

# EXOTIC PLANT MANAGEMENT IN WRANGELL-ST. ELIAS NATIONAL PARK & PRESERVE

## 2005 FIELD SEASON REPORT

Vegetation Management Report 2005-01

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*The Great Pigweed Pull of 2005*

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## **INTRODUCTION**

This report describes the results of the exotic plant management 2005 field season (July and August) in Wrangell-St. Elias National Park and Preserve (WRST). Inventories of non-native plants have previously been conducted on park lands and the access roads into and surrounding the Park/Preserve. In 2005, funding for a seasonal technician was provided for the first time by the Alaska Regional Office of the National Park Service.

Wrangell-St. Elias is the largest park in the National Park system. It covers more than 13 million acres and is part of the largest protected ecosystem on the planet. Two roads and several ATV and hiking trails provide access into the Park/Preserve. The roads and trails contribute to disturbances of the native groundcover which can create areas for colonization by invasive plants. Landing strips and abandoned home sites provide other areas of disturbance where invasive plants can easily become established. In-holders grow non-native plants for food and ornamental value, some of which have escaped cultivation.

A new headquarters complex was built across the Copper River from the Park/Preserve in 2001. Plans for the construction specified that the overburden removed from the site be stored and replaced on the grounds after completion of the project. Instead, the ground was left bare and imported top soil was spread two years later. The area around the Visitor Center and administration buildings quickly developed colonies of exotic species.

The extreme size of the Park/Preserve makes it time consuming and expensive to monitor and control non-native species. The many points of access make it difficult to keep them out.

## **OBJECTIVES**

The objectives for this work plan were developed by Mary Beth Cook, Botanist at Wrangell-St. Elias National Park and Preserve, and Jeff Heys and Penny Bauder, Biologists from the Alaska Exotic Plant Management Team (Appendix 1).

## **METHODS**

Exotic plants were inventoried and monitored using a Trimble GeoExplorer3 (GPS) unit. The collected data was sent to the Alaska Exotic Plant Management Team at the Alaska Regional Office to be synthesized. Vouchers of plants unfamiliar to me were collected for identification by Mary Beth Cook. Plants were controlled by manual methods consisting of pulling, digging, pruning, and clipping flower heads. Hand pruners and dandelion diggers were used as needed. Exotic plant species inventoried in previous years were monitored and controlled as time allowed. "Plant scans" were done on local roads when feasible. Weeds were bagged and stored until they could be burned. Division of Forestry employees conducted a controlled burn in a gravel pit at Park Headquarters.

## RESULTS AND ACCOMPLISHMENTS

Five areas are covered in this report: Slana and the Nabesna Road, McCarthy and the McCarthy Road, Kennecott, the Park Headquarters near Copper Center, and a few locations outside the Park/Preserve in the Copper Basin. Vouchers were collected for the following plants: *Artemisia tilesii*, *Erysimum inconspicuum*, *Galeopsis tetrahit*, *Polygonum convolvulus*, *Potentilla fruticosa*, *Potentilla stipularis*, *Silene noctiflora*, *Tripleurospermum perforata*, *Vicia americana*, and *Vicia cracca*. New voucher specimens will be added to the Park's herbarium. The data will be entered into the National Park curatorial data base, the National Park species data base, and the Park/Preserve collection data base.

### Slana and the Nabesna Road

The junction of the Tok Cut-Off and Nabesna Road was a high priority area because of an invasion of *Melilotus alba*. An inventory in 2003 estimated the number of *M. alba* plants at approximately 500. The infestation now numbers many thousands.

A day-long control event on July 12, involving a 12-member Forestry Intern crew and five Park Service employees, yielded approximately 40 bags of *M. alba*. On July 13, I spent approximately two hours pulling and cutting plants at the same location. Another five bags of *M. alba* were collected. Despite these efforts, two subsequent visits showed that the infestation continues to thrive. Young plants were already growing in much of the area that had been controlled. The control methods used were pulling and pruning.

In 2004, a patch of *M. alba* on a trail connecting to the Slana Interpretive Trail was inventoried and controlled. In July 2005 no plants were observed at this site.

During the 2004 inventory, *Crepis tectorum* was found at the junction of the Tok Cut-Off and Nabesna Road, and at Mile 31 on the Nabesna Road. No plants were observed in 2005.

*Taraxacum officinale* was observed at Mile 16 and Mile 18 on the Nabesna Road. Due to time constraints, removal of flower and seed heads was the primary control method. A few plants were dug at this site. *T. officinale* was also monitored and controlled at Mile 27 on the Nabesna Road. All plants at this location were removed. *T. officinale* is found in lesser numbers all along the Nabesna road.

The *Descurainia sophia* population at Mile 28.5 on the Nabesna Road was not monitored or controlled in 2005.

The Betty Freed property, located at Mile 3 on the Nabesna Road, was inventoried during the 2005 field season. Originally a private home site with a vegetable garden, the property was donated to the Park/Preserve. *Tripleurospermum perforata* was found growing on the site.

### Invasive Species Along the Nabesna Road

<i>Achillea millefolium</i>	Common Yarrow
<i>Capsella bursa-pastoris</i>	Shepherd's Purse
<i>Chenopodium album</i>	Lambsquarter or Pigweed
<i>Descurainia sophia</i>	Flixweed
<i>Lepidium densiflorum</i>	Common Peppergrass

<i>Matricaria discoidea</i>	Pineapple Weed
<i>Melilotus alba</i>	White Sweet Clover
<i>Plantago major</i>	Plantain
<i>Taraxacum officinale</i>	Dandelion
<i>Tripleurospermum perforata</i>	Scentless False Chamomile

### **McCarthy and the McCarthy Road**

A patch of *Lappula squarrosa* at Mile 7 on the McCarthy Road was not monitored or controlled due to the presence of a bear.

A large colony of *Vicia americana* was found growing at Mile 45 on both sides of the McCarthy Road. Although this plant is not designated as an invasive species, insufficient specimens were collected to rule out the possibility that *Vicia cracca* is growing in the same area.

Two fields and an access drive located next to the Herben Cabin in McCarthy are of concern. The cabin is Park Service property. The fields and drive are private property. However, two of the owners are willing to allow eradication of exotics found there. The area was used as pasture for horses and goats during the previous two years and is teeming with weeds. *Silene noctiflora*, not previously identified in the Park/Preserve, was found, as were *Polygonum convolvulus* and *Crepis tectorum*. In 2003, *P. convolvulus* was documented growing on the Hale Homestead on McCarthy Creek. Three *C. tectorum* plants, three *P. convolvulus* plants, and three bags of *S. noctiflora* plants were controlled. Given the proximity and the constant traffic between McCarthy and Kennecott, the probability that these plants will spread is very high.

Other invasive species growing in these fields are *Capsella bursa-pastoris*, *Chenopodium album*, *Matricaria discoidea*, *Phleum pratense*, *Plantago major*, *Polygonum aviculare*, *Taraxacum officinale*, and *Trifolium hybridum*.

*Leucanthemum vulgare*, *Linaria vulgaris*, and *Thlaspi arvense* grew on the grounds of Wrangell Mountain Center in McCarthy. The staff there is eager to prevent the spread of exotics in the Park/Preserve and is working to control these weeds.



*Exotics growing near the Herben Cabin in McCarthy*

Two large specimens of *Caragana arborescens* were discovered growing on private property near McCarthy Creek. The owners, Ed LaChappelle and Meg Hunt, are aware of the possibly invasive properties of this plant and would probably be willing to control it if necessary.

*Bromus inermis*, *Taraxacum officinale*, *Trifolium hybridum*, *Trifolium pratense*, and *Trifolium repens* are growing around the footbridge at McCarthy Creek. The *T. officinale* plants that appeared to be moving out from the main infestation were pulled to prevent its spread. *T. officinale* is pervasive in McCarthy.

### **Invasive Species in McCarthy and Along the McCarthy Road**

<i>Achillea millefolium</i>	Common Yarrow
<i>Bromus inermis</i>	Smooth Brome Grass
<i>Capsella bursa-pastoris</i>	Shepherd's Purse
<i>Caragana arborescens</i>	Siberian Pea Shrub
<i>Chenopodium album</i>	Lambsquarter or Pigweed
<i>Crepis tectorum</i>	Narrowleaf Hawksbeard
<i>Elymus repens</i>	Quackgrass
<i>Eschscholzia californica</i>	California Poppy
<i>Lappula squarrosa</i>	European Stickseed
<i>Leucanthemum vulgare</i>	Oxeye Daisy
<i>Linaria vulgaris</i>	Butter and Eggs
<i>Lolium perenne</i>	Perennial Ryegrass
<i>Matricaria discoidea</i>	Pineapple Weed
<i>Phleum pratense</i>	Timothy
<i>Plantago major</i>	Plantain
<i>Polygonum aviculare</i>	Prostrate Knotweed
<i>Polygonum convolvulus</i>	Black Bindweed
<i>Silene latifolia</i>	Bladder Champion
<i>Taraxacum officinale</i>	Dandelion
<i>Thlaspi arvense</i>	Garlic Mustard
<i>Trifolium hybridum</i>	Alsike Clover
<i>Trifolium pratense</i>	Red Clover
<i>Trifolium repens</i>	White Clover

### **Kennecott**

*Leucanthemum vulgare* is the species of primary concern in Kennecott. There is an extensive patch growing on the downslope of the road by the Recreation Hall. Three Park Service employees pulled nine bags of plants but many more remain. *L. vulgare* is also growing in the flower beds at Kennecott Glacier Lodge. This is private property and the owner may be unwilling to remove the plants.

A small patch of *Taraxacum officinale* growing at the base of the Root Glacier Trail was monitored.

Due to time constraints, no research was done into the question of historic weeds and a possibly invasive rhubarb species in Kennecott.

### **Invasive Species in Kennecott**

<i>Allium schoenoprasum</i>	Wild Chive
<i>Bromus inermis</i>	Smooth Brome Grass
<i>Capsella bursa-pastoris</i>	Shepherd's Purse
<i>Chenopodium album</i>	Lambsquarter or Pigweed
<i>Descurainia sophia</i>	Flixweed
<i>Elymus repens</i>	Quackgrass
<i>Leucanthemum vulgare</i>	Oxeye Daisy
<i>Matricaria discoidea</i>	Pineapple Weed
<i>Plantago major</i>	Plantain
<i>Polygonum aviculare</i>	Prostrate Knotweed

<i>Taraxacum officinale</i>	Dandelion
<i>Trifolium hybridum</i>	Alsike Clover
<i>Trifolium pratense</i>	Red Clover
<i>Trifolium repens</i>	White Clover

### **Wrangell-St. Elias National Park and Preserve Headquarters**

Throughout the summer several employees pulled the *Chenopodium album*, *Crepis tectorum*, *Hordeum jubatum*, and *Lappula squarrosa* plants growing at Wrangell-St. Elias Headquarters. Recently retired Park Service employee, Devi Sharp, helped pull *C. tectorum* and *L. squarrosa* on several occasions. We also cut a patch of previously inventoried *Melilotus alba* on the Richardson Highway across from Headquarters.

A work party headed by Facilities Manager Will Tipton eradicated the *C. album* that was growing vigorously under the entrance sign. This area was replanted with native plants rescued from a construction site. The pull was a success; the revegetation effort was less so. The plants were transplanted on one of the hottest days of the summer, no water was available and, since they had been dug by a backhoe, the plants were too weak to survive the hot, arid conditions.

### **Invasive Species Around the Park/Preserve Headquarters**

<i>Achillea millefolium</i>	Common Yarrow
<i>Bromus inermis</i>	Smooth Brome Grass
<i>Capsella bursa-pastoris</i>	Shepherd's Purse
<i>Chenopodium album</i>	Lambsquarter or Pigweed
<i>Crepis tectorum</i>	Narrowleaf Hawksbeard
<i>Descurainia sophia</i>	Flixweed
<i>Lappula squarrosa</i>	European Stickseed
<i>Matricaria discoidea</i>	Pineapple Weed
<i>Plantago major</i>	Plantain
<i>Polygonum aviculare</i>	Prostrate Knotweed
<i>Taraxacum officinale</i>	Dandelion
<i>Trifolium hybridum</i>	Alsike Clover

### **Copper Basin**

The first community pull in the Copper Basin took place on July 6. Employees from the Bureau of Land Management, Ahtna, Inc., the Kenny Lake Soil and Water Conservation District, National Park Service, and a community volunteer pulled *Melilotus alba* at the Gakona Bridge and *Crepis tectorum* on Northwood Avenue (known locally as the New Ag Road). Thirty bags of *M. alba* and nine bags of *C. tectorum* were pulled. Although it would have been encouraging to have more community members involved, significant areas infested with these two plants were cleared and work party members were pleased with their efforts.

Several locations in the Copper Basin were inventoried and mapped. In all instances but one these areas have been invaded by two high priority plants, either *C. tectorum* or *M. alba*. The other location is a three-plus acre infestation of *Vicia cracca* growing in a former hayfield along the Edgerton Highway. Presently, this is the only known location of *V. cracca* in the Basin.

Many sightings of *M. alba* were reported during the summer. The area at Mile 115 Richardson Highway was mapped and partially controlled. Plants at two other locations, Mile 88 on the Glenn Highway and Mile 7 on the Edgerton Highway were cut. This plant was also identified on the Tok Cut-Off, the Richardson, and the Old Richardson Highways.



*Vicia cracca* growing at Mile 2.25 Edgerton Highway

*C. tectorum* was also highly visible this summer. This plant was found in large patches on Northwood Avenue, the Klutina Lake Road, Tazlina Terrace Drive, and the Glenn and Richardson Highways. It was also a spotty presence along the sides of all these roads.

Mary Beth Cook reported finding a single *Vicia sativa* plant growing in a flower basket she purchased from Sapa Greenhouses. She destroyed the plant.

#### **Invasive Species in the Copper Basin**

<i>Achillea millefolium</i>	Common Yarrow
<i>Bromus inermis</i>	Smooth Brome Grass
<i>Capsella bursa-pastoris</i>	Shepherd's Purse
<i>Caragana arborescens</i>	Siberian Pea Shrub
<i>Chenopodium album</i>	Lambsquarter or Pigweed
<i>Crepis tectorum</i>	Narrowleaf Hawksbeard
<i>Elymus repens</i>	Quackgrass
<i>Galeopsis tetrahit</i>	Hempnettle
<i>Lappula squarrosa</i>	European Stickseed
<i>Leucanthemum vulgare</i>	Oxeye Daisy
<i>Matricaria discoidea</i>	Pineapple Weed
<i>Phleum pratense</i>	Timothy
<i>Plantago major</i>	Plantain
<i>Polygonum aviculare</i>	Prostrate Knotweed
<i>Taraxacum officinale</i>	Dandelion
<i>Trifolium hybridum</i>	Alsike Clover
<i>Trifolium pratense</i>	Red Clover
<i>Trifolium repens</i>	White Clover
<i>Vicia cracca</i>	Tufted Bird Vetch
<i>Vicia sativa</i>	Common Vetch

### **Public Education and Outreach**

- An Exotic Plants Work Group was formed and met for the first time in the Spring of 2005. Another meeting is scheduled for later in September, 2005.
- Pamphlets about exotic plants were placed in area libraries, the Chamber of Commerce Visitor Center, and the Wrangell-St. Elias National Park and Preserve Visitor Centers.
- An exhibit, consisting of a poster, pamphlets, and examples of *Melilotus alba*, *Crepis tectorum*, and *Leucanthemum vulgare*, was created and displayed at the annual Kenny Lake Fair.
- A brochure specific to Wrangell-St. Elias National Park and Preserve was designed and will be ready for distribution in the Spring of 2006.
- An interview about exotic plants has been arranged and should appear soon in the local newspaper, the *Copper Valley Bi-Weekly*.

### **DISCUSSION AND RECOMMENDATIONS**

As in previous years, the *Melilotus alba* flourishing in the Slana/Nabesna area remains the highest priority. In past years Vicki Penwell, Interpretive Ranger at the Slana Station, has been very successful in acquiring volunteer labor to help control this section. However, the patch has outgrown manual control methods. The junction of the Tok Cut-Off and Nabesna Road needs to be closely monitored and the growth there vigorously controlled by other methods. Although no *M. alba* plants were found on the trail connecting to the Park's Interpretive Trail this area should be closely monitored for several years to come.

To eliminate the possibility that *Vicia cracca* is growing at Mile 45 on the McCarthy Road, more specimens should be collected and the site monitored during the 2006 field season. In McCarthy, the staff and administration of the Wrangell Mountain Center and area resident Mark Vail are valuable allies. Mark is a knowledgeable plantsman and has been collecting seeds to use for revegetation along the McCarthy Road. Meg Hunt of McCarthy is also concerned about the spread of exotics in the Park and is a good source of information regarding locations. The proximity and constant high level of travel, primarily vehicular, between McCarthy and Kennecott makes education paramount in preventing seed spread between the communities. The more willing the private land owners in McCarthy are to keep weeds off their property, the better the outlook for Kennecott.

*Leucanthemum vulgare* is still spreading vigorously on the slope below the Recreation Hall in Kennecott. A large work party will be needed to make headway controlling it. Due to limited time, the *Taraxacum officinale* on the Root Glacier Trail and the Bonanza Mine Trail were not monitored or controlled this year. This should be a priority for the 2006 season.

A well thought out and implemented landscape plan is essential to the appearance of the Visitor Center in Copper Center. The landscape plan is also essential if any control is to be regained over the spread of the exotics that have moved in so quickly. The original

landscaping plan recommended carefully replacing the overburden removed during construction and allowing whatever plants remained alive in the organic mat to grow back. Unfortunately, this did not happen and the grounds are now badly infested with a multitude of weeds.

The *Vicia cracca* growing in Kenny Lake is the only known location of this plant in the Copper Basin. Although this area is not in the Park, the Edgerton Highway connects to the McCarthy Road. It should be a priority to monitor this growth.

A key element to success in controlling the spread of exotic plants in the Park/Preserve is educating the public and involving volunteers in controlling infestations. Radio and newspaper interviews may be worth considering, as is having a presence at the craft and agricultural fairs. The response to the booth at the Kenny Lake Fair was both more informed and interested than anticipated. Many people stopped to look and asked questions. A few took literature with them. Quite a few were already aware of the problem and were interested in knowing what they could do. The exhibit should be expanded next year.

Handouts about exotic plants, especially the *Selected Invasive Plants of Alaska* booklet, should be widely distributed by the end of May. Good distribution points include the Slana and Kennecott Ranger Stations, libraries, laundromats, post offices, visitor centers, gift shops, and hotels. It would be worthwhile checking with these sites in advance as some may only have room to put a few pamphlets on a shelf while others (the different visitor centers, in particular) may want a full display set up for them.

An educational booth would be a worthwhile project for members of the Exotic Plant Work Group. The group might also consider producing a calendar of invasive plants specific to the area. The group might consider a position of a rotating coordinator which would pass to a different member each year. This person would be responsible for coordinating weed pulls, disposal of weeds, and educational events. This would distribute the burden and eliminate duplication of work among the agencies. A twice yearly meeting of this group would be advantageous in keeping the momentum going.

Data from all current sources, R. Densmore, C. McKee, J. Heys, and from park vouchers, should be compiled to produce maps; an overlay of park land status should be included. A summary table of all non-native species known to occur in the Park/Preserve and their distribution should also be included.

Vicki Penwell at Slana Ranger Station and Megan Brokaw at Kennecott Ranger Station should be asked if they would be willing to receive a "care package" containing paper copies of the data dictionary, pruning shears, a dandelion digger, knee pads, weed bags, insect repellent, and baby wipes. Supplies for eradication would then be available whenever an employee or volunteer had time to spend weeding. Brief fact sheets for the plants specific to their areas should be prepared and included.

The Alaska State Division of Forestry should be contacted at the beginning of the season and several plant burns scheduled. If it is a busy fire season, Forestry personnel may not be available so a backup plan for weed disposal should be developed early.

In 2005, the Biological Technician position at the Park/Preserve was not filled until the end of June. This had several effects. It curtailed the work season, leaving some sites unvisited. The technician missed an early in-depth training in using the GPS unit. Jeff Heys had to spend his time providing a quick catch-up training. Problems with the GPS unit, due mostly to inadequate knowledge of the instrument, further hampered monitoring and mapping. Having an employee ready to start early in the 2006 season will be beneficial to the program.

## **RECOMMENDED TASKS AND TIMELINE FOR 2006 WORK SEASON**

### **Early Season (May)**

- Attend Trimble GeoIII, ArcGIS, and plant collection methods trainings
- Attend Exotic Plants Work Group meeting
- Distribute educational literature
- Enter data in AKEPIC for localities and species not collected by GPS
- Recruit volunteers early for the field season and have the required forms completed and approved
- Consult with Mary Beth Cook and Jeff Heys to determine priorities for monitoring and eradication sites
- Organize community pulls? (See discussion above)
- Make plans for weed disposal? (See discussion above)
- Schedule trips to the Nabesna/Slana area, the McCarthy/Kennecott area, and as many remote areas as the budget and time frame allow; request travel authorization, reserve GPS and vehicle
- Determine land status for areas where monitoring and eradication are planned
- Assist Mary Beth Cook in writing an Exotic Plant Management Plan

### **Mid-Season (June, July, August) Field Work**

- As time permits, staff educational booths
- Arrange for final disposal of collected weeds
- Download and correct GPS files at end of each trip and send to Jeff Heys

### **Slana/Nabesna**

- Monitor *Melilotus alba* at the junction of the Tok Cut-Off and Nabesna Road
- Monitor and control *M. alba* on trail connecting to Slana Interpretive Trail
- Monitor and control *Descurainia sophia* at Mile 28.5 on the Nabesna Road, across from Sportsmen's Paradise Lodge
- Monitor *Crepis tectorum* at the junction of the Tok Cut-Off and Nabesna Road and at Mile 31 on the Nabesna Road
- Monitor and control *Taraxacum officinale* at Mile 16, 18, and 27 on the Nabesna Road
- Monitor and control *Capsella bursa-pastoris*, *Lepidium densiflorum*, and *Matricaria discoidea* at the campsite at the end of the Visitor Center Interpretive Trail
- Arrange with Vicki Penwell to schedule short guided exotic plant walks with visitors to the Slana Ranger Station
- As time allows do roadside plant scans along ATV trails, gravel pits, hiking trails, the last eight miles on the Nabesna Road, and other likely sites

### **McCarthy/McCarthy Road**

- Monitor and control *Lappula squarrosa* at Mile 7, McCarthy Road
- Monitor and control (with prior permission of owners) any *Crepis tectorum*, *Polygonum convolvulus*, and *Silene noctiflora* plants growing in the fields next to the Herben Cabin
- Monitor and control *Taraxacum officinale* at the footbridge on McCarthy Creek
- Monitor and control *Leucanthemum vulgare*, *Linaria vulgaris*, and *Thlaspi arvense* at Wrangell Mountain Center
- Monitor any *Eschscholzia californica* plants found growing around town

### **Kennecott**

- Monitor and control *Matricaria discoidea*, *Taraxacum officinale*, and *Trifolium repens* on Bonanza Ridge Trail
- Monitor and control *Taraxacum officinale* at the base of and along the Root Glacier Trail
- Monitor and control *Leucanthemum vulgare* on the down slope from the lower road across from the Recreation Hall
- Consult with Mary Beth Cook and Jeff Heys about the question of “historic weeds” and the unidentified species of escaped rhubarb
- Arrange with Megan Brokaw to schedule short guided exotic plant walks with visitors to the Kennecott Visitor Center

### **Remote Locations**

- Consult with Mary Beth Cook and Jeff Heys to prioritize the airstrips and cabin sites to be inventoried

### **Wrangell-St. Elias National Park and Preserve Headquarters**

- Control *Lappula squarrosa*, *Crepis tectorum*, *Hordeum jubatum*, and *Chenopodium album* as time permits
- Monitor and control *Melilotus alba* at Mile 106 Richardson Highway
- Develop landscaping at entrance sign
- Arrange with Tom VandenBerg to schedule short guided exotic plant walks with visitors to Wrangell-St. Elias Visitor Center

### **Copper Basin**

- Monitor *Vicia cracca* at Mile 2.25 Edgerton Highway
- Monitor *Melilotus alba* at Mile 188 Glenn Highway (Park’s Place), Mile 115 Richardson Highway (The Hub), Miles 16 and 28 Edgerton Highway, and Mile 103.5 Old Richardson Highway
- Monitor *Crepis tectorum* at Mile 187 Glenn Highway (Wrangell Mountain Dental Clinic), the gravel pit on the Brenwick-Craig Road, Mile 111 Richardson Highway (across from Housing Authority), Tazlina Terrace Drive, and Northwood Avenue

### **Late Season (September)**

- Collect seeds, dry, and send to Palmer Plant Materials Center for processing
- Edit brochure
- Attend Exotic Plant Work Group meeting
- Continue landscaping/seeding efforts around the Visitor Center at Headquarters
- Label vouchers, mount and curate specimens
- Write end-of-season report

Appendix 1 Exotic management program work-plan for FY 2005-2006. High priority tasks are in italics.

<b>Task</b>	<b>When</b>	<b>Task</b>	<b>When</b>
<b>Prepare Exotic Management Plan</b>	Winter/Spring 06	<b>D. McCarthy</b>	
		<i>Monitor exotics and control those not on private property</i>	<i>Summer 05</i>
<b>Data Management:</b>		<i>Work with Wrangell Mountain Center on control of exotics on their property</i>	<i>Summer 05</i>
Enter pre-2004 WRST data into AKEPIC Database	Summer 05		
Enter 2005 survey data	Summer 05	<b>E. Kennecott</b>	
		<i>Work with Kennecott Glacier Lodge to control <i>Leucanthemum vulgare</i> on their property</i>	<i>Summer 05</i>
<b>Eradication/Monitoring:</b>		<i>Monitor other invasives &amp; non-natives</i>	<i>Summer 05</i>
<b>A. Headquarters</b>			
<i>Eradicate &amp; monitor exotics at VC (especially new top soil areas)</i>	<i>Summer 05</i>	<b>F. Backcountry</b>	
<i>Monitor and retreat <i>Melilotus alba</i> on Richardson Highway at entrance to VC</i>	<i>Summer 05</i>	Documentation (vouchers) and eradication if possible of any sites visited.	Summer 05
<b>B. Nabesna Road/Slana</b>		<b>Education</b>	
<i>Monitor &amp; retreat <i>M. alba</i> at entrance to Nabesna Road &amp; trail to Slana River</i>	<i>Summer 05</i>	Exotic plant presentation at seasonal training	May 05
<i>Control <i>Descurainia sophia</i> near Sportsman Lodge</i>	<i>Summer 05</i>	Participate in Copper Basin citizens concerned about exotics meeting	April 05
<i>Monitor and control <i>Crepis tectorum</i> at the entrance to Nabesna Road and at mile 31.</i>	<i>Summer 05</i>	Presentation on exotics at HQ for public	April 05
<i>Monitor and control <i>Taraxacum officinale</i> 2003 sites along Nabesna Road</i>	<i>Summer 05</i>	Presentation at Wrangell Mt. Center in McCarthy	Summer 05
<i>Monitor all other exotic collection localities from previous inventories along Nabesna Road</i>	<i>Summer 05</i>	Presentation to Kennecott Student Conservation Association interns	Summer 05
<b>C. McCarthy Road</b>			
<i>Monitor previous exotic collection localities and work with DOT on eradication of highest priority species</i>	<i>Summer 05</i>		

Appendix 2. List of non-native species known from adjacent roads, state roads within the park, private land within the park and park lands. AKEPIC Rank = 2005 Alaska Exotic Plant Information Clearinghouse ranks (NR = not ranked). Locations: C=Copper Center Visitor Center, M=McCarthy and McCarthy Road, K=Kennecott, S=Slana and Nabesna Road. References: VP=vouchers with data in NPSpecies and park database, V=Densmore and McKee vouchers with data in AKEPIC, UAF Museum and NPSpecies databases, O=observation, 1=Densmore et. al. 2002, 2=McKee 2003, 3=Bauder and Heys 2004.

<u>Scientific Name</u>	<u>Common Name</u>	<u>Occurs on Park Land</u>	<u>AKEPIC Rank</u>	<u>New in 2005</u>	<u>No Voucher from Park Land</u>	<u>Locations</u>	<u>References</u>
<i>Achillea millefolium</i>	Common Yarrow	X	48			S, White River	VP,V,2
<i>Allium schoenoprasum</i>	Wild Chive				X	K	3
<i>Beckmannia syzigacene</i>	Slough-Grass	X				Tanada Lake, Upper Copper R.	VP
<i>Bromus inermis</i>	Smooth Brome Grass	X	62			C,K,M	V,1,2,3
<i>Capsella bursa-pastoris</i>	Shepherd's Purse	X				C,K,M,S	V,1,2,3
<i>Caragana arborescens</i>	Siberian Pea Shrub		65	X	X	Kenny Lake	O
<i>Cerastium fontanum</i>	Common Mouse-eared Chickweed	X				Bonanza Ridge	VP
<i>Chenopodium album</i>	Lambsquarter or Pigweed	X	35			C,K,M	V,1,2,3
<i>Collomia linearis</i>	Narrowleaf-Mountain Trumpet	X				M	VP
<i>Crepis tectorum</i>	Narrowleaf Hawksbeard	X	43		X	C,M,S	VP,V,2,3
<i>Descurainia sophia</i>	Flixweed	X	47			C,K,S	VP,V,1,2,3
<i>Elymus repens</i>	Quackgrass	X	59			K,M	V,1,2,3
<i>Eschscholzia californica</i>	California Poppy				X	M	3
<i>Galeopsis tetrahit</i>	Hempnettle		43	X	X	Kenny Lake	VP
<i>Hordeum jubatum</i>	Foxtail Barley	X	63			White River, Chitina River, Klawasi, Bonanza Ridge	VP

Appendix 2, cont'd.. List of non-native species known from adjacent roads, state roads within the park, private land within the park and park lands. AKEPIC Rank = 2005 Alaska Exotic Plant Information Clearinghouse ranks (NR = not ranked). Locations: C=Copper Center Visitor Center, M=McCarthy and McCarthy Road, K=Kennecott, S=Slana and Nabesna Road. References: VP=vouchers with data in NPSpecies and park database, V=Densmore and McKee vouchers with data in AKEPIC, UAF Museum and NPSpecies databases, O=observation, 1=Densmore et. al. 2002, 2=McKee 2003, 3=Bauder and Heys 2004.

<u>Scientific Name</u>	<u>Common Name</u>	<u>Occurs on Park Land</u>	<u>AKEPIC Rank</u>	<u>New in 2005</u>	<u>No Voucher from Park Land</u>	<u>Locations</u>	<u>References</u>
<i>Lappula squarrosa</i>	European Stickseed	X	43			C,M, Chitina River, Baldwin Glacier, Copper River, Kennicott River	VP,V,1,2,3
<i>Lepidium densiflorum</i>	Common Peppergrass	X				C,M,S	V,1,2,3
<i>Leucanthemum vulgare</i>	Oxeye Daisy	X	61			K,M	V,1,2,3
<i>Linaria vulgaris</i>	Butter & Eggs		63		X	M	V,1,3
<i>Lolium perenne</i>	Perennial Ryegrass		41		X	M	3
<i>Matricaria discoidea</i>	Pineapple Weed	X	34			C,K,M,S	V,1,2,3
<i>Melilotus alba</i>	White Sweet Clover		80		X	S	V,2,3
<i>Melilotus officianalis</i>	Yellow Sweet Clover		65		X	M	V,2
<i>Papaver rhoes</i>	Corn Poppy	X				Chitina River	VP
<i>Phleum pratense</i>	Common Timothy		56		X	M	2
<i>Plantago major</i>	Common Plantain	X	44			C,K,M,S	V,1,2,3
<i>Poa pratensis</i> ssp. <i>Pratensis</i>	Kentucky Bluegrass	X	57			Horsfeld, Karr Hills	VP
<i>Polygonum aviculare</i>	Prostrate Knotweed	X				Mt. Chitina,C,K,M	VP,V
<i>Polygonum convolvulus</i>	Black Bindweed	X				Upper McCarthy Creek	VP

Appendix 2, cont'd.. List of non-native species known from adjacent roads, state roads within the park, private land within the park and park lands. AKEPIC Rank = 2005 Alaska Exotic Plant Information Clearinghouse ranks (NR = not ranked). Locations: C=Copper Center Visitor Center, M=McCarthy and McCarthy Road, K=Kennecott, S=Slana and Nabesna Road. References: VP=vouchers with data in NPSpecies and park database, V=Densmore and McKee vouchers with data in AKEPIC, UAF Museum and NPSpecies databases, O=observation, 1=Densmore et. al. 2002, 2=McKee 2003, 3=Bauder and Heys 2004.

<u>Scientific Name</u>	<u>Common Name</u>	<u>Occurs on Park Land</u>	<u>AKEPIC Rank</u>	<u>New in 2005</u>	<u>No Voucher from Park Land</u>	<u>Locations</u>	<u>References</u>
<i>Secale cereale</i>	Wild Rye				X	McCarthy Creek (private)	VP
<i>Silene noctiflora</i>	Nocturnal Catchfly		45	X	X	M	VP
<i>Taraxacum officinale</i>	Dandelion	X	62			Stuver Creek, C,S,K,M,S	VP, V, 1,2,3
<i>Thlaspi arvense</i>	Garlic Mustard				X	M	3
<i>Trifolium hybridum</i>	Alsike Clover		57		X	C,K,M, May Creek	V,1,2,3
<i>Trifolium pratense</i>	Red Clover	X				K,M	V,2,3
<i>Trifolium repens</i>	White or Ladino Clover	X	59			C,K,M, May Creek	V,1,2,3
<i>Tripleurospermum perforata</i>	Scentless False Chamomile	X	48	X		S	VP
<i>Veronica serpyllifolia ssp. serpyllifolia</i>	Thyme-leaf Speedwell	X				Tyndall Glacier	VP
<i>Vicia cracca</i>	Tufted Bird Vetch		75	X	X	M	VP
<i>Vicia sativa</i>	Common Vetch			X	X	Kenny Lake	VP

**LITERATURE CITED**

Alaska Natural Heritage Program. 2005. Weed Ranking Project.

[http://akweeds.uaa.alaska.edu/akweeds\\_ranking\\_geo.htm](http://akweeds.uaa.alaska.edu/akweeds_ranking_geo.htm)

Bauder, Penny and Jeff Heys. 2005. Exotic Plant Management at Wrangell-St. Elias National Park and Preserve, Summer 2004 Field Season Report. National Park Service, Alaska Regional Office Exotic Plant Management Team report. 13 pp.

Densmore, R.V., P.C. McKee and C. Roland. 2001. Exotic plants in Alaskan National Park Units. Final Report for I1 14431A991000027. USGS, BRD. Digital report and database.

McKee, Chris. 2004. Exotic plants in Wrangell-St. Elias National Park and Preserve, 2003 field season report. USGS, BRD, Alaska. 17 pp.