

**STRATEGIC PLAN
FOR
NOXIOUS AND
INVASIVE PLANTS MANAGEMENT
IN ALASKA**

"Prevention is the best tool"

December 2001

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*"Never doubt that a small group of thoughtful, committed citizens
can change the world. Indeed, it is the only thing that ever has."*

- Margaret Mead

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Acknowledgments



Japanese Knotweed is reported to have been in Sitka in the early 1940's, and quite likely well before that time.

-Photo by Bradley J. Kriekhaus
USDAFSJ

Large stand of Japanese knotweed intermixed with salmonberries next to small alluvial fan near the old herring reduction plant in Deep Cove on southern Baranof.

-Photo by Michael Shephard
USDS FS

Statement of Endorsement and Support for the Establishment of the Alaska Committee for Noxious and Invasive Plants Management

On June 15, 2000, a group of individuals from agencies and private groups were invited by the Cooperative Extension Service to meet and look for solutions in controlling noxious weeds in the interior of Alaska. After sharing what had been done in the past, the group agreed that a statewide effort was needed. The group decided to establish the statewide Alaska Committee for Noxious and Invasive Plants Management (CNIPM). A memorandum of agreement was developed (see appendix for MOU). CNIPM is an informal group made up of individuals representing agencies and organizations statewide. Committee membership is based on interest, availability for meetings and willingness to work towards the goal of the committee. There are no formal membership requirements; anyone statewide may participate. The goal of this committee is to launch and coordinate a process for the development of a strategic plan to manage noxious and invasive plants in Alaska. A memorandum of understanding (MOU) was developed to establish CNIPM and to secure agency and organizational support. Representatives of both private and public sectors have submitted letters of endorsement and MOU signatures.



As of January 2002 the following MOU signatures or letters of support for the establishment of the Alaska Committee for Noxious and Invasive Plants Management had been received. There is still the opportunity to sign the MOU, which is included in the appendix. Please call Michele Hébert at 907-474-2423 if you would like additional information on becoming a signatory.

Federal Agencies

US Department of Agriculture, Animal & Plant Health Inspection Service, Christina Jewett, Plant Health Director, Alaska
US Department of Agriculture, Cooperative Extension Service, Anthony Nakazawa, Director
US Department of Agriculture, Farm Service Agency, Chad B. Padgett, State Executive Director
US Department of Agriculture, Forest Service, Jacqueline Myers, Acting Regional Forester
US Department of Agriculture, Natural Resources Conservation Service, Chuck Bell, State Conservationist
US Department of Interior, Bureau of Land Management, Francis Cherry, State Director
US Department of Interior, Fish and Wildlife, David Allen, Regional Director
US Department of Interior, National Park Service, Alaska Regional Office, Page Spencer, Environmental Specialist, Exotic Plant Coordinator
US Department of Interior, U.S.G.S., Alaska Biological Science Center, William Seitz, Director

State Agencies

Alaska Association of Soil and Water Conservation Districts, Doug Witte, Executive Director
Anchorage Soil and Water Conservation District, Larry Traw, Chair
Fairbanks Soil and Water Conservation District, Maribeth Crick, Chair
Homer Soil and Water Conservation District, Shirley Schollenberg, District Representative
Kenny Lake Soil and Water Conservation District, John Wenger, Chair
Palmer Soil and Water Conservation District, Wayne Bouwen, Chair
Salcha-Delta Soil and Water Conservation District, CL Carlson, Chair
Upper Susitna Soil and Water Conservation District, Pat Wilson, Secretary
Wasilla Soil and Water Conservation District, Meg Burgett, Chair
Natural Resources Conservation District Board, Art Weiner, Natural Resources Manager
Alaska Department of Natural Resources, Division of Agriculture, Robert Wells, Director
Alaska Department of Natural Resources, Division of Forestry, Jeff Jahnke, State Forester
Alaska Department of Transportation and Public Facilities, Joseph L. Perkins, Commissioner
Alaska Department of Environmental Conservation, Dick Barrett, Pesticide Program Manager
Alaska Department of Environmental Conservation, DEH, Janice Adair, Director
Alaska Railroad Corporation, Emie Piper, Vice President Environmental Health and Safety
University of Alaska Fairbanks, Marshall Lind, Chancellor
University of Alaska Fairbanks, College of Rural Alaska, Ralph Gabrielli, Executive Dean
University of Alaska Fairbanks, Cooperative Extension Service, Anthony Nakazawa, Director
University of Alaska Fairbanks, Agricultural & Forestry Experiment Station, Allen Mitchell, Acting Director

Private Entities

Alaska Farm Bureau, Robert Franklin, President
The Nature Conservancy in Alaska, David Banks, Acting State Director
Alaska Dog Musers Association, Lloyd Lowry, President

Local Entities

Fairbanks North Star Borough, Ronda Boyles, Mayor
Kenai Peninsula Borough, Robert L. Bright, Director
Matanuska-Susitna Borough, Jill Parson, Land Management Officer
Sitka City and Borough, A. E. Zimmer, Administrator

Introduction



"Yellow toadflax (*Linnaria*) spreads by seeds and creeping roots. Some noxious weeds with beautiful flowers are spread by gardeners that do not understand the hazards."

— Photo by Marta Mueller

The goal of the Strategic Plan is twofold: (1) to heighten the awareness among all citizens of the degradation that can be brought to Alaska lands and waters by the spread of non-native invasive plants; and (2) to bring about greater statewide coordination, cooperation and action that will halt the introduction and spread of such plants and restore infested lands and waters to a healthy and productive condition.

The goals and actions outlined in this plan provide a structure that, if supported and advanced through individual or cooperative efforts, will further the effective management of noxious and invasive plant species across all lands and jurisdictions of the state of Alaska. The participants in this strategic plan recognize that through the development of a statewide coordinated and cooperative approach to noxious and invasive plants management, they can more effectively advance the actions necessary to achieve both the strategic goals and actions and organizational responsibilities.

The Alaska Strategic Plan addresses five broad issues critical to building a strong and successful statewide management program. These issues were identified and discussed at the February 1, 2001 Strategic Planning Workshop in Fairbanks.

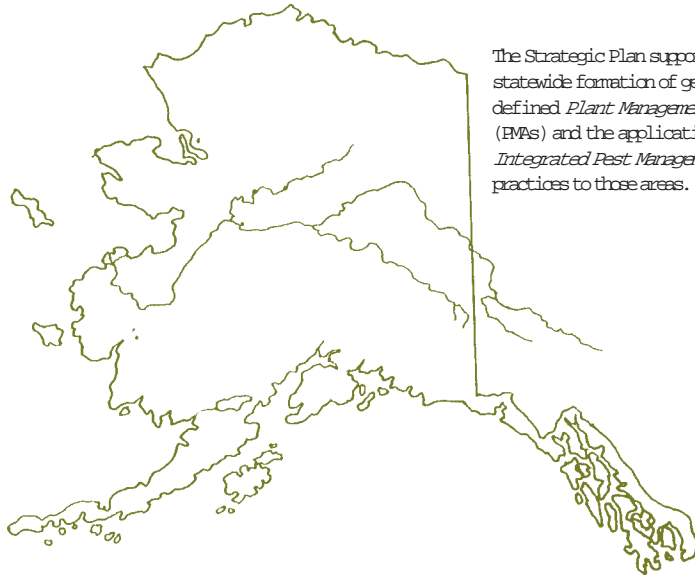
- I. Coordination: Leadership, Partnerships and Cooperation
- II. Education: Awareness, Understanding and Participation
- III. Inventory and Monitor: Database Management and Mapping
- IV. Research: Biological Impacts, Economic Impacts and Management Options
- V. Management: Least Cost, Most Effective and Acceptable Management Options

Action items have been described for each issue. These provide guidelines for developing an implementation plan. A short implementation plan will be developed annually taking into consideration available resources and identified priorities. CNIPM is made up of individuals representing agencies and organizations statewide. The Cooperative Extension Service is chairing this committee. Committee membership is based on interest, availability for meetings and willingness to work towards the goal of the committee. There are no formal membership requirements. The goal of this committee is to launch and coordinate a process for the development of a strategic plan and to manage noxious and invasive plants in Alaska.



Alaska statutes prohibit the sale of feeds that contain noxious weeds.

—Photo by Kavelina Torres



The Strategic Plan supports the statewide formation of geographically defined *Plant Management Areas* (PMAs) and the application of *Integrated Pest Management* (IPM) practices to those areas.

CNIPM will seek funding to implement and keep track of the implementation process. Some of the action items in this plan are in the process or have already been implemented. How quickly all desired activities will commence will be determined by the level of participation and financial support.

The Strategic Plan supports the statewide formation of geographically defined *Plant Management Areas* (PMAs) and the application of *Integrated Pest Management* (IPM) practices to those areas. IPM is a holistic systems approach to pest management. It involves the use of management techniques to limit the impact and spread of the pest. IPM steps include identification of the pest, disruptions of the pest lifecycle and looking for the least toxic to the environment solution. This is a proven method for reducing the ecological, economic and social impacts of noxious invasive plants on the state's human and natural resources.



The Federal Protection Act prohibits the movement of noxious weeds into the state.

—Photo by Michele Hebert

Background



Nationally, BLM considers weed management an emergency.

—Photo by Sue Steinacher, BLM



Alaska encompasses approximately 365.5 million surface acres. Nearly 64 percent or 234 million acres is federally managed, primarily by the U.S. Department of the Interior's Bureau of Land Management, Fish and Wildlife Service, National Park Service and by the Forest Service in the U.S. Department of Agriculture. The State of Alaska manages approximately 90.1 million acres, primarily state parks and state forest areas.

Alaska Land Management, 2000

(In Million of Acres ¹)

Total Federal Managed Lands	242.00
Public Domain ²	61.00
National Parks, Refuges, and Forests	150.50
National Wildlife Refuges	76.50
National Parks, Preserves, Monuments	52.00
National Forests and Monuments	22.00
National Conservation and Recreation Areas	2.20
National Petroleum Reserve - Alaska	23.00
Military Reserves	1.80
Native Reserves	0.08
Other Withdrawals	2.60
Total State Managed Lands ³	89.50
General State Lands ⁴	77.90
Legislatively Designated Areas	11.30
Parks	3.30
Game Refuges, Sanctuaries, Critical Habitat Areas	3.20
Forests	2.20
Other Special Categories	2.60
Mental Health Trust Land	1.00
University of Alaska Lands	0.17
Municipal Lands	0.66
Total Private Managed Lands	40.09
Alaska Native Corporation Lands	37.40
Other Private Lands	2.69
Federal Land Programs	1.80
State Land Programs	0.75
Municipal Land Sales	0.14

1. Acreage figures are not entirely consistent. One difference is that some agencies count submerged lands and others do not. The amounts cited in individual categories don't total exactly 375 million acres, the figure most commonly cited for Alaska.
2. Federal lands managed by BLM. The figure does not include lands selected and approved for transfer to state government and Native corporations.
3. This includes both lands that have been to the state and land that has been tentatively approved for patent. The state has received about 91 million acres so far and will ultimately receive about 104 million.
4. The Alaska Department of Natural Resources oversees these lands.

Noxious and invasive plants are not just weeds or undesirable plants. These are aggressive, introduced plants that compete with native plants for light, water and nutrients. They reduce the biodiversity of plant communities and potentially causing endangerment of native plants. In agricultural settings, they interfere with crop and livestock production, sometimes leading to abandonment of these lands for agricultural purposes. Thriving invaders cause negative economic, aesthetic, recreational and environmental impacts and harm human and animal health. "Invasives are one of the most serious environmental threats of the 21st century." (Mooney and Hobbs 2000). They have been given many names: noxious, invasive, exotic, alien, non-indigenous and harmful weeds. Essentially, these non-natives cause harm and do not provide equivalent benefits to society.

Not all non-natives are invasive. At least 4,500 plant species have been introduced to the U.S., but only 15% of these are causing severe harm. Each year that harm totals more than 20 billion dollars worldwide in economic impacts.

Invasive plants have many characteristics that allow them to compete with and often dominate native vegetation. They grow rapidly, mature early and effectively spread seeds that can survive a long time in the soil. Their profuse vegetative reproduction produces dense shade, which along with toxins suppresses the growth of their competitors. Invasive plants often lack predators and can hybridize or cross-pollinate with local plants, compromising the genetic makeup of native species. They easily create monocultures in the under story, preventing the establishment and growth of seedling trees. Some invasive plants even change ecosystems by utilizing large amounts of water and nutrients, altering soil and water resources and increasing fire frequency. Through these and other ways, invasive plants reduce the value of pasture and rangeland for livestock production.

Impacts are not limited to terrestrial systems. Wetlands and waterways are particularly sensitive areas. Aquatic invasive plants can alter water pH, turbidity and light availability, thus damaging fish habitat and impeding fish migration. Aquatic invasives can choke waterways, restricting recreational and transportation corridors.

The magnitude of the problem was brought to the attention of the federal government in 1997 when 500 scientists and resource managers wrote to the Vice President of the United States and requested action on invasive species. Their letter stated, "We are losing the war against invasive exotic species, and their economic impacts are soaring. We simply cannot allow this unacceptable degradation of our Nation's public and agricultural lands to continue."

The Problem



Aquatic invasive plants can alter water pH, turbidity and light availability, thus damaging fish habitat and impeding fish migration.

—Photo by Carrie Supik, NRCS

On February 3, 1999 President Clinton issued Executive Order 13112 on Invasive Species. This Order established the National Invasive Species Council, which is directed to provide national leadership and oversight on invasive species. The executive order directs all affected federal agencies to develop action plans to deal with this issue.



Locally produced straw can help to reduce the introduction of new noxious weeds. —CES staff photo

This is a big step for the federal government, which in the past inadvertently contributed to the problem by importing and encouraging the use of exotic plants for erosion control and agricultural purposes. Many of these plants were initially prized for their ornamental and conservation properties. Now that the growth potential and consequences of some invasive plants are understood, measures must be taken to undo what was first thought to be beneficial.

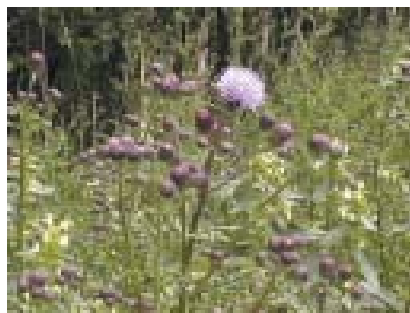
The process of managing noxious plants has already begun in Alaska. Alaska Statutes **AS 03.05.010** and **AS 44.37** (see appendix) authorize the Department of Natural Resources, Division of Agriculture to prevent the importation and spread of pests that are injurious to public interest and for the protection of the agricultural industry. Currently the Department has not been given specific funding for this program and its ability to respond to problems is limited. However the agency has developed a Noxious Weed List (see appendix), which is described in UAF, Cooperative Extension Service Publication FGV-00144.

The Alaska Administrative Code defines noxious weeds as "any species of plant, either annual, biennial, or perennial, reproduced by seed, root, underground stem, or bulblet, which when established is or may become destructive and difficult to control by ordinary means of cultivation or other farm practices."

Alaska is in a unique position to prevent a severe problem with invasive plants. Prevention is much cheaper than control. The time for action is now. Identifying outbreaks early and responding to them quickly can reduce management costs. This takes coordinated efforts among many groups. That is the focus of this strategic plan.

Canada thistle (right) produces toxic substances that are released in the soil and inhibit plant growth.
—Photo by Corlene Rose, CES

Canada thistle leaves (far right) have thorns that make removal by pulling a challenge.
—Photo by Marta Mueller, CES



The 2001 Strategic Plan

I Coordination: Leadership, Partnerships and Cooperation

Problem

The impacts from noxious and invasive plants affect many agencies, organizations and private citizens. Alaska is geographically large with a limited communication network. A limited exchange of information within and between groups can result in a duplication of management efforts. A collaborative effort is needed to effectively manage invasive species and deal with the economic, aesthetic, recreational, environmental and health-related impacts.

Actions

Continue to provide the leadership for the implementation of the strategic plan. The strategic plan is a document which list all the ideas presented in a public workshop. It is broad and provides statewide goals. An implementation plan will be developed from this document. CNIPM will oversee the development of the implementation plan. CNIPM consists of representatives from federal, state and public groups. The committee will facilitate and encourage the development of cooperative agreements for sharing skills and resources between agencies and organizations. This could include the sharing of personnel, equipment, computer technology, herbicides, bio-control agents, inventory and monitoring data, educational materials, skills of available experts and technicians, jointly sponsored trainings and informational meetings.



The first invasive plants workshop was held 2001 in Fairbanks. Over 60 individuals were involved in strategic plan development.

—Photo by Ann Rippey, NRCS

Develop an implementation plan annually based on resources and identified priorities. The annual plan should be developed from the strategic plan with input from working committees and CNIPM.

Develop and review a charter of responsibilities and roles of CNIPM.

CNIPM will continue to promote effective coordination with state and federal agency officials and will ensure the effective coordination of a statewide program. The charter, which will be reviewed and adjusted as needed, will establish the responsibilities and role of the committee. Effective and well-coordinated statewide weed management programs will be a primary goal of the committee.

Seek funding to hire a statewide position to implement the priority items from the plan. This individual will work under the direction of CNIPM and recommendations of the executive council. Participants at the February 2001 workshop suggested that the position be placed within the UAF, Cooperative Extension Service. Duties will be identified from the implementation plan and CNIPM.

Review the strategic plan biennially through a public process. The supporters of this plan agree to the continued support of CNIPM.

Organize an annual public workshop and encourage support and partnerships between agencies and organizations. This will provide a forum for public input, strategic planning and educational exchange.

Define Geographically Plant Management Areas (PMAs). Noxious and invasive plants exhibit no respect for land ownership or jurisdictional boundaries. PMAs facilitate work across administrative boundaries through program cooperation and integration. A PMA does not diminish or supersede functions of any government entity such as national forests, weed districts or soil and water conservation districts. Rather, it integrates these entities into a viable weed program. These areas can be used for management, databases, research and predictive purposes.

CNIPM will assist with defining the plant management areas. PMA boundaries could be established by eco-regions, watershed or hydrographic divides, vegetation zones, topography, common plant weed species and land uses. One suggested model is using the boundaries of the Soil and Water Conservation Districts. Similar units have been widely recognized as citizen-driven models for organizing effective weed management programs at the local level. A local weed control organization brings together all interested and concerned parties in a watershed or geographic area for the purpose of combining expertise, energy and resources to deal with common weed problems. It provides an open forum for the concerns of area citizens, landowners and managers to be considered and dealt with effectively.

Establish formal PMA steering committees representing the land managers for each PMA. After the boundaries of a PMA have been tentatively established, public meetings will be held to help local citizens understand the goals of the PMA. The planning process requires an inventory of plant infestations and development prevention practices, treatment priorities and control strategies.

Develop a contact directory that lists individuals from government agencies, consultants, universities, agricultural organizations, and conservation organizations with particular noxious and invasive plants management expertise and skill. The directory will be made available to individuals and groups as a resource. The first edition of this directory was printed in May 2001 and lists over 75 individuals from across the state.

II Education: Awareness, Understanding and Participation

Problem

Noxious and invasive plants are more than an agricultural problem. There is a need to expand public involvement in the management of invasive plants. Increasing the awareness of the problems associated with noxious and invasive plants can best do this. Invasive plants move beyond disturbed sites into natural settings. The impacted areas include both aquatic and terrestrial habitats. Most issues have both a public and private landowner component. Economic impacts concern all commercial interests especially resource development. It is essential that Alaska's lawmakers be informed of the issues associated with noxious and invasive plants to ensure the availability of resources needed for effective management.

Actions

Develop an Alaska statewide noxious and invasive plants management website to centralize and coordinate efforts and share information. This site will be linked to participating groups and sources of information. This is a high priority item and very important tool for communication within and between groups.

Identify target audiences. Target audiences include such groups as Master Gardeners, government agencies, tourists, youth, 4-H, Future Farmers of America, commercial growers, hay importers, livestock owners, mushers, construction industry, homeowners, horticultural retail sales, mining, elected officials, universities, military, garden clubs, native plant societies, conservation groups, realtors, hunters, anglers, recreationists, foundation groups and Native corporations and villages. Participation in the process will increase by developing meaningful educational programs specific to the needs of various groups.

Develop or adapt relevant educational materials and programs. Information about related issues, such as threatened and endangered species, water quality and wildfire will be incorporated.

Focus educational programs on IPM practices. This will help garner public support for vegetation-control projects on public lands.

Develop an easy-to-use/carry field identification guide that includes species identification and IPM control options.



"Responsible back country users can help keep Alaska's remote wilderness areas free of invasive plants by utilizing weed free hay."

—Photo by S & K Farm, Alaska



Dog bedding can be a source of invasive plants.

—Photo by Sue Steinacher, BLM

Develop or identify a video to show the potential damage of invasive plants. The video would be available for distribution to interested educators as a resource tool during workshops, conferences, etc. There are existing tools already that can be made available.

Develop and disseminate briefing packages and presentations for educating national, state and local elected officials. This will be an ongoing process to keep lawmakers updated on current invasive plant status and funding needs. The goal is to encourage congressional representatives and state legislators to support increased budgets for university and agency noxious weed research and technology development.

The statewide coordinator can serve as contact for educational resources and media programs. The Cooperative Extension Service is a likely place for this person because of its statewide network of offices and mission to educate the general public on quality of life issues.

III Inventory and Monitor: Database Management and Mapping

Problem

Knowing where noxious and invasive plants are located is important to (1) assess the economic and social impacts; (2) develop effective integrated management plans with specific control actions; (3) generate support and funds for quality programs; and (4) raise public awareness. Invasive species have the potential to decrease biodiversity by out-competing native plants, replacing wildlife forages, changing wildfire patterns, and hybridizing with native plants. Monitoring these processes will be crucial for invasive plant management. There has been little work on identifying and mapping the locations of invasive plants in Alaska. The work that has been done lacks consistency of sampling, recording and database management. Inventory and monitoring methods, as well as data management systems, have varied resulting in questionable comparability or usefulness.

Actions

Identify or develop a compatible database entry and management protocol. Agencies, industry and others will be encouraged to use this protocol. Existing technology such as Global Positioning Systems (GPS), remote sensing and Geographic Information Systems (GIS) will be used to locate and display noxious and invasive plant data. Currently there is a national drive to develop a compatible and standardized database. Every attempt will be made to use a national model.

Identify or develop an Alaska noxious and invasive plant website to house inventory and monitoring information so it can be shared easily. The website could be managed by the statewide coordinator or a state agency that specializes in data management. Alaska Geospatial Data Clearinghouse, <http://agdc.usgs.gov> currently houses many federal and state datasets. This site is a central location for providing a geospatial framework for monitoring in Alaska.

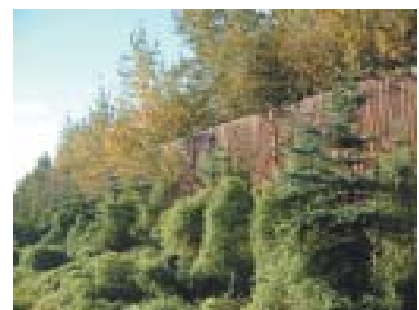
Collect and compile existing and historical information. Some inventories have already been done in the state. This information needs to be brought together in a central location.

Coordinate information with Canada with which Alaska shares a long common boundary. Share inventory list, restricted list and information on management.



Perennial sowthistle is a prohibited noxious weed in the state of Alaska.

—Photo by Marta Mueller, CES



Vicia cracca is still green and producing flowers and seeds while native plants are dormant.

—Photo by Michael Rasy, CES

Encourage agencies to enter inventory and monitoring data into the website. This information will allow us to calculate the total number of acres infested with each invasive plant on the state list and determine the rate of spread for each plant by comparing inventories from year to year. Locations can include natural land, disturbed sites, agricultural settings, transportation corridors and the horticultural facilities.



Close up of Tufted Vetch on Mugo planting.

—Photo by Beth Shultz, USDAFS

Identify the most critical species for monitoring. Scientists, agricultural producers and land managers will be asked to identify the most critical species or locations so that limited inventory dollars can target those species with the highest potential for spread and habitat degradation.

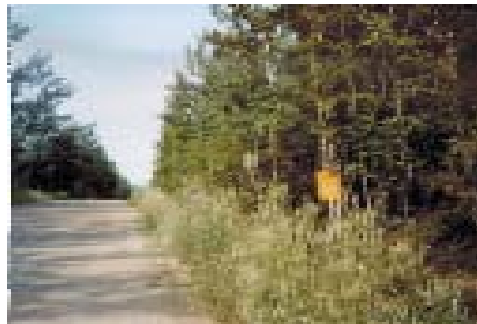
Develop a reward system to encourage private citizens to report invasive plant infestations. The information provided will be investigated for accuracy and included in the inventory database. The herbarium and photos on the UAF Web are good in assisting with this process.

Develop and publish a list of resource professionals who can assist with the identification of species for accuracy of information. This should also include a system for housing specimens of identified and collected noxious and invasive plants.

Develop a monitoring protocol for evaluating effectiveness of the strategy to include control treatments, educational programs, and research projects. Evaluation tools need to be developed for accountability and effectiveness.

White sweet clover often lines roads and blocks view of oncoming traffic on road bends.

—Photo by Janet Jorgeson, USFWS



IV Research: Biological Impacts, Economic Impacts and Management Options

Problem

Research is needed in many areas including risk and impact assessment, control options and effectiveness and ecosystem restoration. Control methods that work in other parts of North America may be less effective in Alaska or may have undesirable results because of environmental factors specific to Alaska. Also, Alaskans are resistant to the use of chemical control methods. There is a need to identify which species have the greatest potential for establishment and spread in Alaska. The relationship of invasive plants to wildfire is not completely understood. Lastly the cost and impact of invasive plants within Alaska's unique conditions need to be determined. Understanding the fundamental principles governing plant population dynamics is essential to manage plant populations effectively. Application of these principals will contribute to improve agricultural productivity and sustainability.

Actions

Identify and prioritize research needs for funding. Agencies, universities and scientific, agricultural, horticultural, and recreational groups will be involved in identifying research needs. CNIPM will take the lead in developing the process for getting input. Research focus areas could include restoration, enhancement and protection of fish and wildlife habitats, native salmonoid populations, or watershed functions. Research institutions will be encouraged to initiate studies that are applicable to best management practices.

Research studies should address plant ecological, physiological, or genetic processes that affect population success, population sustainability, ability to compete and/or invasiveness. These studies should aim to characterize and understand plant population dynamics between populations in agricultural settings (including crop lands, forests, and rangelands), wild lands or lands of conservation significance. For instance, understanding the reproductive potential of individuals and populations, and understanding genetic characteristics associated with range expansion and adaptation to novel environments that are found here in Alaska.

Develop a technical reference manual for Alaska on noxious and invasive plant management options. Known and potential invaders should be included in this manual. Identification, management practices and eradication methods for each species will be included. Local statewide conditions will be considered.



"There is a great need for Alaska specific herbicide research."
-CES staff photo



"Noxious and invasive plants often cover large areas and require mechanized herbicide control measures."
-CES staff photo

Adapt and develop predictive models such as the Montana INVADERS database (see appendix, websites) and other tools that can be used at the local level to: (1) assess the vulnerability of specific habitats and areas to approaching invasive plants; and (2) assess general population trends and potential expansion for invasive species.

Develop tools and recommendations for assessing the invasiveness of incoming plant materials. Research should be conducted on new-plant materials brought in by plant hunters, gardeners and the horticultural industry.



"Disturbed soils, such as gravel pits and construction areas, provide excellent opportunities for noxious weeds and invasive plants to establish and flourish."

-CES staff photo

Conduct a statewide economic assessment to identify the costs associated with noxious and invasive plants. The economic assessment will evaluate agricultural, recreational, aesthetic, environmental and health related costs. The economic assessment can then be used to inform and help persuade the public and legislature to support and fund noxious and invasive plant management and statewide educational programs. It will help all Alaska citizens and lawmakers understand the threats posed by noxious and invasive plants and the need for sufficient resources to slow and stop their spread.

V. Management: Least Cost, Most Effective and Acceptable Management

Problem

The vastness of Alaska makes a single management system impractical. Alaska imports agricultural products such as hay, reclamation plants and seeds. These materials can be a potential source for invasive and noxious plant introduction. Recreational animals and vehicles transport seeds to backcountry wilderness areas. Alaska statutes regarding importation of agricultural products and weed control are in place, but enforcement is limited due to budgetary and personnel constraints. A large segment of the public is unaware of the impact of noxious and invasive plants, and there are few local plans in place for invasive plant management. Consequently, there is little public interest and pressure on land managers and control authorities to enforce weed laws.

Alaska's size and its multiple land managers and owners create a challenge for coordinated management. Weed management requires an integrated approach, which adds an additional element. Many Alaskans have a negative attitude regarding chemical weed control. This reduces management options. Alaska is in a unique situation where many invasive plants have yet to be introduced or are just starting to show up. Preventing the introduction and eradication of newly arrived noxious weeds is always cheaper and are critical elements of noxious and invasive plant management. Advanced planning is critical for permitting but can slow the process for weed management.



"Well-managed Alaska-grown forage crops lessen the need for imported feed, which is potentially contaminated with new noxious weed seeds."

—CES staff photo

Actions

Review and if needed revise the prohibited and restricted species list in Alaska. This needs to be done continually with input from professionals. Currently there are two state statutes (law) and one regulation (implementation rule) that pertain to the management of noxious and invasive plants. Regulation and control of plant pests is authorized under Title 3 of the Alaska State Statutes. Regulations relating to noxious weed control are found in Title 11 Chapter 34 of the Alaska Administrative Code. (See appendix concerning State Law and Regulations.) Methods need to be defined for adding invasive plants to the prohibited and restricted species list. Methods could include the development of risk assessment guidelines and the petitioning process.



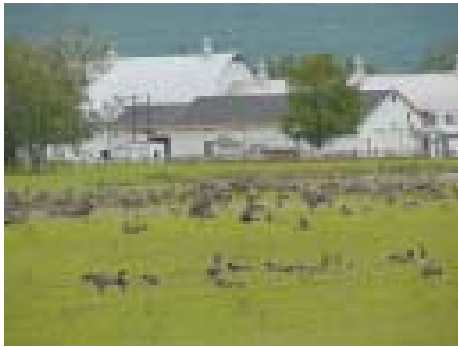
"Farmers have traditionally been on the front line of controlling noxious and invasive plants to minimize their negative economic impacts."

—CES staff photo

Develop a species priority list. Noxious and invasive plants are threats to agricultural and ecological systems. Prioritizing these can help managers make decisions on spending funds. There are also new pest that have a high potential for introduction. Professionals and the public need educational materials to help them identify new pests entering the state.

Review and streamline the Alaska Department of Environmental Conservation permitting process for pesticide usage on public lands by public agencies. The process of permitting pesticides for state use needs to be looked at and revised as needed. There may be examples within other western states. The establishment of general permitting for different geographic zones may be one tool to streamline the process.

Identify existing or develop guidelines for revegetation. This is a complex decision, which could include not replanting a site and allowing native vegetation to become established naturally. Another guideline could encourage the use of native species and certified weed-free seed if available for reclamation and revegetation projects. The biggest developers and users of seed in the State is the Department of Transportation. The quantity of native seed for all projects is not currently available. Alternative and noninvasive species must be known. There may be a need for consistency within and between agencies in the contract specifications. Issues related to revegetation in Alaska can be found in "Native Plant Revegetation Manual for Denali National Park and Preserve" by Densmore, R.V., M.E. Vander Meer and N.G. Dunkle. USGS/BRD/ITR-2000-0006. 42pgs.



"Birds can be an important vector in the spread of noxious and invasive plants."

—Photo by Marta Mueller

Develop recommendations for the movement of potentially contaminated equipment into and across the state. Weeds are often brought in on vehicles, and used farm and construction equipment. There may be a need for equipment-cleaning stations at borders and centers of distribution. (See appendix on statute 11 ACC 34.180. TREATMENT OF APPLIANCES.)



"Invasive plants are commonly found along roadsides and transportation corridors."

—Photo by S&K Farms, Alaska

Develop guidelines for the certification of hay, feed and bedding being imported to or transported within Alaska to prevent the introduction of weeds, particularly into park or public lands. Guidelines exist within the Bureau of Land Management. These are currently not being implemented in the state.

Develop comprehensive cost-share programs to encourage landowners, local officials, and weed managers to develop and implement quality programs. IPM methods will be used to treat noxious and invasive plants. It will be important to document successes and failures of control efforts and share this information widely so that cost-effective treatments can be developed for each species.

PMA steering committees will provide awards and recognition for weed professionals, non-profit groups, industries, and landowners as incentives to build and maintain effective weed management programs.

Make available guidelines for controlling the 10 least wanted plants in Alaska. Guidelines need to be in a language easily understood and useful to the general public as well as professionals.

Develop an early detection and rapid response system for Alaska. It will focus on cooperative management and communication processes that will facilitate the early detection and quick eradication of new outbreaks of weeds. An early rapid response system will make interagency resources available for treating and eradicating newly discovered weeds within one year of detection. Regular communication with other states and countries will identify newly discovered or expanding weed species that pose the greatest risk for expansion into Alaska.

