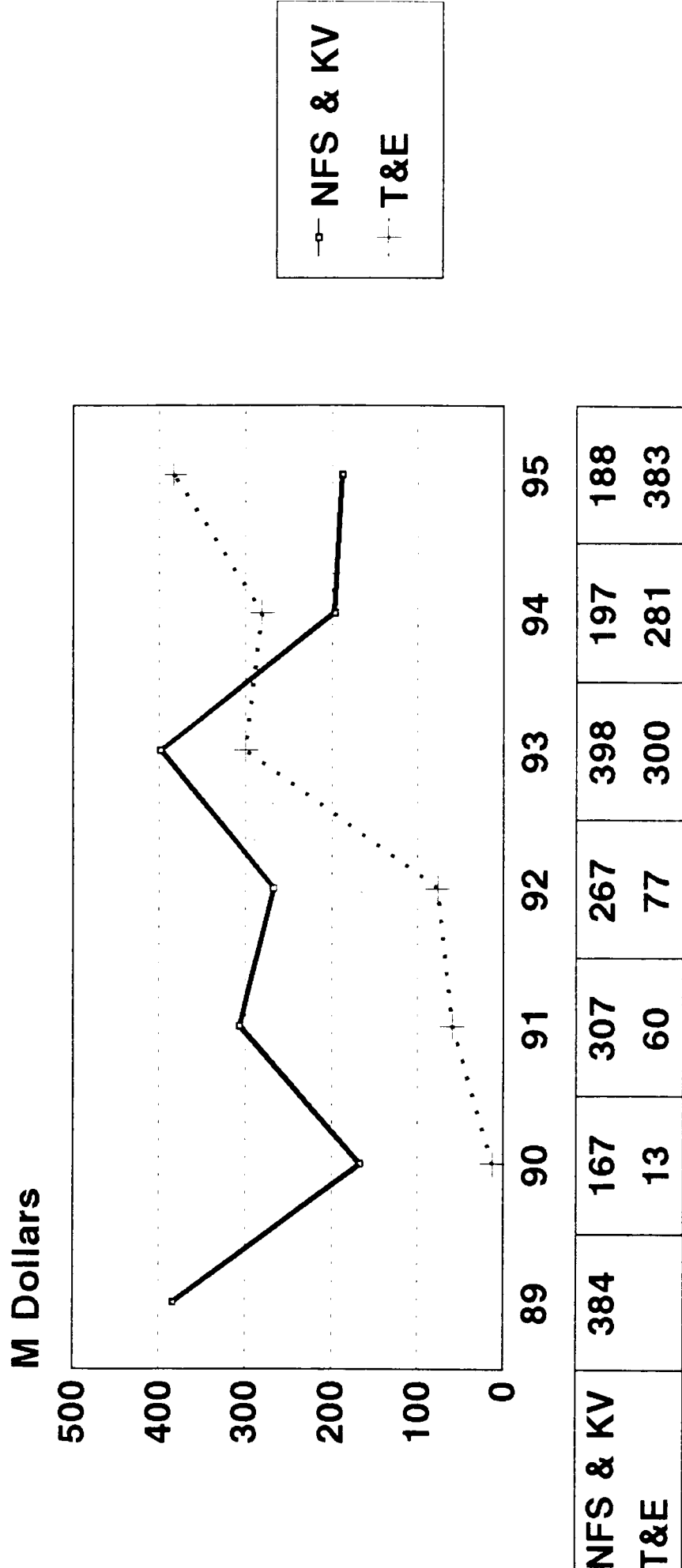


Acres Planted in Kirtland's Warbler Habitat



Fiscal Year

M Dollars Expended in Kirtland's Warbler Habitat



Fiscal Year

Planned