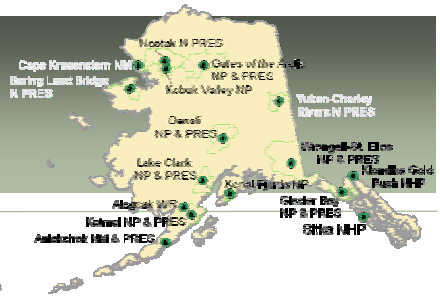
Alaska

Exotic Plant Management Team



Partner Parks: *Alagnak WR, Aniakchak NM & PRES, Bering Land Bridge N PRES, Cape Krusenstern NM, Denali NP & PRES, Gates of the Arctic NP & PRES, Glacier Bay NP & PRES, Katmai NP & PRES, Kenai Fjords NP, Klondike Gold Rush NHP, Kobuk Valley NP, Lake Clark NP & PRES, Noatak N PRES, Sitka NHP, Wrangell-St. Elias NP & PRES, Yukon-Charley Rivers N PRES*

The focus of the Alaska EPMT (AK-EPMT) is early detection and rapid response of new invasive plant infestations. Apart from scattered infestations in developed areas, Alaska's National Park System units are among the last landscapes in the United States that have seen neither the addition nor the subtraction of species in the past century. This provides the AK-EPMT with a remarkable opportunity to begin defending against invasive plants before they become a major problem, minimizing long-term management costs. We do this by stationing employees in park units with the greatest risk of invasion and providing them with training, equipment, and volunteer support for mapping and controlling infestations and educating park staff, local residents, and visitors. The more remote areas and parks are surveyed periodically, and high priority infestations are treated. Concurrently, we develop prevention measures and educational materials, collaborate extensively with partners, and provide a proactive model for invasive plant management in Alaska.

2006 Accomplishments	
Inventoried Acres	3,542
Gross Infested Acres	1,359
Infested Acres	83
Treated Acres	0.7
Monitored Acres	0.5
Retreated Acres	1
Restored Acres	0

The small acreages treated each year are a sign of our success. For example, Japanese knotweed and reed canarygrass are two problem plants that are spreading rapidly in Southeast Alaska, but on parklands we have contained them to a single small population of each species. We have kept white sweetclover, which has infested thousands of acres of glacier riverbars in Alaska, from colonizing parklands in the state's Interior through vigilant annual survey and control efforts. In 2006, the Alaska EPMT mapped 2,255 infestations and uninfested areas – 891 of which were inventoried, 938 treated, 167 monitored, and 259 retreated – for a cumulative total of 4,350 records over four summers. Most sites are less than a thousandth of an acre in size. For the first time this summer, an AmeriCorps crew of Native American youth spent two months as a traveling strike team to help EPMT field employees remove our few large infestations. Many other volunteers assisted our efforts throughout the season. This approach provides youth with an opportunity to perform service in natural resource management and learn about the National Parks, while our parks benefit from this valuable field assistance.

Our partnerships with other agencies and landowners are essential for protecting Alaska and its parks. Towns and roadsides across the state are experiencing the arrival of new species and rapidly expanding populations of those already present. To address invasive plants beyond park boundaries, we work closely with other federal, state, and non-government agencies through the statewide Committee for Noxious and Invasive Plants Management, multiple Cooperative Weed Management Areas, and a newly formed Alaska Invasive Species Workgroup. These partnerships have developed over the course of the AK- EPMT program and are more productive each year. On the educational front, this year we finalized and distributed a new field guide, "Invasive Plants of Alaska," which has been well received across the state and country.

Figure 19: Tribal Civilian Community Corps and NPS prepare to control sowthistle in Glacier Bay NP&Pr.

We also developed a website, spread the word by newspaper, television, and radio, and gave numerous presentations about our program and the importance of addressing invasive plants in Alaska sooner rather than later.

Figure 20: Restoration after invasive plant control at Nelson Slough in Klondike Gold Rush NHP.

With the support of park Superintendents and the Alaska Regional Director, the AK-EPMT has initiated a region-wide Invasive Plant Management Plan and Environmental Assessment. We are developing a strategy, with public involvement, to maintain the unique integrity of Alaska parks. We could not do this without the fieldwork, data management, partnerships, and educational efforts of the past three years. NPS is the first land management agency in Alaska to take this important step.

With 54 million acres to keep weed-free, inventory and monitoring have been priorities for the AK-EPMT. Only a small portion of these lands is impacted by human use and development; invasive plants in Alaska parks are still limited to areas such as roads, trails, facilities, and airstrips. The only way to reliably detect new infestations in these areas is to regularly survey likely areas for invasion each summer. This has required a different model from some other EPMTs, whose field employees travel as a crew from park to park. In Alaska, we work with parks at greatest risk of invasion to employ one to two individuals to serve as our primary early detectors. Each year, they survey disturbed and vulnerable areas, find new infestations in very early stages of establishment, and control them. This early detection and rapid response model prevents the development of larger populations. Areas previously inventoried or controlled are also annually monitored to document new arrivals, population changes, and control effectiveness.

Five years of collaborative inventories with USGS have provided us with baseline invasive plant information for 12 of our 16 park units, of which only 3 are directly accessible by road. Second-hand reports indicate that the remaining four units are free of invasive plants, which will be evaluated in coming seasons. We have inventoried all of the roads in Alaska parks, 275 miles in total, and all frequently used foot trails. To improve our chances of finding new infestations in remote areas, we provide park staff with trainings and educational materials to watch for, identify, and properly record invasive plants.

Figure 21: NPS Fire Ecologist and NASA scientists assess modeling invasive plant colonization after an Alaskan wildfire.

Field data recording incorporates high precision GPS units to document change in population size and shape with one-meter accuracy. We have developed a standardized data collection protocol for use in the field and office. This year we transformed our existing spatial data into a geodatabase format that is accessible to all Alaska NPS employees to serve as a central storage and analysis tool for past, present, and future data. The geodatabase enables evaluation of our control effectiveness to date and prioritization of future control efforts, both of which will be critical components of our Invasive Plant Management Plan. We are working with NASA and the NPS Fire Program on a pilot project to model the potential spread of invasive plants across burned lands in Interior Alaska, which can be a pathway for their dispersal into remote areas. Over the course of the AK-EPMT program, we have increased the understanding of invasive plants in Alaska parks from several limited surveys to an inventory, control, and monitoring spatial database with thousands of records spanning multiple years.