North Dakota

STATEWIDE

AQUATIC NUISANCE SPECIES (ANS) MANAGEMENT PLAN

Bighead
Asian Carp

Common Carp

Rudd

Curlyleaf Pondweed

New Zealand
Brown Mud snail

Eloda

Protecting our aquatic resources for the future through education and responsible actions by the public, and the public officials entrusted to manage North Dakota's aquatic resources!

Goby

Zebra
Mussel

Prepared by
Lynn R Schlueter, principle author
Special Project Biologist
North Dakota Game and Fish Department

Eurasian
Watermilfoil

Ruffe

Spiny Water Flea

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Attachments:

2004 PROGRESS REPORT OF THE NORTH DAKOTA AQUATIC NUISANCE SPECIES MANAGEMENT PROGRAM by LR Schlueter, Special Project Biologist, North Dakota Game and Fish Department, Devils Lake, ND.

ACKNOWLEDGEMENTS

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EXECUTIVE SUMMARY

NORTH DAKOTA'S STATEWIDE AQUATIC NUISANCE SPECIES (ANS) MANAGEMENT PLAN

Each year more aquatic nuisance plants and animals enter the United States, and established populations are making their way closer to North Dakota. So far, North Dakota has a limited number of aquatic nuisance species (ANS), and then only in few isolated locations. ANS infestations affect more than just anglers, boaters and hunters, they have a negative influence on cities, power companies, water transfer projects, and landowners. In short, ANS impacts anything and anyone dependent on surface water. It is easy to understand the problem by picturing the fallout from noxious plants such as leafy spurge, musk thistle, and Canada thistle have had on agriculture. This is the same issue, but under the water's surface rather than on the land. North Dakota's natural resources will not be alone in feeling the impacts of ANS. If, for example, North Dakota was infested with zebra mussels, the cost for additional maintenance and monitoring for water intake facilities is estimated at $383,000 per year per intake, and $787,000 for each power plant cooling tower. These O/M costs will be passed on to the consumer. ANS infestations will affect communities and businesses relying on water-based recreation such as boating, hunting, and fishing. A 10 percent reduction in visits to North Dakota can equate to a loss of $3.2 million in direct hunting and fishing expenditures in the local economies. Water transfer and water pipeline projects can be blocked because of ANS concerns or operated only with expensive treatment facilities added to the intakes. Minnesota has spent approximately $1 million annually in its ANS control projects without eliminating the problems. ANS equates to irreparable damage to North Dakota's economics and its natural resources.

Aquatic nuisance species arrive in our state because of recreational, commercial, and consumer activities. There is increased interstate travel for recreation, which means more people, boats, and other equipment used in ANS infested waters are coming to North Dakota. Also, increased commercial importation of aquatic species is occurring in the pet trade, water gardens, and landscaping means it is easier for a noxious species to enter commercial markets and become widely distributed. The global market now provides a pathway for new noxious species to find their way to our doorsteps with a credit card, a phone call, and it can be delivered the next day to your doorstep.

The saying, "An ounce of prevention is worth a pound of cure," is a dramatic truism with ANS. The most important lesson learned from the experiences of other states is the wisdom that prevention is much more effective and much cheaper. Prevention requires intense and effective public education, developing partnerships, voluntary actions, and organization among state agencies. To date, most of North Dakota's ANS prevention and control efforts have been loosely organized and under funded.

North Dakota natural resource managers are slowly becoming more aware of this management challenge and are trying to address portions of the problem that fall under

their jurisdictions. The problem is that there is no clear authority or single agency charged with managing ANS problems. Most management efforts have focused on reacting to isolated infestations, not a comprehensive set of strategies to prevent the introduction of the problem(s). The current situation is much like a family that has a very basic insurance policy with limited coverage for catastrophic events. While some things are covered, there are many risks that are not, or can only be handled after extensive paperwork and a long wait which may prove fatal. Some of North Dakota's ANS problems are covered by existing state activities and funding, but there are many that are not. Most state agencies have only reacted to infestations that have become well established. The problem is a lack of coordination of ANS activities across public and private sectors, limited reach of projects that legitimately fall under current state agency mandates, and a lack of funding to allow consistent actions to protect North Dakota's natural resource. North Dakota is "under-insured" for the many different ANS risks it is facing.

The North Dakota Aquatic Invasive Nuisance Species Management Plan (ND-Plan) intends to:

- Form an advisory board, or Aquatic Invasive Species Committee (AISC), to North Dakota Game and Fish Department's Director to coordinate ANS prevention and control activities, and encourage state agencies and the private sector to become involved in ANS prevention and response;

- Develop a list of ANS that cannot be brought into or transported within North Dakota;

- Organize educational and outreach efforts for public and private sectors, and use a targeted audience approach to marketing ANS prevention;

- Monitor waters at high risk for ANS, and determine the pathways of high risk for importation of ANS into or within the state;

- Develop a monitoring program for early detection and rapid response to control a pioneering infestation;

- Inspect recreational boats, commercial vessels, and construction equipment used in aquatic situations, and determine owner/operator ANS precautions and awareness;

- Recommend legislative solutions that can help protect North Dakota's human and natural resource communities from ANS damage;

- Make North Dakota eligible for federal matching funds and a method(s) to prioritize funding of ANS prevention and control projects, leverage these funds with local communities, private entities, and governmental agencies; and

- Improve collaboration between national, regional, state, and local ANS prevention efforts.

The ND-Plan relies on state agencies and non-governmental partners working together to prevent or control ANS infestation and these groups having “ownership” in the outcome of ANS prevention in North Dakota. A cooperative effort is our best deterrent. This statewide management plan is based on all of us working to keep ANS from impacting our state.

INTRODUCTION

What are ANS?

Aquatic nuisance species (ANS) are nonindigenous, obligate aquatic plants or animals that threaten economic stability, human health, native or desirable species, or the ecological health of the state's waters. ANS infestations have negative impacts on commerce, agriculture, aquaculture, recreation, or just about any activity dependent on the state's waters. When noxious plants and animals are introduced, they can quickly become a problem as the new environments lack natural controls such as diseases and predators which allow colonizing populations to rapidly expand. The negative effects of ANS to native and desirable aquatic resources are difficult to measure, but those consequences are real and dramatic. In a recent study, invasive species, which include ANS, are imposing an economic burden of $137 billion per year in the United States (Pimentel et al., 1999). North Dakota's agriculture sector is already aware of the impacts of noxious species such as leafy spurge and various nonnative thistles. ANS are just the aquatic version of this problem, but they are able to impact any sector that relies on North Dakota's surface waters.

What is our situation?

North Dakota is a prairie state where water is often scarce. ANS invasions create risk to domestic, municipal, agricultural, and industrial supplies, and to recreational water use. Compromising water supplies threatens North Dakota cities and rural communities, disrupts economies, and damages natural resources.

Much of North Dakota's municipal water supplies are from rivers, reservoirs, and lakes. These resources are in jeopardy from ANS infestations. Imagine these supplies becoming fouled with a nuisance species such as zebra mussels. These animals clog water intakes, increasing annual maintenance costs for the consumer. When they die in large numbers, their shells litter beaches, and the smell of decay is in the air and water. When there is a large die-off, the dead mussels create a nuisance and human health risk – especially to potable water supplies. These die-offs disrupt recreation and reduce waterfront property values. By filtering plankton from the water, zebra mussels reduce desirable fish and wildlife through competition and the reallocation of trophic energies. In addition, waste from zebra mussels foul bottom substrates, greatly modifying habitats which further reduce desirable and native species.

Are there risks of zebra mussels becoming established in North Dakota? The reality is that zebra mussels are moving closer to North Dakota each year. In their wake, ANS have caused significant economic problems, ecosystem impacts, damaged natural resources, and spawned new social problems. The nearest infestation to North Dakota is less than 150 miles to the east in Lake Ossawinnamakee in Minnesota. An ounce of prevention is a good investment when dealing with ANS (Leung, et al., 2002).

The monies spent on prevention are much less than the cost of dealing with an ANS infestation.

There are five important points to consider for ANS prevention: 1) ANS are currently in isolated locations in North Dakota and there only three species in the state; 2) risks are real, are devastating, and ANS are closing in on North Dakota's borders; 3) prevention of ANS is more practical, more effective, and less expensive than control efforts, which are seldom successful (Leung, et al., 2002); 4) negative impacts will occur to all those who depend on water; and 5) additional and dedicated funds are needed to expand and improve North Dakota's ANS prevention efforts.

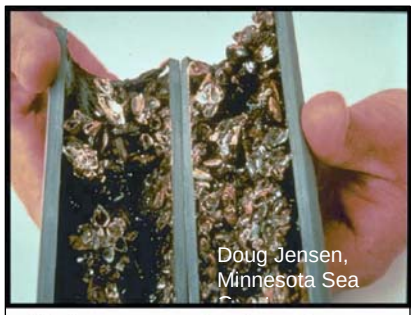
What is at risk?

While North Dakota has been lucky so far with having few ANS infestations (USGS, 2000), the long-term threat is apparent. Examples of the immediate economic and environmental risks include:

- Outdoor Recreation: Outdoor recreation is important to North Dakota's economy, contributing $4.7 million in 2001 from hunting and fishing alone (Bangsund and Leistritz, 2003). Nonresident anglers spent $31.9 million dollars in North Dakota in 2001-2002. If an ANS infestation reduces visitation by even a modest amount (say 10 percent) it would mean a significant loss of revenue to the state (about $3.2 million in this example). Salmon fishing in Lake Sakakawea supports approximately 13,000 angler days per year, which equates to a value of $1.8 million dollars annually (Power, 2004). The salmon population could be reduced by whirling disease, a viral pathogen found in states to the west.

Boat fouled with Eurasian milfoil.

- Water Users: Several North Dakota industries, all major cities, and many rural water pipelines rely on surface water supplies. An industrial water user has only to look to our neighbors to the east and the problems they are having, and then think about the risk to our state. ANS bivalve infestations in the Midwest and eastern part of the United States are costing $1 billion annually (Khalanski, 1997). In the upper Midwest, a medium-sized city spends about $383,000 per year per water intake (Jensen, 2004). To clean ANS from power



Zebra mussels clogging an industrial pipe.

cooling towers, the annual cost is nearly $787,000 per site (Jensen, 2004).

- Agriculture: Water flows in canals and irrigation pump intakes are clogged by Brazilian elodea (WASHINGTON DEPARTMENT of EOCOLOGY, 2004). This plant also creates problems for boaters and anglers. Heavy growth will displace native plants, and waterfowl production is curtailed in infested lakes and rivers. The same statements are true about the effects of Eurasian watermilfoil on water uses.

- Natural Resources: Even a modest zebra mussel infestation can reduce desirable fish populations by about 35 percent (Schlueter, 2004). Hetersporia spp. (a micosporidan) has been found in Minnesota and Wisconsin waters for about 15 years, affecting fish species such as fathead minnows, walleye, yellow perch, largemouth bass and channel catfish. In 1944, purple loosestrife was found in a few isolated locations along the Red River near Lockport, Manitoba, but now has invaded and displaced native species in thousands of acres of wetlands (Manitoba Purple Loosestrife Project, 2002).

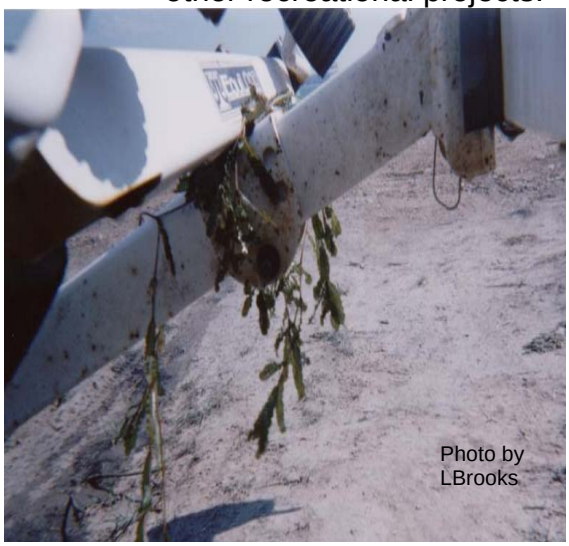
Purple loosestrife clogging waterway.

- Property Values: People will pay more to live next to water, but lakefront property values in Pennsylvania dropped approximately 15 percent where Eurasian watermilfoil infestations occurred. The reductions in county property tax revenues were offset by increased tax rates on other items. Environmental and economic problems caused by the dense growth of these weeds include impairment of water-based recreation, navigation and flood

Eurasian water milfoil damaging waterfront property.

control, degradation of water quality and fish and wildlife habitat, and accelerated filling of lakes and reservoirs. Eurasian water milfoil is found within 150 miles of North Dakota's borders (Exotic Species Program, 2004).

- Un-infested waterbodies: As ANS are moved to new areas, the cost to control the problem also increases. Minnesota's first Eurasian water milfoil infestation was reported in 1987. This ANS spread because control efforts were not quickly put into place. Minnesota now has Eurasian watermilfoil in 152 lakes, reservoirs, streams and rivers (Exotic Species Program, 2004). It is estimated that Minnesota spends approximately $1 million annually to control Eurasian watermilfoil. Yet the problem has not been eliminated at this spending level. Movement of ANS into or within North Dakota will likely create similar costs. This means money and manpower reallocated from other recreational projects.



Who manages ANS?

States are in the lead. Most states have noxious weed laws and some level of management on other deleterious species. For ANS prevention and control efforts, the state's governmental agencies have become the focal point for managing ANS inside their borders. States are developing ANS management plans to coordinate different activities, setting priorities for intelligently allocating scarce resources, and creating adaptable management systems to meet changing needs.

Federal government is involved. The introduction and spread of ANS across state and international borders continues even though the problems – damage to ecosystems, degradation of natural resources, increased socio-economic costs to water users, and other impacts – are well known (Lassuy, 1994). As a result, the federal government has taken an active interest. In 1990, the Nonindigenous Aquatic Nuisance Prevention and Control Act (NANPCA) began providing federal funds to implement states' ANS management plans. While programs created by this national legislation were initially directed at the Great Lakes region, the reauthorization of NANPCA in 1996 as the National Invasive Species Act (NISA) established a national goal of preventing the introduction and spread of ANS in all states. The NISA allowed for the development of various federal programs such as "Protect Your Waters", 100th Meridian Initiative, and others.

NISA contained language that encouraged states to develop their own management plans which were feasible, contained cost-effective management practices and measures that could be implemented by a state to prevent and control ANS infestations in an environmentally sound way. Approval of North Dakota's statewide ANS management plan (ND-Plan) will make federal funds available to North Dakota for its ANS prevention efforts; see National Invasive Species Act of 1996 (see Appendix A). Federal agencies, like the Department of the Interior, are to ensure that American Indian resources and federal lands are properly managed, protected, and conserved, including protection from ANS damage. Those federal agencies managing ANS on agency and tribal lands provide policy reviews and other technical services such as education and act as a liaison on ANS issues. This makes federal agencies and Indian tribes important partners in a state's ANS management efforts.

There is regional cooperation. Various regions of the United States have come to realize that one state's problem is really a problem that affects other states. It is easy for North Dakota to imagine this by considering that an ANS infestation in the Missouri River or the Mississippi River will not stop at a state's borders. In response to the ANS threat, the Western Governor's Association has been supportive of the Western Regional Panel and 100th Meridian Initiative. Both of these federal groups have been tasked with limiting the introduction, spread and impacts of ANS into western North America. Both groups are a combination of public and private sector participants working together to protect western water resources from ANS.

History of management in North Dakota. ANS problems in North Dakota have long been recognized by state and federal agencies and the private sector. Efforts to control ANS have been funded as an extra project, with some funds moved from other internal sources or from available federal funding sources. The North Dakota Game and Fish Department began working with the U.S. Fish and Wildlife ANS-Task Force, 100th Meridian, and Western Governors' Regional Panel in the mid-1990s to secure funds that were utilized in forming partnerships with other North Dakota natural resource agencies for ANS education and prevention activities. These funds were used to provide signs at boat ramps in North Dakota Department of Parks and Recreation areas and in areas operated by the U.S. Army Corps of Engineers (COE). Publications by the North Dakota Tourism Department contained educational information and were provided to individuals, both residents and nonresidents, requesting information about North Dakota. Posters to increase ANS awareness were developed and placed in bait shops, sporting goods stores, boat dealerships and at local chamber of commerce offices. Monitoring of waterbodies for ANS infestations was done by North Dakota Game and Fish Department field staff and COE staff. ANS impacts to North Dakota's resources and to long-term operational and maintenance impacts were discussed with the North Dakota Department of Health, State Water Commission, U.S. Fish and Wildlife Service-Fisheries Assistance Operation and Bureau of Reclamation. Local water resource boards were provided with information on ANS impacts to water management projects. Contracts with universities for studies on boaters' points of origin and travel destinations, comparison of ANS lifecycle requirements to conditions in North Dakota waters, and ANS precautions the boaters had done were vital to develop risk analysis reports. Those agencies, which issue permits for water projects, understand the importance of taking proactive steps and have begun to modify their permitting systems and operational procedures to include provisions to prevent ANS introductions.

It is difficult to track all of the ANS prevention expenditures in North Dakota to date. The North Dakota Game and Fish Department has spent $125,000 over the last five years. Monies spent by other agencies have not been tracked, and is extremely difficult to estimate. It is believed that their efforts were the result of funding the North Dakota Game and Fish Department and it's forming partnership with others. A number of partnerships developed which provided information to targeted audiences in order to inform the private sector of ANS impacts, and promote coordinated ANS prevention or monitoring activities. The partnership allowed a limited budget to cover more activities and reach a large number of people, private entities and state agencies.

STATE AUTHORITIES, REGULATIONS, AND PROGRAMS

In North Dakota, many state agencies have authority and regulatory roles in managing natural resources. While many agencies have some authority to regulate or preventing ANS, all public agencies have an ethical responsibility to prevent damage to North Dakota's resources and to act in the best interest of North Dakota's citizens. As a historical prospective, North Dakota's legislature has not recognize a single agency as the sole responsibility to regulate ANS. North Dakota's legislature could designate an agency to be the lead, but at this time there is no centralized authority or management structure that exists to coordinate ANS activities in North Dakota.

The authorities and regulations of various state agencies are summarized below (see Appendix B for an extensive listing of North Dakota Century Codes for various state agencies).

DEPARTMENT OF AGRICULTURE

The Commissioner of Agriculture or the commissioner's authorized representative, with the assistance of the North Dakota State University Extension Service, has powers over the management, control and eradication of pests, noxious weeds, rodent and insect management and the use and application of pesticides. Their primary function is to provide technical expertise to county weed boards and to provide funding for various weed control activities.

The Plant Pests Act [North Dakota Century Code: 4-33-01 through 4-33-12] provides the Department of Agriculture the power to suppress, control or eradicate the spread of plant pests in the state. The commissioner may temporarily quarantine areas that he believes necessary to prevent the spread of plant pests for up to 90 days without a public hearing, or longer with a public hearing. The commissioner is empowered to conduct a reasonable inspection of any premises or property within the state with a warrant issued by District Court or consent of the owner and may stop and inspect any means of transport or conveyance within the state if he has probable cause to believe it to contain or carry a plant pest or host.

The North Dakota Noxious Weed Control Act [North Dakota Century Code: 63-01.1-01 through 63-01.1-17] provides that the Agriculture Commissioner, working in conjunction with county weed boards and county weed officers, the authority for control, maintenance, and eradication of noxious weeds and pests throughout the state. The commissioner, after consultation with the North Dakota State University Extension Service, shall compile and keep current a list of noxious weeds and provide local authorities with information and a program for the control or eradication of noxious weeds. The act provides the Highway Patrol, sheriffs, and other law enforcement officers the power to stop and inspect vehicles suspected of transporting noxious weeds within the state, to prevent the dissemination of noxious weeds on highways, airways or waterways.

GAME AND FISH DEPARTMENT

The North Dakota Game and Fish Department [North Dakota Century Code: 20.1-02-01 through 20.1-02-28] provides the Director with the authority to regulate the importation, introduction and transplanting of fish, fish eggs, and other aquatic animals into state waters. The act provides that one must have a permit issued by the Director before introducing any fish or fish eggs into public waters, and the fish or fish eggs must be inspected for disease.

The Fish, Frog, and Turtle Regulation Act [North Dakota Century Code: 20.1-06-01 through 20.1-06-17] provides the Director with the power to remove and dispose of fish deemed undesirable. The Director may adopt rules governing the operation of private fish hatcheries, introduction and release of fish into the state, and the supervision of live bait wholesalers. Department rules prohibit the dumping of minnow buckets or any other container into public waters. [NDAC 30-04-04-05].

STATE DEPARTMENT OF HEALTH

The State Water Pollution Control Board, which includes the Director of the North Dakota Game and Fish Department, through the State Department of Health and with cooperation of the State Water Commission [North Dakota Century Code: 61-28-01 through 61-28-08] maintains and improves water quality of the state, formulates and issues standards of water quality, and provides for a system to classify North Dakota's waters [NDAC 33-16-02.1-04, 09]. The agency is to require the proper maintenance and operation of sewage and industrial waste systems to protect present and future use of such waters for, among other reasons, the propagation of fish and aquatic life and wildlife.

STATE WATER COMMISSION AND STATE ENGINEER

The Water Commission Act [North Dakota Century Code: 61-02-01 through 61-02-76] provides for the establishment of a State Water Commission, which has general authority over all surface and subsurface water within the state. This includes authority over water projects, which includes recreational use or wildlife conservation. The Commission appoints the state engineer. Anyone who wants to divert or appropriate water within the state must get a permit issued by the state engineer, unless the use is for domestic, livestock or for fish, wildlife (including purposes of propagating, sustaining fish and wildlife resources, and for the development and maintenance of water areas) or other recreational need [North Dakota Century Code: 61-04-01.1 through 61-04-32]. The state engineer does have the authority to control and supervise all water and wildlife conservation projects and wildlife reservations. [North Dakota Century Code: 61-15-03].

WATER RESOURCE DISTRICT ACT

This is the only agency with the power to order the removal of aquatic weeds and pests [North Dakota Century Code: 61-16.1-01 through 61-16.1-63]. Water Resource Boards have the power to manage water resources within their districts and order or initiate legal action to compel a person, user or controller of any bridge, or culvert to remove any weeds, shrubbery or other debris which hinders or decreases the flow of the water.

HIGHWAY PATROL AND OTHER LAW ENFORCEMENT

Statutes concerning the enforcement of laws regarding pests, pesticides, noxious weed control, weed control, and game and fish generally require other law enforcement agencies within the state to aide and assist in the enforcement of laws and regulations in these areas.

FEDERAL AUTHORITIES AND REGULATIONS

No single federal agency has clear authority over all aspects of ANS management. Many federal agencies have programs and responsibilities that address aspects of the problem such as importation, interstate transportation, exclusion, control, and eradication (see Appendix C). Federal activities on ANS management are coordinated through the National Aquatic Nuisance Species Task Force and Executive Order (EO) 13112, which requires all federal agencies to collaborate in developing a national invasive species management plan that will include terrestrial and aquatic species.

Executive Order 13112 on Invasive Species

President Clinton signed Executive Order (EO) 13112 on Invasive Species (64 Fed. Reg. 6183, Feb. 8, 1999), on February 3, 1999. The EO seeks to prevent the introduction of invasive species, provide for their control, and minimize their impacts through better coordination of federal agency efforts under a National Invasive Species Management Plan. The Order directs all federal agencies to address invasive species concerns, as well as refrain from actions likely to increase invasive species problems. The National Invasive Species Management Plan was finalized on January 18, 2001. The Plan can be found on the Council website at www.invasivespecies.gov. See Appendix D for full details on EO 13112.

Nonindigenous Aquatic Nuisance Prevention and Control Act of 1990 (NANPCA; Title I of P. No.101-646, 16 U.S.C. 4701 et seq.)

This Act established a federal program to prevent the introduction of, and to control the spread of, introduced ANS and the brown tree snake. The U.S. Fish and Wildlife Service, U.S. Coast Guard, Environmental Protection Agency, Army Corps of Engineers, and the National Oceanic and Atmospheric Administration share responsibilities for implementing this effort. They act cooperatively as members of an Aquatic Nuisance Species Task Force. The mandate is prevention, monitoring, and control with these activities supported by research and education. The Task Force conducts studies and reports to Congress:

- to assess whether ANS threaten the ecological characteristics and economic uses of U.S. waters other than the Great Lakes;

- to identify and evaluate approaches for reducing the risk of adverse consequences associated with intentional introduction of aquatic organisms.

Under NANPCA, state governors are authorized to submit comprehensive management plans to the Task Force for approval, which identifies areas or activities for which technical and financial assistance is needed. Grants are authorized to states for implementing approved management plans, with a maximum federal share of 75 percent of the cost of each comprehensive management plan. The state (or non-federal) contribution is 25 percent of total program costs.

National Invasive Species Act (NISA; No.104-332)

In 1996, NISA amended NANPCA to mandate regulations to prevent the introduction and spread of ANS into the Great Lakes through ballast water and other vessel operations. The act authorized funding for research on aquatic nuisance species prevention and control in the Chesapeake Bay, Gulf of Mexico, Pacific Coast, Atlantic Coast, and San Francisco Bay-Delta Estuary.

In addition, NISA required a ballast water management program to demonstrate technologies and practices to prevent aquatic nonindigenous species from being introduced into and spread through ballast water in U.S. waters. It modified: (1) the composition and research priorities of the Aquatic Nuisance Species Task Force; and (2) zebra mussel demonstration program requirements. See Appendix A for full details on NISA.

PROBLEMS AND CONCERNS

How do they get around? – The need for pathway management. Nineteen pathways for ANS to enter North Dakota has been described (Leitch and Tenamoc, 2001). It is recognized that the RISK ASSESSMENT FOR THE INTRODUCTION AND ESTABLISHMENT OF AQUATIC NUISANCE SPECIES IN NORTH DAKOTA (Brooks and Schlueter), the lists of ANS in other states or provinces, and travel patterns need to be periodically updated. The combing of such information will provide a reasonable risk assessment of each recognized ANS and its likely pathway.

Those areas which are believed to be the likely sources of ANS importation or movement will be a primary target, but educational efforts will continue on a broad approach as not to miss a source of ANS movement. Understanding the pathways allows prevention, education, and outreach efforts or other reasonable and effective prevention practices (REPPs) to focus on actual problems.

Effectively managing the risk of ANS will focus on prevention rather than attempting to control the problem after it is found in North Dakota. The spread of ANS to inland waters has many pathways. The first pathway of concern is from ANS hitchhiking, where organisms catch a free ride on aquatic recreational equipment, such as boats, trailers, and sporting equipment, from one waterbody to another. ANS hitchhikers can be moved into North Dakota or moved among North Dakota waterbodies. From the angler surveys conducted on North Dakota waters, it was found that the number of nonresident anglers has increased in recent years. Many of these anglers are coming from areas known to have ANS infestations, and some visitors have neglected to take ANS precautions to rid their equipment of ANS hitchhikers. To compound the problem, North Dakotans visit other states where ANS abound and could bring ANS back to North Dakota on their boats or equipment.

Another pathway is through commercial ventures, like the importation of live fishbaits, importing exotic fishes for aquariums, and importing exotics for aesthetic purposes such as aquatic gardens, landscaping and for food. In 2003-2004, exotic aquatic plants were observed for sale in local plant nurseries and home improvement centers in North Dakota. North Dakota Game and Fish Department staff checked and found that many of these plants were on the various lists of nonindigenous species or on the U.S. Department of Agriculture's Noxious Plant list. But since current North Dakota regulations did not list them as a noxious plant, no action could be taken. The concern is that these nursery plants can be released, accidentally or intentionally, into the wild and create ANS problems in the state's waters. The two classic examples of ornamental plants that become problems are purple loosestrife and salt cedar. Both are on the state's Department of Agriculture's noxious plant list, but can still be found in some commercial plant nurseries and via the internet sales. Both plant species now occur in the wild in many areas of North Dakota. The prodigy of "domesticated" plants or animals can easily escape or be released into the wild, become an established infestation, and cause significant problems.

The following is a general listing of ANS pathways in North Dakota:

- via watercourse or watershed connections such as ditches, channels, natural overland flows in high water events, and in streams and rivers;
- on or in recreational boats or equipment used for angling, hunting, boating, or vessels used in construction in aquatic situations;
- use of undesirable species or ANS as live fish baits and the disposal of unwanted baits in improper locations;
- commercial ventures, which includes aquaculture, pet industry, plant nurseries, landscaping and food markets, that utilize a live product,

service industry such as hunting lodges or fishing guides, and fish bait industry;
- natural carriers, such as seeds in bird feathers and animal fur, seeds or eggs stuck on muddy feet, or attached to another plant or animal;
- commercial vessels and construction equipment used in aquatic situations; and
- importation of plants or animals for personal enjoyment, as status symbols, ornamental use, and similar uses.

Bioterrorism is a concern and will not be considered to be a typical introduction pathway for ANS. Bioterrorism is a clandestine act meant to damage the region's natural resources, sabotage in its purest form.

Why are ANS moved from their native ranges? Three interrelated factors create conditions suitable for the spread of ANS:

1) Human demand. Consumer demand for live plants or animals used in human consumption, for display in gardens and aquariums, aesthetic pleasures, and commercial ventures (i.e., live food market, aquaculture, captive breeding);

2) Increased travel and trade avenues. This occurs when individuals have more discretionary money, a great deal of leisure time, and are willing to travel greater distances to enjoy their leisure, sightsee, and recreate. The increased distances people travel correlates to the likelihood they'll come in contact with an ANS. The increased ease of international trade (i.e., air mail delivery of species ordered over the Internet) also makes it possible for exotic species to effortlessly find their way to North Dakota;

3) Lack of citizen and private enterprise knowledge or apathy about taking the proper precautions. Mankind is often the unwitting and unknowing agent of unwanted movement of ANS. Individuals and businesses are unaware of ANS problems, but lack of knowledge is very concerning when one realizes the amount of the information that has been provided in different sources such as popular periodicals, television, radio, and newspapers. A greater concern is that individuals are aware of the problem, but are not taking the precautions needed to prevent ANS movement. It is not hard to imagine that some individuals are just not willing to take precautions as they assume the problem is inevitable or they just do not care about the consequences of ANS infestations; and

Establishment of new populations in new areas that create problems – Not all species cause problems in new locations.

The importation of an ANS to a new area does not always result in a new population being formed. As with any species, the introduced ANS must find compatible conditions in the new location. An easy example is those ANS that are from tropical regions, they will not survive in North Dakota's harsh winter climate. Suitable

biological conditions for the exotic animal or plant must be present in its new location or it will not survive. The introduced specie(s) must find an unfilled niche it can utilize. In addition, the new area must not have biological controls such as predators, diseases, etc., which overwhelm a new species that has no adaptations to their attacks. In the event that three controls are not in place, the introduced species survive, prosper, and can create problems. When the new specie out-competes a native or desirable species, it then becomes a problem and creates a rapid change in ecological conditions where it is established. As ecological interactions are common, impacts to secondary species can and do occur from the sudden change in the ecosystem.

The problem is from species from regions with similar weather and water conditions as North Dakota. These species are likely to survive and thrive in North Dakota. As with any new population, the number of individuals slowly increases until they reach a threshold level. At this point, there will be a rapid population expansion. While the new population is slowly building, genetic selection or shifting is occurring, those individuals which are best adapted to the new conditions prosper and multiply. A species' adaptation allows some introduced species to dominate in the new environment and out-compete other species. In many instances, the new species can interbreed with a closely related species. The resulting hybrid can be more of a problem than the original species.

The newly introduced populations are the most susceptible to control efforts – when they are below the threshold level for high expansion rates. To have effective control measures, the population must be found in this critical stage. When the species has passed this point, has begun to spread to new areas, it is now considered as common place, then it is basically uncontrollable. Once a population is well established, controlling or eliminating the established ANS population is impractical.

Who is in charge? – The need for agency coordination. While many government and private entities have some form of ANS responsibility, there is not a comprehensive and coordinated management capacity, nor is there a focus on effective prevention efforts. A new, robust vision of cooperation and deterrence will be required to meet the uncharted risks that ANS present to North Dakota. The many different laws, regulations, and policies with partial impact on ANS need to be woven into a comprehensive and cooperative program to protect the state's aquatic resources, and domestic, agricultural, and industrial water supplies.

The proposed program needs to be based on reasonable and effective prevention practices (REPPs) that meets North Dakota's needs. Examples of such increased activities for agencies and entities where REPPs or ANS prevention should be include:

- State Water Commission permits for construction of water transfer projects, water pipelines, water retention structures, water intake devices or similar activities where ANS introduction or spread could occur.

- Department of Health permits for water projects where the discharge of waters or the transfer of water between basins that present an ANS risk.

- Department of Agriculture to expand its inspection/monitoring of plant nurseries or garden centers for ANS plants and enforce appropriate ANS regulations on sales of aquatic plants.

- Game and Fish Department to ensure that imported species such as baitfish or fish for aquaculture or stocking are ANS free or not from areas with ANS infestations; continue inspecting bait wholesalers and retailers for ANS; work with the pet trade industry in implementing ANS prevention protocols; and enforce ANS regulations on transporting aquatic vegetation or organisms.

- Tourism and Commerce Department to provide information on ANS ecologic and economic risks, and the need for prevention in its trade publications, economic development information, and other educational materials.

- County Extension Agency to provide information on alternative water garden plants, which do not pose ANS risks.

- Department of Parks and Recreation to include information on ANS concerns, ANS introduction from park visitors, and enforce such ANS regulations on transporting aquatic vegetation or organisms.

- Department of Transportation to inspect large boats hauled by commercial carriers when they pass through ports of entry or at weigh stations, and enforce appropriate ANS regulations on the movement of aquatic plants and organisms.

- Water Boards or Natural Resource Boards to review water management permits to ensure ANS introductions will not occur and include ANS prevention protocols for equipment brought into an area. To quarantine waters, if needed, to prevent the spread of ANS to other waters.

- Municipal water users, lake owner associations, irrigation districts or conservancy districts would inform their groups of the impacts from ANS infestations, the costs to users associated to control or manage the problem, and the need to take action before ANS problem(s) becomes established and cannot be controlled.

The including of REPPs into agency responsibilities will only enhance existing duties and agency mandates to protect North Dakota's environmental and economic resources. While ANS problems are considered new for many agencies, ANS must be viewed as another problem that will negatively impact our state's future. ANS prevention must become a part of agency concerns, which means agencies must forgo the role of reacting only when there is a well-established problem. To prevent ANS

infestations and their problems, a strong, proactive, coordinated effort must be made among state agencies.

Preventing ANS introductions is the responsible action for the local and state agencies. We, entities representing the best interests of North Dakota citizens, who are involved with or entrusted with management of North Dakota's natural resources and economic viability, must be involved. To not become involved is to give up the trust and faith, and the responsibility that the public has given public agencies.

Involvement of the private sector. Success with a new set of coordinated activities from the government, especially to educate the public and business community, will require participation by those private-sector parties who have a stake in preventing ANS damage. While agencies frequently interact with the public, they do not do so nearly as often as the private-sector. Consequently, a large segment of those who will be impacted by ANS are not being reached. Some commercial activities such as water gardening, exotic pet importing, and the live fish bait industry, are at-risk pathways for introducing deleterious species. The power industry which supplies electricity for lights at work, television sets at home, and the computers in schools will have to pass higher operational costs on to their customers. These two examples show how ANS can have impacts to those not active in outdoor recreation.

Businesses must be willingly involved in ANS prevention to implement the best management practices for their industry, and in so doing, complement the limited reach of regulations. Industries are natural partners to create an environment where prevention can reap benefits for the expenditure side of their operations.

Partnerships are critical to the programs outcome. Outdoor recreators and the private sector must buy-in to taking preventive precautions to ensure their resources for the future. It is the three-way partnership between the public, private businesses, and state agencies which will allow for effective ANS prevention activities to be done. North Dakotans who will be impacted by ANS must willingly agree to prevention efforts and work for such efforts.

Any ANS prevention program can be successful if those impacted are willing to help. There are three major advantages to the partnership: 1) willingness of all affected parties to be involved; 2) increased levels of direct communications on the problem between all affected parties, finding realistic solutions, and understand the solutions' impacts on affected parties; and 3) leveraging a limited budget with matching dollars and in-kind services. Item number 3 will require the expenditure of funds on the best avenues to communicate problems to the public and private sectors which have the best results for ANS prevention.

WESTERN REGIONAL PANEL RECOMMENDATIONS ON STATE ACTIONS TO IMPROVE REGIONAL CAPACITY FOR MANAGING AQUATIC INVASIVE SPECIES

The Western Regional Panel (WRP) was formed to promote a cooperative regional response to the threat of ANS among member states. States have broad authorities and resources that are critically needed to combat invasive species. ANS impact states economically and environmentally. The WRP is attempting to assist member states by recommending actions that will reduce the risk of ANS for each state and the western region as a whole. The WRP encourages member states to implement actions to reduce the risk from ANS to the region. The following recommendations have been reviewed and approved by the WRP members.

I. Actions to build state capacity for managing aquatic invasive species.

1. Appoint a state Aquatic Nuisance Species Coordinator (ANS-Coordinator – Every state has multiple agencies, authorities and information sources that can be used to implement a wide variety of aquatic invasive species management programs. A coordinator is needed to integrate these efforts into an efficient, unified response, and to serve as an identifiable lead contact for the state on aquatic invasive species issues and related aquatic issues.

2. Establish state Aquatic Invasive Species Committees (AISC) – The challenges caused by invasive species can be so diverse, extensive and long-term that they require consistent attention over time by the full range of agencies that serve the affected public. A coordinating committee, especially if established through legislation, has the greatest ability to provide a stable long-term forum for key stakeholders to address ANS problems.

3. Create state ANS management plans – North Dakota statewide ANS management plans (ND-Plan) will be a well thought out, effective, action strategy that creates consensus and support from partners within the state and, when approved by the national Aquatic Nuisance Species Task Force, will make a state eligible for federal funding.

4. Appoint a representative to the WRP and provide the resources needed for participation – The problems caused by ANS cannot be solved by any one state or entity. International, national, regional, state and local initiatives are needed to affect meaningful solutions. Participating in the WRP panel provides members access to new, creative ideas, and facilitates coordination among state efforts and national and international programs. Informed state actions are better able to implement effective programs that are consistent with federal law.

II. Actions to improve state authorities and increase funding for implementation:

1. Provide a long-term, stable source of state funding that can be used as a match for federal funding to implement state ANS management programs. Some states have already implemented aquatic ANS management programs that are supported by fees, license revenues, or general fund dollars. Federal funding by itself is insufficient to address the problem, but it can serve as a catalyst for leveraging limited state funds. Each state should consider their various funding options and strive to secure long-term funding for ANS management.

2. Implement programs to prevent the spread of invasive species via boating as well as other pathways. The spread of ANS among fresh water lakes and rivers, coastal estuaries, and nearshore marine waters can be greatly reduced by implementing state prevention programs. These programs should have adequate funding for boater education and inspection programs, along with the authority to make the transporting of nonindigenous aquatic organisms on recreational or commercial boats illegal.

    a. Survey trailered recreational boats according to the 100th Meridian Initiative Guidelines. The 100th Meridian Initiative has a standard survey form which can be found at www.100thmeridian.org. The survey information shows the regions boats are coming from such as areas where there is ANS infestations, travel routes, and destinations. Western states can estimate where ANS infestations are likely to come from. This information, in a searchable database, can help focus educational activities along specific pathways.

3. Create a state early detection and rapid response plan with clear authority and funding to quickly respond to new invasions and new pathways for invasion. The WRP has created a model rapid response plan that should make it easier for each of our member states to create and implement state specific response plans.

4. Provide state authority to designate waters that contain ANS as “Infested Waters” and implement management actions to control the existing population and prevent its spread. It is not feasible to eradicate some invasive species populations if they become firmly established before control action is begun. Control of invasive species in certain waterbodies can become a long-term management commitment. The designation of “Infested Waters” (or any other special state designation) can allow managers to quantify the problem while implementing education, containment and control programs to limit the damages and long-term expense.

5. Implement a nonnative species classification program that may allow for the beneficial use of some nonnative species while screening out potentially invasive species prior to importation or release. The intentional importation and release of nonnative species has led to the introduction of numerous invasive species. New federal and state programs are needed to screen out harmful invasive species prior to importation or release. Screening programs can reduce the impact of invasive species while allowing for their beneficial uses.

THE OBJECTIVES AND STRATEGIES OF THE NORTH DAKOTA AQUATIC NUISANCE SPECIES STATEWIDE MANAGEMENT PLAN

The goal of the North Dakota ANS Management Plan is to:

Prevent the harmful ecological, economic, and social impacts from ANS being introduced into or spread within North Dakota.

This goal will be achieved through implementation of eight principle objectives and their associated strategies. For each objective, the action narrative addresses the concerns which must be accomplished. The strategies contain a list of potential actions that will provide the needed ANS prevention and information to make sound decisions. The Aquatic Invasive Nuisance Species Coordinator (ANS-Coordinator) and Aquatic Invasive Species Committee (AISC) will have work to together to ensure coordinated ANS prevention efforts across governmental and private sectors. If there has been some work on a particular strategy component, that effort will be identified in the attached 2004 PROGRESS REPORT- NORTH DAKOTA AQUATIC NUISANCE SPECIES (ANS) MANAGEMENT PROGRAM.

It is understood that the strategies contain a wide list of tasks needed to be accomplished, but many of these actions will be worked on over an extended time frame. It will be necessary to prioritize which strategies are to be accomplished based on authorities and funding, and which strategy will provide the best outcome and results in ANS prevention. Staffing is provided by the legislature, state agencies or entities, the federal government, and/or private sources. The prioritized strategies are identified in the Budget Section.

There are many different strategies to undertake for the effective prevention of ANS into North Dakota. Some strategies are interdependent on other sections of the ND-Plan and can only be undertaken if precursors are accomplished or in progress. Other strategies are independent and can be undertaken as needed or when an opportunity presents itself. The strategies and their order of listing doesn't represent when they will or need to be accomplished.

It is not possible to envision or address all potential ANS invaders, their impacts, and possible constraints. It is important to realize that contingencies may develop quickly to address a problem. Consequently, these management actions are intended to be adaptable to changing circumstances and, necessarily, the high priority items from this list are among the first to be implemented.

The time frame of the ND-Plan is five years, and is broken down into five one-year segments for budgeting purposes. It is envisioned that the ND-Plan will continue beyond five-years. A new ND-Plan will be written to update the accomplishments of strategies listed in this management program, based on experiences and new knowledge gained in the state and across the nation. Periodic updating of the ND-Plan will allow adjustment to changes in public attitudes, new ANS problems, and opportunities. It is safe to say that ANS problems will not subside and ANS efforts will be needed into the future under a framework of continuous improvement of the ND-Plan.

OBJECTIVE 1: COORDINATION OF AQUATIC NUISANCE SPECIES ACTIVITIES AND PREPARING/IMPLEMENTING A COMPREHENSIVE MANAGEMENT PLAN.

Problem Addressed: There is no clear authority or agency charged with managing ANS problems in North Dakota. Most management activities focus on isolated problems and not comprehensive strategies to prevent or control ANS. The lack of coordination on ANS activities, limited oversight from various agencies, and lack of funding has allowed only a few ANS to become established in North Dakota. There are no effective plans in place to manage the risk(s) from existing or new ANS introductions.

Action: Develop a management plan that defines plant or animal species considered as ANS, include defined tasks and activities, and the authorities and resources to undertake effective prevention and management of ANS. Form an advisory board to the Director of the North Dakota Game and Fish Department to deal with ANS issues. Its purpose will be to serve as the focal point for communicating with, devising these continuous improvements, and making recommendations to government and the private sector. The make-up of the advisory committee will reflect the needs for ANS prevention and will be fluid with appointed seated-members, reappointments or new entities, on a rotational time frame. The AISC will also have standing-delegates which can be involved in decision making, but have not voting privileges on issues nor will be financially reimbursed for their activities. The advisory board will be chaired by a coordinator from the North Dakota Game and Fish Department.

Current agencies with activities or designated for future activities: Department of Agriculture, Game and Fish Department, Department of Health, Department of Parks and Recreation, State Water Commission, Department of Tourism, Natural Resource and Conservation Service, U.S. Fish and Wildlife Service, Department of Transportation

Strategy 1A: Coordination of ANS activities for all ANS management programs and activities within North Dakota through development of the Aquatic Invasive Species Committee.

1A1. The North Dakota Game and Fish Department will designate an Aquatic Species Coordinator (ANS-Coordinator or coordinator) and support this position with federal ANS Task Force funds and matching state funds. The coordinator will encourage communication between governmental entities, public, and private sector, provide information, archive appropriate ANS information, and provide the public with needed information for them to make responsible decisions. – Status: PARTIALLY COMPLETED – see 2004 Progress Report (attached)

1A2. The coordinator will identify key personnel in governmental, tribal, private, and the public sector with ANS responsibilities. These individuals will be invited to form the Aquatic Invasive Species Committee (AISC) to oversee ANS activities. The coordinator will be the chairperson of this advisory committee. The AISC will work to ensure that the ANS strategy is coherent and consistent throughout North Dakota. The AISC will develop ANS assessment guidelines as needed for local governments and cooperating entities. – Status: COMPLETED – see 2004 Progress Report (attached)

Strategy 1B: Prepare and implement a comprehensive statewide ANS management plan.

1B1. AISC will prepare a comprehensive, statewide ANS management plan for North Dakota (ND-Plan). The ND-Plan is to be reviewed by technical advisors and others prior to its submission to the North Dakota Governor's office. – Status: PARTIALLY COMPLETED – see 2004 Progress Report (attached)

1B2. Encourage water users, such as municipal, industrial, irrigation, lake associations and others, to become involved in the AISC's efforts to prevent the importation of ANS as such infestations could have a financial burden on them which will be passed on to their customers. – Status: PARTIALLY COMPLETED, ON-GOING EFFORT – see 2004 Progress Report (attached)

1B3. The state plan will allow for coordinating North Dakota ANS prevention efforts with those being done at a local level, in the region such as the efforts outlined in Montana's and Iowa's state plan and Minnesota's Sea Grant work, and on a national scale. – Status: PARTIALLY COMPLETED, ON-GOING EFFORT – see 2004 Progress Report (attached)

Strategy 1C: Participate in and support regional, federal, and international efforts to control ANS.

1C1. The coordinator will participate in the Aquatic Nuisance Species Task Forces' Western Regional Panel, 100th Meridian Project, Missouri Interstate Cooperative Resource Association-ANS Panel, and coordinate with Canadian

provinces and neighboring states on ANS issues. – Status: PARTIALLY COMPLETED, ON-GOING EFFORTS – see 2004 Progress Report (attached)

Strategy 1D: Develop partnerships and funding sources to leverage state and federal funds with nonfederal funds to increase ANS prevention efforts that will be undertaken.

1D1. Create stable funding sources for ANS management in North Dakota by seeking federal funding from the NANPCA Act as part of the North Dakota Plan. – Status: PARTIALLY COMPLETED, ON-GOING EFFORTS – see 2004 Progress Report (attached)

1D2. Develop partnerships with state and federal agencies, private enterprise, and the public to leverage existing funding sources to undertake additional ANS prevention and eradication efforts. Partnerships to fund ANS prevention information with local entities will create a buy-in for ANS prevention with those groups and an ownership in preventing ANS importation. – Status: PARTIALLY COMPLETED, ON-GOING EFFORTS – see 2004 Progress Report (attached)

Strategy 1E: Review and evaluate state efforts in addressing ANS.

1E1. Update the state ANS plan as needed, with annual progress reports and a five-year program report. – Status: PARTIALLY COMPLETED, ON-GOING EFFORT – see 2004 Progress Report (attached)

OBJECTIVE 2: PREVENT THE INTRODUCTION OF AQUATIC NUISANCE SPECIES INTO NORTH DAKOTA.

Problem Addressed: There are many pathways by which injurious plants and animals arrive in North Dakota. ANS species are often intentionally imported to provide perceived benefits such as sport fishing opportunities, bait for angling, erosion control, food, aesthetic enjoyment, and so on. These species are accidentally released or escape from holding facilities into the wild. Unintentional ANS introductions can occur as humans, through recreation, industrial development, or commerce carry ANS hitchhikers (e.g., zebra mussels on barges, camouflage on duck boats, etc.). ANS established in neighboring states and Canada may disperse into North Dakota by natural means.

There are limited programs that review and regulate the aquatic species movement into North Dakota. The pathways by which ANS can be unintentionally transported into or within North Dakota need to be defined to allow prioritizing management in the highest risk pathways. The components creating this problem include lack of funding for additional staff to inspect and monitor importation of aquatic species.

Action: Determine which pathways function as major and minor conduits for ANS into North Dakota. Create a list of which species that represent aquatic invasive organisms which will create problems for North Dakota. Take appropriate actions to prevent the introduction of ANS along the identified pathways.

Current agencies with activities or designated for future activities: Department of Agriculture, Game and Fish Department, Department of Parks and Recreation, Universities, 100th Meridian Group, Pacific States Marine Fisheries Commission, County Extension Service, Western Regional Panel, and US Fish and Wildlife Service

Strategy 2A: Research and address pathways of introduction.

2A1. Describe the potential pathways through which ANS can enter North Dakota via recreational, commercial, esthetic, and illegal pathways, and include judgments of the risks of introduction from specific pathways. – Status: PARTIALLY COMPLETED, ON-GOING EFFORT – see 2004 Progress Report (attached)

2A2. Estimate the potential for ANS introduction for each pathway by conducting a risk analysis for each specific pathway or pathways in combination. – Status: ON-GOING EFFORT – see 2004 Progress Report (attached)

Strategy 2B: Prevention of ANS along determined pathways of introduction.

2B1. Continue to educate relevant public and private groups identified in 2A1 and 2A2 as likely sources of ANS importation. – Status: PARTIALLY COMPLETED, ON-GOING EFFORT - see 2004 Progress Report (attached)

2B2. Educate the retailers and wholesalers of aquatic products of problems associated with the importation of ANS and their likely release into the wild. – Status: PARTIALLY COMPLETED, ON-GOING EFFORT - see 2004 Progress Report (attached)

2B3. Implement the HACCP (Hazard Analysis and Critical Control Point) training program for appropriate field and survey personnel for all Divisions of the North Dakota Game and Fish Department. Institute HACCP for fish brought into the state by or for state or federal fish hatcheries. – Status: PARTIALLY COMPLETED, ON-GOING EFFORT - see 2004 Progress Report (attached)

2B4. Work with fishing tournament officials to ensure boats and equipment undergo ANS prevention protocols. – Status: PARTIALLY COMPLETED, ON-GOING - see 2004 Progress Report (attached)

Strategy 2C: Increase enforcement awareness of existing laws, controlling the transportation, propagation, sale, collection, possession, importation, purchase, cultivation, distribution, and introduction of ANS.

2C1. Increase the priority of enforcing ANS regulations.

2C2. Educate enforcement personnel about ANS impacts to natural resources, to identify ANS, and the need to enforce ANS regulations.

2C3. Distribute information on ANS laws to businesses that import or sell aquatic plants and animals.

2C4. Publicize the penalties for the intentional introduction of any nonindigenous species to North Dakota's waters.

Strategy 2D: Prohibit, control, or permit the importation of non-indigenous aquatic species based upon their invasive potential.

2D1. Develop a non-indigenous species list for North Dakota. – Status: COMPLETED – see 2004 Progress Report (attached)

2D2. Develop an ANS list from the 2D1's list of species that are of high concern to North Dakota and develop preferred management strategies for dealing with these as listed by priority class. – Status: COMPLETED, TO BE REVIEWED AS REQUIRED – see 2004 Progress Report (attached)

2D3. Develop a North Dakota list of ANS that cannot be imported, moved, possessed or sold within North Dakota. Provide that information to the North Dakota Legislature for review and concurrence. – Status: COMPLETED, TO BE REVIEWED AS REQUIRED – see 2004 Progress Report (attached)

Strategy 2E: Promote legislation and regulatory rules that establishes or increases the state's authority to control the introduction of new species.

2E1. Establish the authority to detain and require cleaning of any vehicle, vessel or such equipment used in aquatic construction containing or infested with ANS that is being transported into North Dakota.

2E2. Increase the ability of the State to regulate the importation of aquatic plants, animals or other organisms where existing authorities are limited.

2E3. Establish the authority to quarantine waters to prevent ANS from spreading and to contain ANS for eradication.

2E4. Require that aquatic species imported by wholesalers or retailers to be free of ANS and/or originate from ANS free areas.

2E5. Require that fish imported for hatchery use or as fishbait be disease free or collected from areas free of ANS. Periodically review the status of ANS in areas that fish or live fishbait is collected or reared. Continue North Dakota's moratorium on importation from areas that have ANS infestations. – Status: ON-GOING EFFORT - see 2004 Progress Report (attached)

Strategy 2F: Research the potential to develop a list of aquatic species that can be imported into North Dakota as they pose no known potential for becoming an ANS based on species or genus characteristics, review the history of other introductions outside a species home range, inter/intra ecological impacts, and actual demand or need for a species introduction.

2F1. Research existing federal or other states' databases for appropriate information on exotic species that pose little or no danger of becoming an ANS. Compile a list (import list) of flora and fauna which will are unlikely to cause problems if introduced into state or region waters.

OBJECTIVE 3: DETECT A PIONEERING AQUATIC NUISANCE SPECIES AND MONITOR EXISTING POPULATIONS OF AQUATIC NUISANCE SPECIES.

Problem Addressed: Affordable and effective eradication and control requires that infestations of ANS be discovered early in their pioneering stage of infestation. The extent of the newly discovered infestation must be quickly determined so appropriate action can be taken. Currently, most state agency workers do not routinely look for new species or ANS problems when they are at state waters, inspecting water treatment facilities, monitoring a commercial venture, or doing routine sampling. Explicit ANS monitoring effort will require additional staff time or the reprioritization of existing work and funding.

North Dakota lacks an organized information and species identification infrastructure for suspect species to be quickly identified. Thus, "problem" species cannot be readily confirmed by field staff or individuals doing routine inspections. Control measures cannot be taken in a timely manner.

Action: Create a way for government personnel, private-sector field staff, and trained volunteers to report (use of standardized forms) suspected ANS species while they are visiting a waterbody or commercial venture. These efforts would include documenting uninfested waters to compare to future occurrence and the spread of ANS. Create a mechanism for recording and archiving information on ANS monitoring activities, infestations found, and ANS expansion in infested sites.

Current agencies with activities or designated for future activities: Department of Agriculture, Game and Fish Department, Department of Parks and Recreation, Universities, Department of Health, US Fish and Wildlife Service, United States Army Corps of Engineers, Bureau of Reclamation, US Coast Guard, Department of Health, State Water Commission, Disaster and Emergency Response, Weed Boards, Water Boards, and private individuals

Strategy 3A: Implement a monitoring and early detection program.

3A1. Encourage and train appropriate agency personnel to identify ANS, develop and implement a monitoring and reporting program for ANS in North Dakota waters.

3A2. Conduct an annual monitoring of high-risk waters and monitor other waters. – Status: PARTIALLY COMPLETED, ON-GOING EFFORTS – see 2004 Progress Report (attached)

3A3. Place colonization substrates (traps) in areas likely to be infested with zebra mussels or provide traps to other agencies or individuals. In addition, inspect for zebra mussels on boat docks or buoy lines removed from the waters. – Status: PARTIALLY COMPLETED, ON-GOING EFFORTS – see 2004 Progress Report (attached)

3A4. Conduct zebra mussel larval tows in areas that are likely to be colonized by adults and have those samples processed by a laboratory.

Strategy 3B: Develop an early response mechanism to deal with detected and potential invasive species.

3B1. Implement a Rapid Response Plan. – Status: COMPLETED, TO BE REVISED AS NEEDED – see 2004 Progress Report (attached)

3B2. Conduct periodic reviews of North Dakota's Rapid Response Plan to determine if ANS species of concern are included and update as needed.

3B3. Create a network of expertise to rapidly and accurately verify suspected new invasive species.

3B4. Include these efforts as part of North Dakota's Disaster and Emergency response activities to avert bio-terrorism on the state's natural resources.

Strategy 3C: Train volunteers to assist with monitoring public waters for ANS infestations.

3C1. Develop a program to recruit and train volunteers to monitor selected public waters, and report their findings to appropriate authorities.

OBJECTIVE 4: EDUCATIONAL CAMPAIGN TO PREVENT THE SPREAD OF AQUATIC NUISANCE SPECIES.

Problem Addressed: To effectively prevent ANS introduction into or movement within North Dakota, there must be strong outreach efforts to various targeted audiences with appropriate and factual information. The audiences are: 1) resident anglers and hunters; 2) nonresident anglers and hunters; 3) non-consumptive outdoor recreators; 4) water users, e.g., municipal water intakes, irrigators, power production, etc.; 5) tourism, both on a state and local level; 6) state agencies and entities such as the State Water Commission, Department of Agriculture, Department of Health, Water Resource Boards, Game and Fish Department, Department of Tourism, Department of Parks and Recreation, etc.; 7) private and public entities; 8) commercial ventures; and 9) youth programs.

Each targeted audiences' message must and will be tailored to produce the desired effect which is that they willingly accept or take ANS prevention efforts. This use of market-based outreach requires an understanding of the target audiences' values and needs, and how to best reach that audience with the information. This market-based outreach to a targeted audience is a departure from typical information

dissemination provided by state agencies. In addition, ANS prevention is a proactive concerted effort(s) rather than reactionary to a problem's appearance. This requires that the targeted audience understands the long term impacts of ANS on their activities.

The sectors mentioned above will need to realize that they have ownership in the outcome of ANS infestations. It is important that individuals or groups realize that ANS prevention will not always be done by someone else.

Action: Create a "market based" information and education capability that identifies the target audience or audiences, formulate messages and information specifically for the targeted market groups, and utilize appropriate educational instruments to deliver these messages.

Current agencies with activities or designated for future activities: Department of Agriculture, Game and Fish Department, US Fish and Wildlife Service, US Army Corps of Engineers, Coast Guard, Department of Parks and Recreation, Department of Tourism, County Extension Service, Natural Resources Conservation Service, State Water Commission

Strategy 4A: Educate resident anglers and hunters about ANS prevention protocols by providing focused information in the best avenues of dissemination.

4A1. Identify the key message, the best format to deliver the information, and where to best deliver the message to this group. – Status: PARTIALLY COMPLETED, ON-GOING EFFORTS - see 2004 Progress Report (attached)

4A2. Provide information and education (e.g., signs, posters, kiosks, banners, newspaper articles, articles in periodicals, on radio and television spots, and similar venues) on ANS risks and prevention protocols as found in 4A1. – Status: PARTIALLY COMPLETED, ON-GOING EFFORTS - see 2004 Progress Report (attached)

4A3. Determine the level of ANS awareness and precautions used. – Status: PARTIALLY COMPLETED, ON-GOING EFFORTS – see 2004 Progress Report (attached)

4A4. Provide the list of ANS and of waters with problems to this group. Promote media reporting on ANS and the importance of management.

Strategy 4B: Educate nonresident anglers and hunters of ANS prevention protocols by providing focused information in the best avenues of dissemination.

4B1. Identify the key message, the best format to deliver the information, and where to best deliver that message to this group. – Status: PARTIALLY COMPLETED, ON-GOING EFFORTS – see 2004 Progress Report (attached)

4B2. Provide information and education (e.g., newspaper articles, articles in periodicals, in tourism publications, on radio and television spots, and similar venues) on ANS risks and prevention protocols as found in 4B1. – Status:

PARTIALLY COMPLETED, ON-GOING EFFORTS – see 2004 Progress Report (attached)

4B3. Determine the level of ANS awareness and precautions used. – Status: PARTIALLY COMPLETED, ON-GOING EFFORTS – see 2004 Progress Report (attached)

4B4. Provide the list of ANS and waters with problems to this group. Promote media reporting on ANS and the importance of management.

Strategy 4C: Educate non-consumptive outdoor recreators of ANS, the need to prevent the problems, and disseminate information in the best form and venue.

4C1. Identify the key message, the best format to deliver the information, and where to best deliver the message to this group. – Status: PARTIALLY COMPLETED, ON-GOING EFFORTS – see 2004 Progress Report (attached)

4C2. Provide ANS prevention information (e.g., newspaper articles, articles in periodicals, in publications, on radio and television spots, and similar venues) to those identified in 4C1.

4C3. Provide the list of ANS and waters with problems to this group. Promote media reporting on ANS and the importance of management.

Strategy 4D: Educate water users of ANS problems, the need to prevent the introduction or spread of the problem, and how to best provide that message.

4D1. Determine where the different water users such as developers, manufactures, irrigators, municipal facilities, etc. can be reached and in what form should the ANS message be delivered to be understood. – Status: PARTIALLY COMPLETED, ON-GOING EFFORT - see 2004 Progress Report (attached)

4D2. Provide information and education (e.g., articles in trade periodicals, direct mailings or letters, and similar venues) on ANS risks and prevention protocols to those identified in 4D1.

4D3. Provide the list of ANS and waters with problems to this group. Promote media reporting on ANS and the importance of management.

Strategy 4E: Provide tourism promotion groups, including state and local efforts which include guides and outfitters, fishing tournament promoters, etc., the information about the impacts of ANS, how ANS are moved into or within the state.

4E1. Determine which North Dakota groups are promoting tourism, what ANS prevention information should be provided in their publications or information packets.

4E2. Determine these groups willingness to provide additional information on ANS prevention methods. – Status: ON-GOING EFFORT - see 2004 Progress Report (attached)

Strategy 4F: Develop communication with public and private entities, such as the Garrison Conservancy District, water pipeline cooperatives, etc., about the potential impacts of ANS to their operation, the need for a cooperative approach to prevention, and heightened staff awareness.

4F1. Determine the level of awareness that these groups have regarding potential ANS problems and what ANS prevention and monitoring is currently being done**.**– Status: PARTIALLY COMPLETED, ON-GOING EFFORTS - see 2004 Progress Report (attached)

4F2. Provide information and education on ANS risks and prevention protocols to the various public and private entities.

4F3. Continue to communicate the value of ANS prevention as opposed to controlling infestations.

Strategy 4G: Educate the commercial sector such as plant nurseries, pet trade, landscaping operations, home improvement centers, aquaculture, fish rearing and bait collection, and similar groups, about ANS impacts, and how their actions can prevent the spread and introduction of ANS.

4G1. Determine the ANS awareness of the various groups mentioned above.

4G2. Develop and distribute information on ANS prevention.

Strategy 4H: Educate juveniles about ANS prevention protocols and the problems posed.

4H1. Establish an educational campaign, targeting fourth-graders to eighth-graders of the problems ANS cause.

4H2. Provide educational materials for the classroom.

OBJECTIVE 5: INSPECTIONS OF RECREATIONAL BOATS, COMMERCIAL VESSELS, AND EQUIPMENT USED IN AQUATIC SITUATIONS.

Problem Addressed: ANS can be carried into or within North Dakota on or in boats used for fishing, hunting, or pleasure, work and on construction equipment used in aquatic situations. Special construction equipment such as barges, tugs, large water pumps, and backhoes are frequently brought into North Dakota. This equipment may have been used in waters infested with ANS. Inspection of these boats, vessels, and equipment for ANS have not routinely been conducted or are ANS precautions routinely performed prior to launching or use of these carriers of ANS. The boats', vessels', and equipments' owners are often not aware of the problem or understand what ANS precautions should be undertaken. The inspections would allow for tracking where the carrier was last used, ANS precautions performed, and the owner's awareness of the problem.

Action: Inspect boats, vessels, and equipment for ANS hitchhikers prior to launching. This inspection will be an opportunity to educate the owners or operators about ANS problems and precautions. Recreational boats could be inspected at boat ramps as part of angler creel surveys or as a specific project such as a university or group interested in conservation. The numbers of commercial vessels or equipment used in aquatic situations brought into North Dakota is limited, but pose a unique situation as they would need to be inspected. These vessels need to be free of ANS prior to launching in North Dakota waters. Permits for construction need to contain provisions that require equipment to be free of ANS and made available for inspection by trained individuals prior to its use.

Current agencies with activities or designated for future activities: Department of Agriculture, Game and Fish Department, Department of Parks and Recreation, Universities, Department of Health, U.S. Fish and Wildlife Service, U.S. Army Corps of Engineers, Bureau of Reclamation, U.S. Coast Guard, Department of Health, State Water Commission, Disaster and Emergency Response, local weed boards and water boards, and private individuals

Strategy 5A: Implement an inspection program for boats used for fishing, hunting, or pleasure, vessels used in commerce, and equipment used in aquatic construction situations.

5A1. Develop and implement boat inspections at boat ramps to determine if ANS is present, where the boat has been, where the boat will be used, and the owner/operators awareness of ANS problems and prevention. – Status: PARTIALLY COMPLETED, ON-GOING EFFORTS - see 2004 Progress Report (attached)

5A2. Provide technical assistance to conservation organizations, volunteer groups such as scouting troops, 4-H, or wildlife clubs that wish to inspect and survey boaters at specific locations.

Strategy 5B: Implement an inspection program for vessels used during construction in aquatic situations.

5B1. Develop and implement requirements as provided in permits that vessels such as barges, tugs, work boats, tenders, or similar vessels be required to be ANS free prior to being launched or used on or in North Dakota's waters. – Status: PARTIALLY COMPLETED, ON-GOING EFFORTS - see 2004 Progress Report (attached)

5B2. Provide technical assistance to permitting agencies such as the Army Corps of Engineers, Department of Health, State Water Commission, water boards, and other agencies or entities that issue permits for construction on inspection protocols.

5B3. Owner/operator survey during the inspection will determine where the vessel has been, where the vessel will be used, and the owner/operators awareness of ANS problems and prevention.

Strategy 5C: Implement an inspection program for equipment used in construction in aquatic situations.

5C1. Develop and implement requirements as provided in permits that equipment used in aquatic situations are required to be ANS free prior to their being launched or used on or in North Dakota's waters. – Status: PARTIALLY COMPLETED, ON-GOING EFFORTS - see 2004 Progress Report (attached)

5C2. Provide technical assistance to permitting agencies such as Army Corps of Engineers, Department of Health, State Water Commission, water boards, and other agencies or entities that issue permits for construction on inspection protocols.

5C3. Owner/operator survey during the inspection will determine where the equipment was last used, where the equipment will be used, and the owner/operators awareness of ANS problems and prevention.

OBJECTIVE 6: WHERE FEASIBLE, CONTROL AND ERADICATE PIONEERING OR ESTABLISHED AQUATIC NUISANCE SPECIES THAT HAVE SIGNIFICANT IMPACTS ON NATIVE OR DESIRABLE SPECIES.

Problem Addressed: Well-established ANS populations are the most likely to be noticed and are the most difficult to address. ANS infestations are best controlled in the early stages of initial infestations. Usually, it is too late or too expensive to eradicate an invasive species once it has reached the threshold level where rapid expansion is occurring. While the common management solution for a well-established ANS infestation is learning to live with the problem. The public and the resource agency or field biologist is just willing to accept the loss of aquatic resources. This is not the preferred nor is it the professional approach to natural resource management. The resource and economic impacts outweigh the funds required to eradicate a new infestation.

The key to any eradication is to identify the problem early, cooperation among all involved parties, and take needed, effective steps to eliminate the problem. No single

agency or other entity is responsible for developing a comprehensive eradication and control plan to quickly and effectively deal with initial ANS infestations.

Action: Provide technical and planning support for the existing management infrastructure in North Dakota.

Current agencies with activities or designated for future activities: Department of Agriculture, Game and Fish Department, Department of Parks and Recreation, U.S. Fish and Wildlife Service, U.S. Army Corps of Engineers, Department of Health, State Water Commission, water boards, weed boards

Strategy 6A: Control known nuisance populations where economically and technically feasible.

6A1. Develop and implement aquatic nuisance weed management plans.
6A2. Develop and implement aquatic nuisance animal management plans.
6A3. Provide technical assistance to watershed councils, conservation districts, irrigation districts, lake associations, and other groups for development of management plans. – Status: PARTIALLY COMPLETED, ON-GOING EFFORTS - see 2004 Progress Report (attached)

OBJECTIVE 7: INFORM THE POLICY MAKERS ABOUT THE RISKS AND IMPACTS OF AQUATIC NUISANCE SPECIES.

Problem Addressed: Lawmakers must be informed about the negative impact of ANS to North Dakota's resources and that ANS problems will affect all North Dakotans. Inform legislators about the shortcomings of current laws and agency mandates. Provide interested legislators the framework of ANS laws to protect and conserve the state's resources.

Action: Provide concise and in-depth information to those who will be making decisions on ANS problems and formulating legislation on ANS control.

Current agencies with activities or designated for future activities: Game and Fish Department, Pacific States Marine Fisheries Commission, U.S. Forest Service, North Dakota State University, Extension Service, U.S. Army Corps of Engineers, U.S. Fish and Wildlife Service, PPL North Dakota

Strategy 7A: Educate public officials about the problems of ANS and how ANS are spread.

7A1. Create media presentations and accompanying information on ANS concerns, impacts, and the need for proactive prevention efforts. – Status: PARTIALLY COMPLETED, ON-GOING EFFORTS - see 2004 Progress Report (attached)

7A2. Provide interested law makers pertinent points to be considered in crafting legislation to prevent the introduction or spread of ANS. – Status: PARTIALLY COMPLETED, ON-GOING EFFORTS - see 2004 Progress Report (attached)

OBJECTIVE 8: INCREASE THE AQUATIC NUISANCE SPECIES KNOWLEDGE BASE AND DISSEMINATE THAT KNOWLEDGE IN NORTH DAKOTA THROUGH COMPILING DATA, CONDUCTING RESEARCH, AND INFORMATIONAL PUBLICATIONS.

Problem Addressed: Little is known about the extent and magnitude of the ANS problems in North Dakota. In fact, there may be many nonindigenous species in North Dakota than are not recognized. Information and research is needed to quantify and clarify the effects that ANS are having or would have in North Dakota. The explicit threats to North Dakota posed by specific ANS and the mechanism responsible for transferring those organisms are not well documented. The ability to quickly and effectively respond to new ANS is hindered because quick access to information on taxonomy, management or eradication methods is not readily available. Managers lack quick access to knowledge about eradication and control methods.

Action: Complete monitoring of North Dakota waters to determine what ANS are present. Provide a technical and information infrastructure for managers to easily access.

Current agencies with activities or designated for future activities: Game and Fish Department, North Dakota State University, University of North Dakota, U.S. Fish and Wildlife Service, Pacific States Marine Fisheries Commission, Department of Agriculture

Strategy 8A: Research ANS for their impact on biota utilizing regional efforts and literature searches.

8A1. Develop a better understanding of life histories and the impacts of introduced aquatic plants and animals.

8A2. Evaluate the potential for aquarium and live food fish to serve as vectors of disease and parasites to native fish populations.

Strategy 8B: Research management alternatives for their effect on ANS and native species.

8B1. Investigate the relationship between human-induced disturbance of aquatic and riparian systems and ANS invasion, establishment, and impacts.

8B2. Investigate and develop or adapt existing traditional methods of managing problems to meet the challenges of ANS.

8B3. Compile a set of recommended and acceptable eradication and control methods for high risk species.

Strategy 8C: Facilitate the collection and dispersal of information, research, and data on ANS in North Dakota.

8C1. Create a central repository for reference materials and a central data base on ANS infestations. – Status: PARTIALLY COMPLETED, ON-GOING EFFORTS - see 2004 Progress Report (attached)

8C2. Maintain a list of taxonomic experts for ANS identification.

The objectives and strategies make up the core of North Dakota's statewide aquatic species management plan. The strategies are to be accomplished by the coordinator and AISC. Completion of these strategies will protect and conserve the state's public aquatic resources from degradation by ANS.

PUBLIC INVOLVMENT

North Dakota's aquatic resources are at risk from ANS and it is the public who has the greatest stake in any outcome and they will be the most affected by an infestation. It is important the public and private sectors understand the problems and impacts to them caused by ANS. This understanding can only come about with effective communication on ANS problems, what solutions exist, and the impacts from ANS solutions to all affected parties. Communication must be two-way and meaningful, which will result in impacted parties having ownership of solutions. It will be the responsibility of the agencies and entities that make up the AISC to communicate with groups they traditionally work with. These groups can use their established lines of communication to provide the quickest dissemination of information. The same lines of communication will be used to impacted groups to communicate with the AISC about problems and their solutions. It is important that the AISC includes a mix of state agencies, private entities, and the public sector. The AISC being a blend of groups and individuals will allow for the greatest public spectrum to be informed in the most efficient manner.

The AISC meetings will be open to the public, the public will be encouraged to attend those meetings, and all reports of those proceedings will be open to the public. Individuals' comments recorded during angler surveys will be another source of public input for the AISC. There will be a strong, continuous effort to have the public involved in AISC meetings and the direction that ANS prevention efforts are taking.

The public involvement will create the public's ownership and buy-in to ANS solutions resulting in achieving the desired results. Desired results can simply be stated as preventing ANS infestation in North Dakota and a continuation of the aquatic resources currently being enjoyed. To this end, the public must accept and participate in the solutions to stop the spread of ANS.

PRIORITIZING OBJECTIVES' STRATEGIES FOR

There must be a decision if: 1) each strategy will receive the same effort of man-power, time, and monies; 2) only focusing on the strategy(s) with the highest likelihood of completion; 3) do the strategy(s) with the best cost to likely prevention ratio; or 4) there be a balanced approach. The balanced approach is a combination of focusing on areas of high risk for a reasonable expenditure of man-power and monies, but an effort to address all likely avenues of ANS transfer. This balance method will be used in North Dakota's ANS prevention efforts. The prioritized strategies for North Dakota's balanced ANS prevention efforts are summarized below.

1. Designation of an Aquatic Nuisance Species coordinator (ANS-Coordinator) for the North Dakota Game and Fish Department. The position will be funded partially from federal ANS grants and matching monies. The coordinator will be responsible for the implementation of other objectives and strategies as funds are made available.

2. The ANS-Coordinator will develop the format and membership of the Aquatic Invasive Species Committee (AISC) which is an advisory board to the North Dakota Game and Fish Department's ANS prevention efforts. AISC will work with the ANS-Coordinator for ANS prevention, monitoring, enforcement, and research efforts undertaken by various state, public entities, and private organizations. Following the ND-Plan will allow for collaboration between local, regional, and national ANS prevention efforts.

3. The coordinator and AISC will work with state entities, private organizations, and impacted parties to heighten the awareness of ANS problems and the need to take proactive precautions before problems develop. Those entities with regulatory authorities will be encouraged to become involved by including prudent, reasonable, and practical prevention protocols for the importation or spread of ANS into or within the state.

4. The AISC, with the input of qualified individuals from state entities and impacted organizations, will develop a list of ANS for consideration by the Director of the North Dakota Game and Fish Department. The Director will establish North Dakota's list of ANS which will be reviewed annually.

5. Agencies will continue educational efforts to inform the public and the private sector of ecological and economical impacts resulting from ANS infestations. Agencies will increase outreach efforts in nontraditional venues like retail and service industries, municipal water plants, power generation facilities, and commercial ventures (i.e., pet trade, plant nurseries, live fish bait wholesalers and retailers, aquaculture, etc.). Outreach will include increased use of the media, with messages directed at target audiences. Also, promotional items will be used to encourage compliance with ANS prevention protocols. It will

take reoccurring educational messages placed in different formats, but having the same theme to provide the desired results of ANS prevention. The messages must give individuals and entities their ownership in solving the problem. The ANS prevention campaign is a combination of educating those who will be impacted, reinforcing the prevention message, using the right tools to achieve the desired results of education and compliance, and having the funds to accomplish these efforts.

6. Continue with the current monitoring efforts of North Dakota waters and the inclusion of questions in periodic angler/boater surveys at select waterbodies or in statewide questionnaires from individuals selected from a pool of fishing and hunting license holders. Expand monitoring efforts to include cooperating agencies and volunteers.

7. Continue to interview North Dakotans and nonresidents to determine their knowledge of ANS problems and awareness of prevention methods. These direct individual contacts will be part of routine surveys at select waterbodies and from a pool of names of resident and nonresident license holders.

8. Inspect boats used for fishing, hunting, pleasure, commercial vessels, and construction equipment if ANS are present. Provide verbiage to agencies or entities that issue construction permits to allow for the coordinator to inspect vessels or equipment used in aquatic situations.

9. Provide information and advice to the governor, the governor's cabinet, legislators, local governments, tribal governments, and members of the judicial system about ANS risks, prevention and management options. Providing technical support for modifications to laws and promulgation regulations that can help protect North Dakota from ANS damages.

10. Provide matching funds for partnerships between government and private sector such as angling clubs, chambers of commerce and tourism, power companies, and other groups that will be impacted by ANS, to increase collaboration on ANS prevention and management projects. The matching funds will allow for local groups to secure educational materials and to provide materials to targeted audiences.

11. Provide education for law enforcement institutions and solicit their cooperation to enforce existing laws and regulations. This need for enforcement may require some new legislation that deals with ANS problems and provides enforcement groups with the necessary authority to deal with ANS prevention and management.

BUDGETING

The funds used by the AISC and coordinator will be a combination of federal funds via the U.S. Fish and Wildlife Service's ANS Task Force or other federal funding resources, government grants (e.g., from the Western Regional Panel), funds provided as in-kind money or services by the North Dakota Game and Fish Department, other state agencies, or other entities (e.g., grants from Fish American Foundation, public trusts, or endowments). ANS efforts will require partnerships between state and federal agencies, public, and private interests where each bears part of the costs of preventing ANS infestations.

The proposed budget is based on being a reasonable initial funding. The ANS-Coordinator and AISC will focus efforts and money on those strategies that have been identified in the ND-Plan. Those areas identified in the ND-Plan are those known to provide the greatest level of ANS prevention and provide education on ANS problems in North Dakota. Table 1 summarizes the budget required for undertaking and completing these high priority strategies of the ND-Plan.

The budget is estimated at $225,000 per biennium ($125,000 annually) with 10 percent of the funding held in contingency by the coordinator. The ANS-Coordinator will utilize the contingency fund to cover unexpected expenses, activities of opportunity such as advertising at trade shows, educational seminars, and unknown events, which will benefit ANS prevention.

Implementation of these strategies is based on the ND-Plan being accepted and funding provided by the U.S. Fish and Wildlife Service's ANS-Task Force and appropriations made available and dedicated to ANS prevention by the North Dakota Legislature. Additional information on the budget, by topic and by year, can be found in Appendix E and includes a listing of what budgets and staffing will be needed by the ANS-Coordinator, AISC, and various state agencies, to conduct ANS prevention activities. When the ND-Plan is in place, it is likely that various agencies will request ANS funds for their agency activities associated with or in conducting ANS prevention activities.

North Dakota governor's approval of the ND-Plan is a necessary precursor for application for federal matching funds. The ND-Plan and the funding of those ANS prevention activities is based on receiving sufficient federal funds to accomplish the strategies outlined in this document.

Table 1. Annual budget required to complete selected Strategies from the ND-Plan that best utilize limited funding.

	Time Frame				
	Year 1	*Year 2*	*Year 3*	*Year 4*	*Year 5*
	01 JUL 05 to 30 JUN 06	*01 JUL 06 to 30 JUN 07*	*01 JUL 07 to 30 JUN 08*	*01 JUL 08 to 30 JUN 09*	*01 JUL 09 to 30 JUN 10*
Overall man-yr	1.59	1.59	1.59	1.59	1.59

Accumulative Salaries	$60,150	$60,150	$60,150	$60,150	$60,150
Education: Field Staff and Law Enforcement of various agencies	$2,750	$1,750	$1,750	$1,750	$1,750
Educational Materials	$6,000	$500	$500	$500	$5,000
Mass Media	$14,500	$14,500	$14,500	$14,500	$14,500
Data Collection	$750	$750	$750	$750	$750
Signs	$2,250	$250	$250	$2,250	$1,000
Contracts	$7,500	$17,500	$17,500	$20,000	$5,000
Grants	$7,000	$7,000	$7,000	$7,000	$7,000
Promotional	$5,000	$5,000	$500	$500	$1,500
Meetings	$7,500	$7,500	$7,500	$7,500	$7,500
Monitoring Equipment	$500	$1,000	$1,000	$250	$250
Overall Funding and Strategy Implementation Costs	***$113,900***	***$115,900***	***$111,400***	***$115,150***	***$104,400***

* North Dakota Game and Fish Department, Department of Agriculture, North Dakota Department of Transportation, North Dakota Department of Parks and Recreational, Tribal resource management departments, Department of Health, State Water Commission, Natural Resource Boards, Water Boards, Irrigations or Conservancy Districts, city park boards, and similar agencies or entities

PROMOTING DEVELOPMENT OF AQUATIC NUISANCE SPECIES REGULATIONS

Part of AISC's role is to be a source of information and advice for North Dakota lawmakers. The information provided to North Dakota's Legislators will include both the environmental impacts of ANS, and the negative economic and quality-of-life consequences of ANS infestations. Legislators will be provided the concepts that will improve or provide authorities for ANS prevention, authorize funding for implementing management strategies – all with the intent of focusing first on prevention rather than reactive management once ANS problems become established. The goal is for state agencies with resource responsibilities to undertake ANS prevention as a part of their duties.

North Dakota represents a unique aspect for ANS management because of six factors: 1) the state has a small number of residents; 2) government entities have and do work well together to accomplish needed tasks; 3) environmental conditions preclude many ANS problems; 4) few ANS problems are already established; 5) private and commercial sectors are locally operated; and 6) the state's residents place a high value on outdoor recreational resources. In addition, North Dakota has begun the process of determining vectors of ANS importation, which allows focus on immediate problems of high-risk ANS introduction pathways. With these factors in mind, the ND-Plan will reflect those needs for North Dakota.

State agencies and entities have the authority and are responsible for the best management of the state's resources. The agencies are bound by the burden of "Public Trust.," which is not to allow damage to the resources they are to protect and to the state's other resources at the benefit of their mission. These agencies need to include involvement in ANS prevention and management as part of their efforts.

An example of issues needing attention by North Dakota's Legislature is provided in Appendix F. The following issues should be considered in ANS legislation and development of ANS regulations:

- Provide that agencies/entities that have a stake in the protection of the state's aquatic resources to be tasked with:
  - North Dakota Game and Fish Department should organize and chair the Aquatic Invasive Species Committee, and this group be recognized as the state's ANS coordinating mechanism, and to provide advisory services for state agencies, private entities, and the public sector.
  - Develop the list of aquatic species, plants, animals, and pathogens that are aquatic threats to North Dakota, and that these species should not be brought into or moved within North Dakota,
  - Provide the listing of those waters which have ANS infestations and provide protocols to prevent the spread of the problem.

- Provide agencies authorities/responsibilities/guidance for the following:
  - North Dakota Game and Fish to apply for available funding from state, federal or private sources for ANS activities.
  - State agencies should provide for reasonable and effective prevention protocols (REPPs) for ANS – examples are:
    - ✓ Department of Health's construction or water permits;
    - ✓ State Water Commission's construction permits, water projects, or water storage permits; and
    - ✓ Natural Resource Boards and Water Resource Boards in drainage or water course clean-out, and for the quarantining of waterbodies when ANS are present.
  - Department of Agriculture to include ANS inspections as part of their plant nursery and garden center inspections and enforce ANS regulations.
  - North Dakota Game and Fish Department to provide regulations on ANS prevention from the importation in baits, live fish used for rearing, stocking, or sale in the pet trade, fish transported into or within the state on or in boats, trailers, equipment or vehicles, associated inspections and enforcement of regulations.
  - Department of Parks and Recreation shall include ANS educational signs and materials in their published literature, and enforce ANS regulations on the movement of ANS into or within state lands.
  - Department of Tourism to include ANS educational material in literature on North Dakota's aquatic resources.

- Department of Transportation and State Highway Patrol include ANS prevention in their vehicle inspections and enforce ANS regulations.
- All agencies and other entities receiving public funds include ANS educational messages on their aquatic-oriented educational material.

- The Legislature should provide to state agencies:
  - Expanded authorities for agencies and entities involved in the management of North Dakota's resources to include ANS prevention and management.
  - Regulations promulgated to prevent ANS movement into or within the state.
  - Provide for a system of fines/legal forfeitures to make ANS infractions as a Class B misdemeanor.
  - Recognize the need for the coordinator and AISC as an advisory board to conduct ANS education/prevention for the state's aquatic resources

The preceding items can serve as a base for constructing North Dakota's regulations to prevent the importation and spread of ANS.

NORTH DAKOTA STATEWIDE ANS MANAGEMENT PLAN

The ND-Plan is a very reasonable approach to address ANS challenges facing North Dakota and its citizens. The North Dakota Game and Fish Department will organize the Aquatic Invasive Species Committee (AISC) and a designee from within the North Dakota Game and Fish will serve as coordinator for ANS prevention efforts. The AISC will be made up of public and private sectors, and of inter-agency staff, and be responsible to all North Dakotans and to all of North Dakota's needs. Appendix G provides a listing of those agencies or entities and individuals that make up the ad hoc AISC committee which developed the North Dakota statewide aquatic nuisance species management plan (ND-Plan). This group should become the nucleolus for the AISC as they can continue ANS prevention efforts.

The ND-Plan will be effective as it will be responsive to public, agency or entity input, and natural resource involvement. The AISC will be a clearing house to provide information to others or the collection of information and input to make informed decisions on ANS prevention. Appendix H provides a summary of the information flow for the AISC. Appendix I contains the details on the two-way communication that agencies and entities will be responsible, with affected parties and organizations that they typically work with. The use of the various agencies for communication utilizes established lines of communication and the knowledge of specific needs of impacted or affected parties. Two-way communication is critical for the ND-Plan to provide for effective prevention of ANS and for educational needs.

The ND-Plan was developed through a series of meetings by the AISC, public meetings, and review of existing information on other states' ANS plans, and other information. See Appendix J for additional information on the meetings held to develop the ND-Plan. The public was made aware of the ND-Plan during the North Dakota

Game and Fish Department's eight advisory board meetings held in fall of 2004. The public comment period began in early November of 2004. The public comment period was 44 days and closed on December 14, 2004. In addition to the public, private and public organizations and entities, and state agencies were encouraged to comment on the ND-Plan. If individuals or organizations provided information after that date, it was included as part of the record of comments. A summary of the comments provided by the public and other agencies to the coordinator is provided in Appendix K.

The ND-Plan was reviewed by ANS coordinators from various states, and individuals from federal and state agencies. See Appendix L for additional information on this group. The comments and advice of this group allowed the ND-Plan to be complete in design and scope of need and work. The comments by the public and private sector were limited, but the technical review teams agreed with the intent and form of the ND-Plan. See Appendix M for additional details from the technical review committee.

It is important that the ND-Plan contain sufficient foresight to meet any likely needs to manage against ANS. As part of managing against ANS, the ANS which pose the highest likelihood of impacting North Dakota were used in designing the ND-Plan. The ANS species which are felt most likely to become established and have the greatest impact to North Dakota are listed in Appendix N. Species listed here were taken from a document which outlines ANS potential and problems which North Dakota is likely to experience.

The number of problematic nonindigenous species in North Dakota is small; three fish species – common carp, grass crap, and goldfish – one invertebrate – rusty crayfish – and three plant species – curlyleaf pondweed, Eurasian watermilfoil, and purple loosestrife (a terrestrial plant and is managed as such). It is important that North Dakota keeps the number of ANS, both as species and points of infestation, low to protect the public's natural resources, and provide stability for the economic viability of the state. Appendix O provides a list of nonindigenous species found in North Dakota and lists those species which are to be considered as candidates for listing as ANS in North Dakota.

The guiding principle the ND-Plan focuses on is prevention is better and cheaper than dealing with an infestation. Prevention must include educating the traditional outdoor recreators such as boaters, hunters, anglers, and general water users such as municipalities, rural water lines, power production, cities, and the general public about the impacts of ANS. The ND-Plan's strategies are based on reaching a target audience with effective outreach that ends in ANS prevention protocols being undertaken voluntarily. Monitoring activities and determination of the ANS pathways will define where additional ANS prevention efforts are required. The ND-Plan is an efficient use of available funding to achieve the best outcome; prevention of ANS importation or movement within the state. The ANS regulations, which could be adopted for North Dakota, are simple, enforceable, and effective. The ND-Plan allows for collaboration with other states and federal ANS prevention activities.

The problems and activities needed to eliminate ANS are of importance in preparing the ND-Plan. Appendix P is the North Dakota Rapid Response Plan. This plan outlines how North Dakota will deal with an ANS infestation in the state or a location of primary concern. It is critical the newly detected ANS infestation be dealt with in a timely and effective manner. The planning must be done in advance so those involved with elimination efforts will have their tasks already identified.

The ND-Plan's objectives and strategies outline the major efforts in North Dakota ANS prevention efforts. Those needs are scaled to be accomplishable by the coordinator, AISC, and impacted parties. The ND-Plan is meant to be flexible, as one area is accomplished and goals reached, new items will be placed on the list of projects to be completed. The ND-Plan is meant to move forward with successful completion of projects, but will include some redundant issues to reinforce ANS prevention and updating precautions.

North Dakota agencies are already actively involved in ANS prevention efforts. It is important that these initial ANS prevention efforts are not diminished as any setback will cause future ANS prevention to be more difficult to achieve. The funding for these efforts need to continue and to be increased. The combination of federal and state funds and resources will allow for ANS prevention activities to continue at their current rate.

The ND-Plan is based on the recommendations for developing a statewide management plan that was provided by WRP, ANS-Task Force, and reflects the needs for North Dakota. The ND-Plan is a reasonable approach for ANS prevention and the ANS-Task Force should readily approve this plan. The management plan allows for oversight of activities, evaluation of the effectiveness of those activities, and reporting of findings. Midcourse corrections will be made when and if necessary to allow strategies to be accomplished.

It is understood that the program will need to continue as long as there are threats to North Dakota's aquatic resources. The initial program will have to be modified to address new situations and problems as they are identified.

PROGRAM MONITORING AND EVALUATION

The evaluation of any project is important to understand if the strategies are being accomplished and if the efforts to prevent ANS infestations are providing needed results. A key component in evaluations will be to determine public and private sector awareness of ANS problems. An important point is to understand what precautions these groups are using, where they are acquiring ANS prevention protocols, and what protocols they are using and are willing to use. An additional method of evaluating ANS prevention is to determine the establishment of new ANS in North Dakota and the spread of ANS populations now existing in North Dakota. The comparison of data set

over time will allow for agencies to understand what efforts have provided the best results in preventing ANS movement into or within the state.

GLOSSARY

Accidental introduction: Any introduction of nonindigenous aquatic species that occurs as the result of activities other than the purposeful or intentional introduction of the species involved, such as the transportation of nonindigenous species in ballast water or in water used to transport fish, mollusks, or crustaceans for aquaculture or other purposes.

ANS - aquatic nuisance species: A plant or animal species outside of its native range that threatens the diversity or abundance of native species, the ecological stability of infested waters, or commercial, agricultural, aquacultural, or recreational activities dependent on such waters, and cause negative economic or ecological impacts

Biocontrol: The use of living organisms, such as predators, parasites, and pathogens to control pest insects, weeds, or diseases.

Bio-fouling: The accumulation of living organisms in places where they are not wanted and in sufficient quantities that they cause management problems or unacceptable deleterious impacts.

Commercial venture: Those efforts by individuals to set up and operate a business or industry for profit, i.e., power production, fish rearing, irrigation districts, water diversions, plant nurseries, pet stores, bait dealers, food markets or restaurants dealing in live animals or plants, or similar ventures for gain of individuals or groups.

Control: Eradicating, suppressing, reducing, or managing invasive species populations, preventing the spread of invasive species from areas where they are present, and taking steps such as restoration of native species and habitats to reduce the effects of invasive species, and to prevent further invasions.

Ecological integrity: The extent to which an ecosystem has been altered by human behavior; an ecosystem with minimal impact from human activity has a high level of integrity; an ecosystem that has been substantially altered by human activity has a low level of integrity.

Eradicate: The act or process of eliminating aquatic nuisance species.

Exotic: Any species or other variable biological material that enters an ecosystem beyond its historic range which is on a continental scale, including such organisms transferred from one ecosystem to another.

Intentional introduction: All or part of the process by which a nonindigenous species is purposefully introduced into a new area.

Invasive: A species that thrives and becomes established in a non-historical location or in a new location where it was not previously found, often to the determent of

species which were there before or to the negative impact of desirable species or native species in the new areas or to the ecosystem and habitats.

Nonindigenous species: Any species or other variable biological material that enters an ecosystem beyond its historic range which is typically the same region, including such organisms transferred to a new location on purpose, but these species may not have an injurious impact on the ecosystem or negative inter species relationships.

Pathogen: Any microbe or other organism that causes disease.

Pioneer infestation: A small ANS colony that has spread to a new area from an established colony.

Priority species: Any ANS that is considered to be a significant threat to North Dakota waters and is recommended for immediate or continued management action to minimize or eliminate their impact.

Watershed: An entire drainage basin including all living and nonliving components.

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Appendix A: **Section 1204 of the National Invasive Species Act of 1996**

SEC. 1204. STATE AQUATIC NUISANCE SPECIES MANAGEMENT PLANS.

(a)STATE OR INTERSTATE INVASIVE SPECIES MANAGEMENT PLANS.—

(1) IN GENERAL -- After providing notice and opportunity for public comment, the Governor of each State may prepare and submit, or the Governors of the States and the governments of Indian Tribes involved in an interstate organization, may jointly prepare and submit—

(A) a comprehensive management plan to the Task Force for approval which identifies those areas or activities within the State or within the interstate region involved, other than those related to public facilities, for which technical, enforcement, or financial assistance (or any combination thereof) is needed to eliminate or reduce the environmental, public health, and safety risk associated with aquatic nuisance species, particularly the zebra mussel; and

(B) a public facility management plan to the Assistant Secretary for approval which is limited solely to identifying those public facilities within the State or within the interstate region involved for which technical and financial assistance is needed to reduce infestations of zebra mussels.

(2) CONTENT -- Each plan shall, to the extent possible, identify the management practices and measures that will be undertaken to reduce infestations of aquatic nuisance species. Each plan shall—

(A) identify and describe State and local programs for environmentally sound prevention and control of the target aquatic nuisance species;

(B) identify Federal activities that may be needed for environmentally sound prevention and control of aquatic nuisance species and a description of the manner in which those activities should be coordinated with State and local government activities;

(C) identify any authority that the State (or any State or Indian Tribe involved in the interstate organization) does not have at the time of the development of the plan that may be necessary for the State (or any State or Indian Tribe involved in the interstate organization) protect public health, property, and the environment from harm by aquatic nuisance species; and

(D) a schedule of implementing the plan, including a schedule of annual objectives, and enabling legislation.

(3) CONSULTATION —

(A)In developing and implementing a management plan, the State or interstate organization should, to the maximum extent practicable, involve local governments

and regional entities, Indian Tribes, and public and private organizations that have expertise in the control of aquatic nuisance species.

(B) Upon the request of a State or the appropriate official of an interstate organization, the Task Force or the Assistant Secretary, as appropriate under paragraph (1), may provide technical assistance in developing and implementing a management plan.

(4) PLAN APPROVAL -- Within 90 days after the submission of a management plan, the Task Force or the Assistant Secretary in consultation with the Task Force, as appropriate under paragraph (1), shall review the proposed plan and approve it if it meets the requirements of this subsection or return the plan to the Governor or the interstate organization with recommended modifications.

(b)GRANT PROGRAM —

(1) STATE GRANTS -- The Director may, at the recommendation of the Task Force, make grants to States with management plans approved under subsection (a) for the implementation of those plans.

(2) APPLICATION -- An application for a grant under this subsection shall include an identification and description of the best management practices and measures which the State proposes to utilize in implementing an approved management plan with any Federal assistance to be provided under the grant.

(3) FEDERAL SHARE —

(A) The Federal share of the cost of each comprehensive management plan implemented with Federal assistance under this section in any fiscal year shall not exceed 75 percent of the cost incurred by the State in implementing such management program and the non–Federal share of such costs shall be provided from non–Federal sources.

(B) The Federal share of the cost of each public facility management plan implemented with Federal assistance under this section in any fiscal year shall not exceed 50 percent of the cost incurred by the State in implementing such management program and the non–Federal share of such costs shall be provided from non–Federal sources.

(4) ADMINISTRATIVE COSTS -- For the purposes of this section, administrative costs for activities and programs carried out with a grant in any fiscal year shall not exceed 5 percent of the amount of the grant in that year.

(5) IN–KIND CONTRIBUTIONS -- In addition to cash outlays and payments, in–kind contributions of property or personnel services by non–Federal interests for

activities under this section may be used for the non–Federal share of the cost of those activities.

(c) ENFORCEMENT ASSISTANCE -- Upon request of a State or Indian Tribe, the Director or Under Secretary, to the extent allowable by law and in a manner consistent with section 141 of title 14, United States Code, may provide assistance to a State or Indian Tribe in enforcing an approved State or interstate invasive species management plan.

Appendix B: **Authorities and Regulations Provided by the State of North Dakota.**

STATE OF NORTH DAKOTA AUTHORITIES AND REGULATIONS

North Dakota has a number of state agencies, which have statutory and regulatory authority over the management of pests and aquatic nuisance species. No single agency has complete authority, but the agencies should work together to resolve problems that will impact the State's resources. This section describes existing authorities related to ANS and the management and control of ANS. The complete set of Century Codes can be found at http://www.state.nd.us/lr/information/statutes/cent-code.html and should be reviewed in addition to the information provided here.

Although none of these agencies listed below have the express power to regulate aquatic nuisance species, the inherent doctrine of "Public Trust" would allow them act in the best interest of the State of North Dakota and for the resident's of the state.

DEPARTMENT OF AGRICULTURE

Key items: powers over the management, control and eradication of pests, noxious weeds, rodent and insect management and the use and application or storage of pesticides; control, maintenance, and eradication of noxious weeds and pests throughout the state, shall compile and keep current a list of noxious weeds and provide local authorities with information and a program with funding for the control or eradication of noxious weeds, enforcement of provisions by Highway Patrol, sheriffs, and other law enforcement officers within the state to prevent the dissemination of noxious weeds on highways, airways or waterways.

GAME AND FISH DEPARTMENT

Key items: authority to regulate the importation, introduction and transplanting of fish, fish eggs and other aquatic animals in to the waters of the state, issue permits for introduce any fish or fish egg into the public waters and the fish or fish eggs must be inspected for disease; the power to remove and dispose of fish deemed undesirable to the best interest of the public; rules for release of fish into the state, and the supervision of live bait wholesalers

STATE DEPARTMENT OF HEALTH

Key items: includes the director of the Game and Fish Department, through the State Department of Health with cooperation of the State Water Commission; protect the present and future use of such waters for, among other reasons, the propagation of fish and aquatic life and wildlife.

STATE WATER COMMISSION AND STATE ENGINEER

Key items: includes authority over projects involving recreational use or wildlife conservation; permit issued by the state engineer, unless the use is for domestic, livestock or for fish, wildlife (including purposes of propagating, sustaining fish and wildlife resources, and for the development and maintenance of water areas) or other recreational need; the authority to control and supervise all water and wildlife

conservation projects and wildlife reservations; the is the Water Resource District Act has express power to order the removal of weeds and pests that hinder waterflows

HIGHWAY PATROL AND OTHER LAW ENFORCEMENT

Key items: enforcement of laws regarding pests, pesticides, noxious weed control, weed control, and game and fish generally require other law enforcement agencies within the state to aide and assist in the enforcement of laws and regulations

DEPARTMENT OF AGRICULTURE

The Commissioner of Agriculture or the commissioner's authorized representative with the assistance of the North Dakota State University extension service has broad powers over the management, control and eradication of pests, noxious weeds, rodent and insect management and the use and application of pesticides.

CHAPTER 4-33 PLANT PESTS

4-33-01. Definitions. In this chapter, unless the context or subject matter otherwise requires:

1. "Certificate" means a document issued or authorized by the commissioner indicating that a regulated article is not contaminated with a pest.

2. "Commissioner" means the commissioner of agriculture or the commissioner's authorized representative.

3. "Host" means any plant or plant product upon which a pest is dependent for completion of any portion of its life cycle.

4. "Infested" means actually infested or infected with a pest or so exposed to infestation that it would be reasonable to believe that an infestation exists.

5. "Move" means to ship, offer for shipment, receive for transportation, carry, or otherwise transport, move, or allow to be moved.

6. "Permit" means a document issued or authorized by the commissioner to provide for the movement of regulated articles to restricted destinations for limited handling, utilization, or processing.

7. "Person" means any individual, corporation, company, society, or association, or other business entity.

8. "Pest" means any invertebrate animal, pathogen, parasitic plant, or similar organism which can cause damage to a plant or part thereof or any processed, manufactured, or other product of plants.

9. "Phytosanitary certificate" means an international document issued or authorized by the commissioner stating that a plant or plant product is considered free from quarantine

pests and practically free from injurious pests and that they are considered to conform with the current phytosanitary regulations of the importing country.

10. “Plant” means agronomic field crops, horticultural crops, and native and tame grasses used for livestock production.

11. “Regulated article” means any article of any character as described in the quarantine carrying or capable of carrying the plant pest against which the quarantine is directed.

Source: S.L. 1969, ch. 89, § 1; 1975, ch. 62, § 1; 1983, ch. 104, § 1; 1987, ch. 90, § 1.

4-33-04. Authority for plant quarantine. The commissioner is authorized to quarantine this state or any portion thereof when he determines that such action is necessary to prevent or retard the spread of a pest within or from this state and to quarantine any other state or portion thereof whenever he determines that a pest exists therein and that such action is necessary to prevent or retard its spread into this state. Before promulgating his determination that a quarantine is necessary, the commissioner shall, after due notice to interested parties, hold a public hearing under such rules as he shall promulgate, at which hearing any interested party may appear and be heard either in person or by attorney, provided, the commissioner may impose a temporary quarantine for a period not to exceed ninety days during which time a public hearing, as provided herein, must be held if it appears that a quarantine for more than the ninety-day period will be necessary to prevent or retard the spread of the pest. The commissioner shall give notice of the establishment of the quarantine in such newspapers in the quarantined area as he may select. The commissioner may limit the application of the quarantine to the infested portion of the quarantined area and appropriate environs, to be known as the regulated area, and may, without further hearing, extend the regulated area to include additional portions of the quarantined area upon publication of a notice to that effect in such newspapers in the quarantined area as he may select or by direct written notice to those concerned.

Following establishment of the quarantine, no person may move any regulated article described in the quarantine or move the pest against which the quarantine is established, within, from, into, or through this state contrary to regulations promulgated by the commissioner. Notice of the regulations must be published in such newspapers in the quarantined area as the commissioner may select.

The regulations may restrict the movement of the pest and any regulated articles from the quarantined or regulated area in this state into or through other parts of this state or other states and from the quarantined or regulated area in other states into or through this state and shall impose such inspection, disinfection, certification, or permit and other requirements as the commissioner deems necessary to effectuate the purposes of this
chapter.

Source: S.L. 1969, ch. 89, § 4.

4-33-05. Authority for abatement and emergency measures. When ever the commissioner finds any article that is infested or reasonably believed to be infested or a host or pest exists on any premise or is in transit in this state, he may, upon giving notice to the owner or his agent in possession thereof, seize, quarantine, treat, or otherwise dispose of such pest, host, or article in such manner as the commissioner deems necessary
to suppress, control, eradicate, or to prevent or retard the spread of a pest, or the commissioner may order such owner or agent to so treat or otherwise dispose of the pest, host, or article. Where large areas or metropolitan areas, involving many people, are to be treated, notice may be by means of newspaper, radio, or other news media. Such notice must prominently appear, at least ten days prior to treatment, in at least three issues of a daily paper having local coverage.

Source: S.L. 1969, ch. 89, § 5.

4-33-06. Authority for inspections — Warrants. To effectuate the purposes of this chapter, the commissioner may with a warrant or the consent of the owner make reasonable inspection of any premises in this state and any property therein or thereon and may without a warrant with the assistance of any law enforcement agency provided for in this code stop and inspect, in a reasonable manner, any means of conveyance moving within this state upon probable cause to believe it contains or carries any pest, host, or other article subject to this chapter, and may make any other reasonable inspection of any premises or means of conveyance for which under the Constitution of the United States and the Constitution of North Dakota, no warrant is required.

The appropriate district courts in this state may issue warrants for such inspections upon a showing by the commissioner that there is probable cause to believe that there exists in or on the property to be inspected a pest, host, or other article subject to this chapter.

Source: S.L. 1969, ch. 89 sec. 6; 1991,
Ch. 326, sec. 2

PESTICIDE ACT

4-35-01. Title. This chapter must be known as the “North Dakota Pesticide Act of 1975”.

Source: S.L. 1975, ch. 63, § 1. Cross-References.
Insecticide, Fungicide, and Rodenticide Act of 1947,
see ch. 19-18.

4-35-02. Creation of pesticide control board. There is hereby created the pesticide control board, hereinafter also called the “board”, consisting of the commissioner of agriculture, the director of the cooperative extension division of the North Dakota state university of agriculture and applied science, and the director of the agricultural experiment station at North Dakota state university of agriculture and applied science. The commissioner of agriculture must be chairman of the board and is responsible for
the enforcement of this chapter. The board shall meet at the call of the chair. The members of the board must be compensated for their expenses in performing their duties under this chapter at the same rate as other state officials and the board’s expenses must be paid from funds provided for the administration of this chapter to the commissioner of agriculture. The board may act through the office of the commissioner of agriculture, and
one person on the commissioner’s staff may be specifically responsible to, or act as the state-level agent of, the board.

Source: S.L. 1975, ch. 63, § 2.

4-35-03. Enforcing agency. This chapter must be administered by the pesticide control board, hereinafter referred to as the “board”.

Source: S.L. 1975, ch. 63, § 3.

4-35-05. Definitions. As used in this chapter:

9. “Environment” includes water, air, land, and all plants and man and other animals living therein, and the interrelationships which exist among these.

17. “Person” means any individual, partnership, association, fiduciary, corporation, or any organized group of persons, whether or not incorporated.

18. “Pest” means:

a. Any insect, snail, slug, rodent, nematode, fungus, weed; or

b. Any other form of terrestrial or aquatic plant or animal life or virus, bacteria, or other micro-organism, except viruses, bacteria, or other micro-organisms on or in living man or other living animals which are annoying or otherwise injurious or harmful to agriculture, health, and the environment.

19. “Pesticide” means:

a. Any substance or mixture of substances intended for preventing, destroying, repelling, or mitigating any pest; and

b. Any substance or mixture of substances intended for use as a plant regulator, defoliant, or desiccant.

27. “Unreasonable adverse effects on the environment” means any unreasonable risk to man or the environment, taking into account the economic, social, and environmental costs and benefits of the use of any pesticide.

28. “Weed” means any plant which grows where not wanted.

29. “Wildlife” means all living things that are neither human, domesticated, nor, as defined in this chapter, pests, including, but not limited to, mammals, birds, and aquatic life.

Source: S.L. 1975, ch. 63, § 5; 1983, ch. 82, § 7; 1985, ch. 103, § 4

4-35-06. Pesticide control board to administer chapter and adopt regulations.

1. The pesticide control board shall administer the provisions of this chapter and has authority to issue regulations in conformance with provisions of chapter 28-32 to carry out the provisions of this chapter. Such regulations may prescribe methods to be used in the application of pesticides. Where the board finds that such regulations are necessary to carry out the purpose and intent of this chapter, such regulations may relate to the time, place, manner, methods, materials, and amounts and concentrations, in connection with the application of the pesticide, and may restrict or prohibit use of pesticides in designated areas during specified periods of time and shall encompass all reasonable factors which the board deems necessary to prevent damage or injury by drift or misapplication to:

a. Plants, including forage plants, on adjacent or nearby lands.

b. Wildlife in the adjoining or nearby areas.

c. Fish and other aquatic life in waters in proximity to the area to be treated.

d. Persons, animals, or beneficial insects. In issuing such regulations, the board shall give consideration to pertinent research findings and recommendations of other agencies of this state, the federal government, or other reliable sources.

NOXIOUS WEED CONTROL

63-01.1-01. Control and eradication of noxious weeds. It shall be the duty of every person in charge of or in possession of land in this state, whether as landowner, lessee, renter, or tenant, under statutory authority or otherwise, to eradicate or to control the spread of noxious weeds on those lands.

Source: S.L. 1971, ch. 594, § 1; 1981, ch. 638, § 1.

63-01.1-02. Definitions. As used in this chapter:

1. “Board member area” means a geographical area within the county from which a member of the weed board is appointed.

2. “Commissioner” means the agriculture commissioner or the commissioner’s designee.

3. “Control” means to prevent the spread of any noxious weed, designated by the commissioner or other control authority, by seed or any other propagating part or, if authorized, to suppress, eradicate, or prevent or retard the spread of a pest.

4. “Control authority” means the commissioner, the county weed board, and, pursuant to the county weed board’s authorization, the county weed control officer.

5. “County weed board” means members of the board of each county as appointed pursuant to section 63-01.1-04.

6. “County weed control officer” means the person designated by the county weed board to be responsible for the operation and enforcement of this chapter within each county.

7. “Eradicate” or “eradication” means to destroy a plant or, if authorized, a pest so that it is not viable.

8. “Landowner” means any owner of federal, state, municipal, or private land, under statutory authority or otherwise. The term does not include a lessee, renter, tenant, operator, or an owner of any easement or right of way.

9. “Noxious weed” means any plant propagated by either seed or vegetative parts which is determined by the commissioner after consulting with the North Dakota state university extension service, or a county weed board after consulting with the county extension agent, to be injurious to public health, crops, livestock, land, or other property.

10. “Operator” means the person chiefly responsible for the farming or other operations being performed on the land, whether for self benefit, or for the benefit of the landowner or another.

11. “Person” means any individual, partnership, firm, corporation, limited liability company, company, society, association, the state, or any department, agency,

or subdivision thereof, or any other entity which occupies or owns land or which causes noxious weed seeds or propagating parts to be disseminated or transported in this state.

12. “Pest” means any pest defined in section 4-33-01 and includes a prairie dog.

13. “Township road” means a public road that is an improved road, constructed, maintained, graded, and drained by the township, or county in the case of an unorganized township. A township road includes a street in an unincorporated townsite and does not necessarily have to be surfaced. A sodded road is not a township road. In order for a section line to be a township road it must be graded and drained and be an improved maintained road. A township road is a public road that is not designated as part of a county, state, or federal-aid road system and is not located in an incorporated city.

Source: S.L. 1971, ch. 594, § 1; 1979, ch. 651, § 1; 1981, ch. 638, § 2; 1983, ch. 693, § 1; 1993, ch. 54, § 106; 1993, ch. 610, § 1; 1995, ch. 603, § 1.

63-01.1-03. State weed control authority — Agriculture com missioner — Powers and duties.

1. The duty of enforcing this chapter and carrying out its provisions and intent is vested in the commissioner. The commissioner shall cooperate with other weed control authorities.

2. The commissioner shall determine which weeds are noxious for the purposes of a state list of noxious weeds after consulting with the North Dakota state university extension service and shall compile and keep current a list of noxious weeds.

3. The commissioner shall outline procedures, prepare and supply official notices, posters, report forms, and other documents needed in carrying out this chapter. The commissioner shall supply these documents to weed control officers, county, township, and city authorities, and others as needed to carry out an effective weed control program or, if authorized, pest control program. The commissioner shall prepare notices or posters including the noxious weed list, rules, dates for controlling, and other compliance requirements for printing in official newspapers or for posting at least annually.

4. The commissioner shall cooperate with the county weed board, county weed control officers, highway patrol officers, county sheriffs, and others in enforcing this chapter. The commissioner shall also encourage the North Dakota state university extension service to disseminate information and to conduct educational campaigns with

respect to eradication and control of noxious weeds or, if authorized, pests.

5. The commissioner upon receiving a written complaint shall immediately refer the complaint to the proper weed control officer or control authority.

6. The commissioner shall encourage the cooperation of agencies of both the federal and state governments in furtherance of the purposes of this chapter.

7. The commissioner may adopt rules to carry out the intent of this chapter.

8. The commissioner may require operational or program reports from weed control authorities or weed control officers regarding weed control progress and activity in the state and, if authorized, pest control progress and activity in the state.

9. The commissioner shall call an annual meeting of all weed control officers, either statewide or by areas, to review the intent, operation, procedures, and accomplishments under this chapter and may also request the North Dakota state university extension service or others to present educational information on weed control practices or, if authorized, pest control practices. Weed control authority members must be invited to attend meetings called pursuant to this subsection.

Source: S.L. 1971, ch. 594, § 1; 1979, ch. 651, § 2; 1981, ch. 638, § 3; 1993, ch. 610, § 2.

63-01.1-03.1. County weed board — Jurisdiction. All land within the boundaries of North Dakota, including all federal, state, private, and municipally owned lands, is included in the county weed board's jurisdiction within the county in which the land is located.

Source: S.L. 1981, ch. 638, § 4.

63-01.1-12. Preventing dissemination of noxious weeds.

1. To prevent the dissemination of noxious weeds by machinery; trucks, harvesting, or other farm equipment, or during transportation of plants, forage, screenings, dirt, and other articles which may be transported by any means, the commissioner shall, from time to time, publish a list of the possible methods of disseminating the propagating parts of such weeds.

2. All operators of tillage, seeding, and harvesting equipment shall be required to clean such equipment to prevent the spread of noxious weeds by seed or other propagating parts prior to moving such equipment on public highways, airways, waterways, or by any other means of conveyance, public or otherwise. Trucks or trailers transporting grain screenings shall be constructed

and covered so as to prevent weed seed dissemination. Scattering and dumping on land or in water of any material containing noxious weed seeds or propagating parts is prohibited unless such material has been processed or treated or is buried sufficiently deep to destroy seeds and other propagating parts.

Source: S.L. 1971, ch. 594, § 1; 1979, ch. 651, § 7.

63-01.1-12.1. Quarantine period — Materials or farm products and area defined.

1. Whenever the commissioner~ the county weed board, or anyone authorized thereby finds any area of the state to be infested with noxious weeds, and it is established that materials or farm products from that area are liable to spread noxious weeds into other areas to the injury of others, the commissioner shall, without unnecessary delay, declare a quarantine against the area to prevent the transfer of materials or farm products from the quarantined area. When it is ascertained that noxious weeds are likely to be introduced into this state by the importation of materials or farm products, the commissioner shall declare a quarantine against the importation of those materials or farm products.

2. The commissioner shall declare an individual county quarantine when requested by resolution adopted by a two-thirds majority of the county weed board of the county in which the quarantine is to be declared.

3. For the purposes of this section, “area~ means a geographical section of land as identified by the commissioner, which may include cities and counties or any portion of a city or county; “farm products” means all crops, crop products, plants or portions thereof, but shall not mean livestock; and “materials” means gravel or other sub-
stances that can be transported over a state highway.

Source: S.L. 1981, ch. 638, § 18; 1993, ch. 610, § 9.

63-01.1-12.2. Noxious weed certification — Gravel and sand pits and hay land.

1. The commissioner, after consultation with the North Dakota state university extension service, may adopt rules for certifying that gravel, scoria, or sand surface mining operations and land producing hay for sale or for resale are not contaminated with noxious weeds. The rules must identify the extent noxious weeds are allowed with certification.

2. The county weed board, after consultation with the North Dakota state university extension service, may certify gravel, scotia, or sand surface mining operations and land producing hay for sale or for resale as not contaminated with noxious weeds.

NORTH DAKOTA GAME AND FISH DEPARTMENT

The North Dakota Game and Fish Department is to regulate the importation, introduction and transplanting of fish, fish eggs and other aquatic animals in to the waters of the state. The act provides that one must have a permit issued by the director before one can introduce any fish or fish egg into the public waters and the fish or fish eggs must be inspected for disease. In addition, the Game and Fish Department has the power to remove and dispose of fish deemed undesirable to the best interest of the public. The director may adopt rules governing the operation of private fish hatcheries, the introduction and release of fish into the state, and the supervision of live bait wholesalers. Department rules prohibit the dumping of minnow buckets or any other container into the public waters of the state.

GAME AND FISH DEPARTMENT

20.1-02-04. Duties of director. The director shall:

1. Maintain an office in Bismarck.

2. Adopt rules necessary to the conduct of the department.

3. Keep an accurate record of all the transactions and expenditures of the department and submit a biennial report to the governor and the secretary of state in accordance with section 54-06-04.

4. Enforce state laws involving wildlife.

5. Collect and distribute statistics and information germane to this title and publish information and reports, including a monthly bulletin, for the education of the public in conservation matters.

6. Examine all waters of the state and, wherever suitable waters are found, arrange to plant, stock, or deposit available fish, spawn, or fry

7. Cooperate with the United States fish and wildlife service, or any other appropriate federal agency, and make applications for fish, spawn, and fry, to apportion and deposit in waters of the state.

8. Cooperate with and assist clubs and individuals in stocking the waters of this state with fish.

9. Remove or take from any public waters containing a surplus of fish any reasonable quantity of fish for stocking other public waters, hatching or propagating purposes, or exchange with other states and countries.

10. Control, construct, mark, designate, manage, and have charge of all state fish hatcheries, state game farms, game refuges, and game reserves owned, leased, or controlled for the propagation and protection of game birds, game animals, and fish.

11. Supervise the breeding, propagation, capture, distribution, and preservation of game birds, game animals, and fish as the director deems advisable.

12. Adopt rules necessary for carrying out section 20.1-10-01 and these rules have the force of law after one publication in the daily newspapers of this state.

13. Provide the necessary blank forms for making applications for licenses of all kinds and distribute them among those authorized to sell licenses.

14. Keep a record of all permits issued for the purpose of propagation and domestication of game birds or protected animals.

Source: S.L. 1973, ch. 202, § 9; 1973, ch. 403, § 15; 1975, ch. 466, § 16; 1991, ch. 231, § 12; 1991, ch. 232, § 4; 1995, ch. 350, § 15.

20.1-02-05. Powers of director. The director may:

1. Fix the salaries and the necessary travel and other expenses of department personnel subject to law and legislative appropriations.

2. Employ any part-time personnel necessary to run the director's office and remove the employees at will. Salaries and necessary traveling and other expenses of these appointees must be authorized, audited, and paid in the same manner as salaries and expenses of state officers.

3. Accept from any person, or gather, or purchase, fish, spawn, or fry, for distribution in state waters.

4. Take alive at any time, under the director's personal supervision or under the personal supervision of any of the director's bonded appointees, any birds or animals for propagation purposes or for exchange with other states and foreign countries for game birds and animals of other species.

5. Order additional protection for any fish with an open season when, after investigation, the director finds danger of extinction, undue depletion in any waters, or to aid in the propagation and protection of immature fish, by prescribing how, how many, where, and when the fish may be taken. The orders have the force of law.

6. Take or cause to be taken at any time from any state public waters any suckers, carp, or pickerel.

7. With the governor's approval, purchase, lease, or condemn real estate, when it is required to carry out this title, and sell it when it is no longer required, in the name of the state.

8. Lease up to ninety-nine years any department land, for the purpose of development and improvement, to any nonprofit corporation, upon consideration of specified improvements to be made by the corporation and other improvements the department and the corporation may agree upon. The lease must provide that all funds received by the corporation through lease of the property be expended upon the leased premises for development and improvements. The corporation has the authority, subject to approval by the director, to sublease the premises for cabin sites and other recreational purposes. Upon termination of the lease, the leased property, together with all improvements, reverts to the department.

9. With the governor's approval, enter into agreements with the bureau of reclamation for the management of lands in the Heart Butte area acquired by the bureau for the construction of dams on lakes or streams. Revenues derived from the management of these lands or received from any federal agency for expenditure upon these lands may not be commingled with other game and fish funds, but must be deposited by the director in a separate account. These funds are hereby appropriated for expenditure for purposes as may be agreed upon by the bureau of reclamation, the United States fish and wildlife service, the national park service, and the director. The authority herein granted is effective only until the lands are resold to the former landowners by the bureau of reclamation.

10. Secure specimens of game birds, animals, and fish for breeding purposes by purchase or otherwise and by exchange with the game commissions or state game wardens of other states or countries.

11. Issue special permits to shoot wildlife from a stationary motor vehicle upon application from individuals who are physically unable to walk for purposes of hunting or taking wildlife or who have lost the use of an arm at or below the elbow. The application must be accompanied by a physician's statement verifying the person's condition, and if used to hunt on lands controlled by the board of university and school lands, must designate the land on which the individual intends to hunt. The permittee must have permission from the lessee and the commissioner of university and school lands to hunt on lands controlled by the board of university and school lands. A permit issued under this subsection allows the permittee to drive, or to be driven, onto any land for the purposes of hunting wildlife, except that neither any other passenger within the vehicle nor the driver, if someone other than the permittee, may be a hunter, unless the other person is also a permittee. Provided, however, that if the land is privately owned and if the permittee is not going to drive or be driven along an established road or trail, the

permittee must first obtain the consent of the owner or lessee to hunt on the land in the manner provided in this title.

12. Issue to any person, who is a paraplegic or who has lost the use of one or both arms, a special permit to hunt game with a crossbow if that person otherwise complies with and qualifies under the licensing and other provisions of this title.

13. Issue any resident license prescribed by this title to a person who has come to the state with a bona fide intention of becoming a resident, even though that person has not been a resident of this state for the required time period immediately preceding the application for the license, or to any person who is a member of the United States armed
forces and who is within the state on duty or leave, or to any employee of the United States fish and wildlife service or the conservation department of any state or province of Canada in the state to advise or consult with the department. No license may be issued under this subsection unless an affidavit of a bona fide resident, setting forth the actual conditions, accompanies the application. This subsection does not apply to lottery permits, except that the director shall issue a resident deer hunting license to any resident of this state who is a member of the United States armed forces stationed outside this state and who shows proof of North Dakota residence and who pays the appropriate licensing fee. A deer license issued to a member of the United States armed forces under
this subsection must be issued without being subject to the lottery for deer hunting licenses.

14. Adopt rules, and issue permits for the transporting or introducing of fish, fish eggs, small game, big game, or fur-bearers after determining that the fish, fish eggs, birds, or animals have been properly inspected for disease, and that the transplanting or introduction will be in compliance with state laws and rules. No person may trans plant or introduce any fish or fish eggs into any of the public waters of this state, or transplant or introduce any species of small game, big game, or fur-bearers into this state without obtaining a permit from the director.

15. Pursuant to section 4-01-17.1, cooperate with the agriculture commissioner, the United States fish and wildlife service, and other agencies in the destruction of predatory animals, destructive birds, and injurious field rodents. The director is hereby authorized to adopt rules in accordance with organized and systematic plans of the department of the interior for the destruction of these birds and animals. The director may determine the necessity and issue permits and rules and regulations therefor for the operation and use of
private aircraft to assist in the destruction of the above birds and animals and aid in the administration or protection of land, water, wildlife, livestock, domesticated animals, human life, or crops.

16. Exercise authority to establish programs and rules and administer state and federal funds provided to the state for the preservation and management of resident

species determined by the director to be threatened or endangered species of wildlife. The authority exercised must be in compliance with the Endangered Species Act of 1973,
Public Law 93-205. Any person who violates rules established under this subsection is guilty of a class B misdemeanor.

17. Subject to chapter 28-32, adopt rules for the licensing of guides or outfitters and may require records and reports as the director determines necessary. The director may, after due hearing as provided in chapter 28-32, revoke or refuse to renew the license of a person who violates the rules or fails to provide the records and reports.

18. Provide for the funding of a private land habitat and access improvement program with moneys derived from the interest earned on the game and fish fund and habitat restoration stamp fees. The director shall place these funds in a special fund called the “game and fish department private land habitat and access improvement fund”.

19. Carry out a private land habitat and access improvement program by:

a. Entering into cost-sharing, habitat enhancement, and access agreements with landowners or agencies working on private land to help defray all or a portion of their share of local, state, or federally sponsored conservation practices considered beneficial
to fish and wildlife.

20.1-02-15. Police powers of director, deputy director, and bonded appointees of director. The director, deputy director, and any bonded appointees of the director have the power:

1. Of a peace officer for the purpose of enforcing this title and any other state laws or rules relating to wildlife.

2. To make arrests upon view and without warrant for any violation, committed in that person’s presence, of this title and any other state laws or rules relating to wildlife.

3. To regulate dealers in green furs, propagation or possession of live protected wildlife, taxidermists, shooting preserves, guides and outfitters, commercial fishing operations, private fish hatcheries, and commercial bait vendors. In the regulation of these licensed activities, the premises used to conduct the business and records required by law must be open for inspection at reasonable hours by game and fish law enforcement officers.

20.1-02-15.1. Additional powers of director, deputy director, chief game wardens, or district game wardens. The director, deputy director, chief game wardens,

or district game wardens have the power of a peace officer in the following circumstances:

1. To enforce state laws and rules on any game refuge, game manage ment area or other land or water owned, leased, or managed by the department.

2. When responding to requests from other law enforcement agencies or officers for aid and assistance. For the purposes of this subsection, a request from a law enforcement agency or officer means only a request for assistance as to a particular and singular violation or suspicion of violation of law, and does not constitute a continuous request for assistance outside the purview of enforcement of the provisions of this title.

3. The powers and duties conferred are supplemental to other powers and duties conferred upon the director, deputy director, chief game wardens, or district game wardens and do not constitute an obligation beyond the regular course of duty of those officers.

4. To enforce chapter 20.1-15.

5. To enforce chapter 20.1-13.1.

6. To enforce chapter 39-24.1. This section may not be construed to limit the powers or duties of any peace officer within this state.

Source: S.L. 1979, ch. 300, § 1; 1991

FISH, FROG, AND TURTLE REGULATIONS

20.1-06-05. Removing undesirable fish. The director, any person authorized by the director, or anyone contracting with the director, may kill or take fish from waters of this state in any manner prescribed by the director when in the director's judgment it is in the best interest of public fishing. All such fish must be disposed of at the director's discretion. Money derived from the disposal must be deposited in the state treasury and credited to the game and fish fund. All money received and expended must be itemized, and written records thereof must be kept in the director's office. Any person desiring to contract with the director to take such fish, as determined by the director, from the waters of this state, by means of not more than five hoop-nets or traps, not more than five setlines of ten hooks, or not more than one hundred feet [30.48 meters] of seine, must be awarded the contract upon payment of the appropriate fee. These contracts may not specify the disposition of the fish.

Source: S.L. 1973, ch. 202, § 13; 1989, ch. 116, § 3; 1991, ch. 231, § 54.

20.1-06-12. Regulations governing private fish hatcheries. Any person operating a private fish hatchery is not subject to fishing seasons, limits, legal size restrictions, or other methods of taking fish as provided in any governor's proclamation. The director may adopt rules governing the operation of private fish hatcheries. No license is required of any person for taking fish by angling at a licensed private fish hatchery operated in accordance with the rules of the director. The hatchery operator shall furnish to each person taking fish a written certificate in the form the director prescribes, giving the number and description of the fish taken and other information as the director requires, whereupon the fish may be possessed, shipped, or transported within the state in like manner as fish taken by residents under a license. The director shall issue an annual
license to operate the hatchery during a calendar year or a portion of a year upon application and payment of the appropriate fee by the owner or operator. The license may be suspended for noncompliance with the director's regulations.

So~Ce: S.L. 1973, ch. 202, § 13; 1991,

20.1-06-13. Property rights — Fish wild by nature. Any person, firm, corporation, or limited liability company raising and owning any lawfully possessed fish, wild by nature, has the same property rights therein as enjoyed by owners of domestic fish. They are, however, subject to all rules adopted by the director regarding the introduction and release into the state of the fish, as provided in subsection 14 of section 20.1-02-05.

Source: S.L. 1973, ch. 202, § 13; 1991, ch.
231, § 58; 1993, ch. 54, § 106.

20.1-06-14. Minnow bait wholesalers and retailers — License. The director shall adopt rules to control and supervise the operations of minnow or other live bait wholesalers. The director shall issue a license to each wholesaler when the wholesaler has complied with the director's rules and has paid the appropriate annual license fee. The director shall also issue a minnow or other live bait retailer's license to any person upon payment of the appropriate license fee. No person may sell minnows or other live bait at
wholesale or retail without first obtaining the appropriate license. The director may require each retailer or wholesaler to submit reports as the director may deem necessary.

Source: S.L. 1973, ch. 202, § 13; 1991, ch.
231, § 59.

20.1-06-15. Fishways at dams. Any person owning, erecting, managing, or controlling any dam or other obstruction across any river, creek, or stream within or forming the boundary of this state, at the director's direction, shall construct and keep in

good repair, a durable and efficient fishway in the manner, shape, and size as the director may direct. Upon failure to construct or maintain the fishway, after giving the person ten days' notice, the director may construct or repair the fishway and recover the costs from the person owning, erecting, managing, or controlling the dam or obstruction. No person may construct any fishway without the approval of the director.

Source: S.L. 1973, ch. 202, § 13; 1991

STATE WATER COMMISSION AND STATE ENGINEER

The Water Commission Act has general authority over all surface and sub-service water within the state and includes authority over projects involving recreational use or wildlife conservation. Anyone who wants to divert or appropriate water within the state must get a permit issued by the state engineer, unless the use is for domestic, livestock or for fish, wildlife (including purposes of propagating, sustaining fish and wildlife resources, and for the development and maintenance of water areas) or other recreational need. The state engineer does have the authority to control and supervise all water and wildlife conservation projects and wildlife reservations.

WATER COMMISSION

61-02-01. Water conservation, flood control, management, and development declared a public purpose. It is hereby declared that the general welfare and the protection of the lives, health, property, and the rights of all the people of this state require that the conservation, management, development and control of waters in this state, public or private, navigable or unnavigable, surface or subsurface, the control of floods, and the management of the atmospheric resources, involve and necessitate the exercise of the sovereign powers of this state and are affected with and concern a public purpose. It is declared further that any and all exercise of sovereign powers of this state in investigating, constructing, maintaining, regulating, supervising, and controlling any system of works involving such subject matter embraces and concerns a single object, and that the state water commission in the exercise of its powers, and in the performance of all its official duties, shall be considered and construed to be performing a
governmental function for the benefit, welfare, and prosperity of all the people of this state.

Source: S.L. 1937, ch. 255, § 1; 1939, ch.256,
§ 1; R.C. 1943, § 61-0201; S.L. 1983.

61-02-01.1. Statewide water development program. The legislative assembly finds that there is a critical need to develop a comprehensive statewide water development program. The state water commission shall develop and implement a comprehensive statewide water development program. The commission shall design the program to serve the long-term water resource needs of the state and its people and

to protect the state's current usage of, and the state's claim to, its proper share of Missouri River water.

Source: S.L. 1997, ch. 25, § 9.

61-02-02. Definitions. In this chapter, unless the context or subject matter otherwise requires:

1. "Commission" shall mean the state water commission.

2. "Cost of works" shall include:

a. The cost of construction, the cost of all lands, property rights, water rights, easements, and franchises acquired which are deemed necessary for such construction;

b. The cost of all water rights acquired or exercised by the commission in connection with such works;

c. The cost of all machinery and equipment, financing charges, interest prior to and during construction and for a period not exceeding three years after the completion of construction;

d. The cost of engineering and legal expenses, plans, specifications, surveys, estimates of cost, and other expenses necessary or incident to determining the feasibility or practicability of any project;

e. Administrative expenses;

f. The construction of the works and the placing of the same in operation; and

g. Such other expenses as may be necessary or incident to the financing authorized in this chapter, including, but not limited to, funding of debt service, repair and replacement reserves, capitalized interest, and the payment of bond issuance costs.

3. "Owner" shall include all individuals, associations, corporations, limited liability companies, districts, municipalities, and other political subdivisions of this state having any title or interest in any properties, rights, water rights, easements, or franchises to be acquired.

4. "Project" shall mean any one of the works defined in subsection 5, or any combination of such works, which are physically connected or jointly managed and operated as a single unit.

5. "Works" shall be deemed to include:

a. All property rights, easements, and franchises relating thereto and deemed necessary or convenient for their operation;

b. All water rights acquired and exercised by the commission in connection with such works;

c. All means of conserving and distributing water, including without limiting the generality of the foregoing two subdivisions, reservoirs, dams, diversion canals, distributing canals, channels, lateral ditches, pumping units, mains, pipelines, treatment plants, and waterworks systems; and

d. All works for the conservation, control, development, storage, treatment, distribution, and utilization of water including, without limiting the generality of the foregoing subdivisions, works for the purpose of irrigation, flood control, watering stock, supplying water for public, domestic, industrial, and recreational use, fire protection, and the draining of lands injured or in danger of injury as a result of such water utilization.

61-02-14. Powers and duties of the commission. The commission shall have full and complete power, authority, and general jurisdiction:

1. To investigate, plan, regulate, undertake, construct, establish, maintain, control, operate, and supervise all works, dams, and projects, public and private, which in its judgment may be necessary or advisable:

a. To control the low-water flow of streams in the state.

b. To impound water for the improvement of municipal, industrial, and rural water supplies.

c. To control and regulate floodfiow in the streams of the state to minimize the damage of such floodwaters.

d. To conserve and develop the waters within the natural watershed areas of the state and, subject to vested rights, to divert the waters within a watershed area to another watershed area and the waters of any river, lake, or stream into another river, lake, or
stream.

e. To improve the channels of the streams for more efficient transportation of the available water in the streams.

f. To provide sufficient water flow for the abatement of stream pollution.

g. To develop, restore, and stabilize the waters of the state for domestic, agricultural, and municipal needs, irrigation, flood control, recreation, and wildlife

conservation, by the construction and maintenance of dams, reservoirs, and diversion canals.

Source: S.L. 1937, ch. 255, § 13; 1939, ch. 256, § 13; R.C. 1943, § 61-0226; S.L. 1983, cli. 676, § 12.

61-02-28. Plans, investigations, and surveys concerning use of waters — Special powers of commission. The commission may make plans, investigations, and surveys concerning the use of any and all waters, either within or without this state, for purposes of establishing, maintaining, operating, controlling, and regulating systems of irrigation, municipal, domestic, industrial, recreational, and fish and wildlife works and projects in connection therewith within the state. The commission shall have all necessary powers of purchasing, selling, leasing, and assigning in accordance with chapter 6 1-04, rights and interests in the use or in the appropriation of waters for which it has filed a declaration of intent pursuant to section 61-02-30, or obtained a conditional water permit for projects or works and shall possess full authority and jurisdiction to exercise and assert actual control over the corpus of all of such waters, and to regulate the diversion thereof subject to rules and methods prescribed by the commission. This power and authority shall include full right to contract and agree with any person, association, agency, or entity concerning water rights held by such person, association, agency, or entity through which the commission maybe given full authority and jurisdiction over such water and water rights. In connection therewith the commission may coordinate subordinate, supplement, and act jointly or subordinately with the United States, and any agency or department thereof, covering or concerning any federal project affecting water use, works, or projects in connection therewith.

Source: S.L. 1937, ch. 255, § 15; 1939, ch. 256, § 15; R.C. 1943, § 61-0228; S.L. 1963, ch. 417, § 11; 1983, ch. 676, § 14.

STATE ENGINEER

61-03-01. State engineer — Appointment — Qualifications —Term — Salary — Engaging in private practice. A state engineer shall be appointed by the state water commission. Such engineer shall be a technically qualified and experienced hydraulic engineer and also shall be an experienced irrigation engineer. The state engineer shall serve as secretary and chief engineer of the commission. Such engineer shall hold the office for such term as the commission may determine, and the commission shall fix the state engineer’s salary and shall allow the state engineer’s actual and necessary traveling expenses while away from the office in the discharge of official duties. The state engineer shall not engage in private practice but shall devote all of the state engineer’s time to the duties and requirements of the office.

APPROPRIATION OF WATER

61-04-01.1. Definitions. In this chapter, unless the context or subject matter otherwise requires:

1. “Beneficial use” means a use of water for a purpose consistent with the best interests of the people of the state.

2. “Commission” means the state water commission.

4. “Fish, wildlife, and recreation” means the use of water for the purposes of propagating and sustaining fish and wildlife resources and for the development and maintenance of water areas necessary for outdoor recreation activities.

61-04-02. Permit for beneficial use of water required. Any person, before commencing any construction for the purpose of appropriating waters of the state or before taking waters of the state from any constructed works, shall first secure a water permit from the state engineer unless such construction or taking froni such constructed works is for domestic or livestock purposes or for fish, wildlife, and other recreational uses or unless otherwise provided by law. However, immediately upon completing any constructed works for domestic or livestock purposes or for fish, wildlife, and other recreational uses the water user shall noti~ the state engineer of the location and acre-feet [1233.48 cubic meters] capacity of such constructed works, dams, or dugouts. Regardless of proposed use, however, all water and who filed written comments may file additional written comments with the state engineer or request a hearing on the application, or both. A request for a hearing must be made in writing and must state with particularity how the person would be aggrieved by the decision and the issues and facts to be presented at the hearing. If a request for a hearing is not made, the state engineer shall consider the additional comments, if any are submitted, and issue a final decision. If a request for a hearing is made, or if the state engineer determines a hearing is necessary to obtain additional information to evaluate the application or to receive public input, the state engineer shall designate a time and place for the hearing and serve a copy of the notice of hearing upon the applicant and any person who filed written comments. Service must be made in the manner allowed for service under the North Dakota Rules of Civil Procedure at least twenty days before the hearing. If two or more municipal or public use water facilities request the hearing to be held locally, the state engineer shall hold the hearing in the county seat of the county in which the proposed water appropriation site is located.

Source: Si. 1999, ch. 537, § 2; 2003,

61-04-06. Criteria for issuance of permit. The state engineer shall issue a permit if the state engineer finds all of the following:

1. The rights of a prior appropriator will not be unduly affected.

2. The proposed means of diversion or construction are adequate.

3. The proposed use of water is beneficial.

4. The proposed appropriation is in the public interest. In determining the public interest, the state engineer shall consider all of the following:

a. The benefit to the applicant resulting from the proposed appropriation.

b. The effect of the economic activity resulting from the proposed appropriation.

c. The effect on fish and game resources and public recreational opportunities.

d. The effect of loss of alternate uses of water that might be made within a reasonable time if not precluded or hindered by the proposed appropriation. Harm to other persons resulting from the proposed appropriation.

e. The intent and ability of the applicant to complete the appropriation. Subsection 1 of section 28-32-38 does not apply to water permit application proceedings unless a request for a hearing is made. If an application is approved, the state engineer shall issue a conditional water permit allowing the applicant to appropriate water. Provided, however, the commission may, by resolution, reserve unto itself final approval authority over any specific water permit in excess of five thousand acre-feet [6167409.19 cubic meters]. The state engineer may cause a certified transcript to be prepared for any hearing conducted pursuant to this section. The costs for the original and up to nine copies of the transcript must be paid by the applicant.

Source: S.L. 1905, cli. 34, § 22; R.C. 1905, § 7625; C.L. 1913, § 8256; R.C. 1943, § 61-0406; S.L. 1961, cli. 378, § 3; 1965, ch. 447, § 6; 1977, cli. 569, § 10; 1983, cli. 678, § 2; 1993, ch. 596, § 2; 1999, cli. 537, § 3; 2001, ch. 293, § 34.

61-04-06.1. Preference in granting permits. When there are competing applications for water from the same source, and the source is insufficient to supply all applicants, the state engineer shall adhere to the following order of priority:

1. Domestic use.

2. Municipal use.

3. Livestock use.

4. Irrigation use.

5. Industrial use.

6. Fish, wildlife, and other outdoor recreational uses.

Water Resource Districts

Water Resource Boards have the power to manage water resources with their district and order or initiate legal action to compel a person, user or controller of any bridge, or culvert to remove any weeds, shrubbery or other debris which hinders or decreases the flow of the water.

This is the only agency empowered with the express power to order the removal of weeds and pests form North Dakota's waters.

CREATION OF WATER RESOURCE
DISTRICTS — BOARDS

61-16-06. Order creating water resource district. A certified copy of the order creating a water resource district shall be filed with the county auditor of each county within the district. A like copy of the order shall be filed with the secretary of state. The secretary of state shall issue to the state water commission a certificate, bearing the seal of the state, of the due organization of the district, and shall file a copy of the certificate and the commission's order creating the district. The secretary of state's certificate, or a copy authenticated by the secretary of state, shall be prima facie evidence of the organization of the district. This new district shall be, and is hereby declared to be, a governmental agency, and a body politic and corporate with the authority to exercise the powers specified in this chapter, or which may be reasonably implied to exercise such powers. The commission's order shall specify the name or number by which a district shall be known.

61-16.1-09. Powers of water resource board. Each water resource board shall have the power and authority to:

1. Sue and be sued in the name of the district.

2. Exercise the power of eminent domain in the manner provided by title 32 for the purpose of acquiring and securing any rights, titles, interests, estates, or easements necessary or proper to carry out the duties imposed by this chapter, and particularly to acquire the necessary rights in land for the construction of dams, flood control projects, and other water conservation, distribution, and supply works of any nature and to permit the flooding of lands, and to secure the right of access to such dams and other devices and the right of public access to any waters impounded thereby. Provided, however, that when the interest sought to be acquired is a right of way for any project authorized in this chapter for which federal funds have been appropriated, the district, after making a written offer to purchase the right of way and

depositing the amount of the offer with the clerk of the district court of the county wherein the right of way is located, may thereupon take immediate possession of the right of way, as authorized by section 16 of article I of the Constitution of North Dakota. Within thirty days after notice has been given in writing to the landowner by the clerk of the district court that a deposit has been made for the taking of a right of way as authorized in this subsection, the owner of the property taken may appeal to the district court by serving a notice of appeal upon the acquiring agency, and the matter must be tried at the next regular or special term of court with a jury unless a jury be waived, in the manner prescribed for trials under chapter 32-15.

3. Accept funds and property or other assistance, financial or otherwise, from federal, state, and other public or private sources for the purposes of aiding the construction or maintenance of water conservation, distribution, and flood control projects; and cooperate and contract with the state or federal government, or any department or agency thereof, or any municipality within the district, in furnishing assurances and meeting local cooperation requirements of any project involving control, conservation, distribution, and use of water.

4. Procure the services of engineers and other technical experts, and employ an attorney or attorneys to assist, advise, and act for it in its proceedings.

5. Plan, locate, relocate, construct, reconstruct, modify, maintain, repair, and control all dams and water conservation and management devices of every nature and water channels, and to control and regulate the same and all reservoirs, artificial lakes, and other water storage devices within the district.

6. Maintain and control the water levels and the flow of water in the bodies of water and streams involved in water conservation and flood control projects within the district and regulate streams, channels, or watercourses and the flow of water therein by changing, widening, deepening, or straightening the same, or otherwise improving the use and capacity thereof.

7. Regulate and control water for the prevention of floods and flood damages by deepening, widening, straightening, or diking the channels or floodplains of any stream or watercourse within the district, and construct reservoirs or other structures to impound and regulate such waters.

8. Make rules and regulations concerning the management, control, regulation, and conservation of waters and prevent the pollution, contamination, or other misuse of the water resources, streams, or bodies of water included within the district.

9. Do all things reasonably necessary and proper to preserve the benefits to be derived from the conservation, control, and regulation of the water resources of this state.

10. Construct, operate, and maintain recreational facilities, including beaches, swimming areas, boat docking and landing facilities, toilets, wells, picnic tables, trash receptacles, and parking areas, and to establish and enforce rules and regulations for the use thereof.

14. Authorize and issue warrants to finance construction of water conservation and flood control projects, assess benefited property for part or all of the cost of such projects, and require appropriations and tax levies to maintain sinking funds for construction warrants on a cash basis at all times.

16. Order or initiate appropriate legal action to compel the entity responsible for the maintenance and repair of any bridge or culvert to remove from under, within, and around such bridge or culvert all dirt, rocks, weeds, brush, shrubbery other debris, and any artificial block which hinders or decreases the flow of water through such bridge or culvert.

STATE DEPARTMENT OF HEALTH

The State Water Pollution Control Board, which includes the director of the Game and Fish Department, through the State Department of Health with cooperation of the State Water Commission to maintain and improve the water quality of the state, to formulate and issue standards of water quality and classifications of water and require the proper maintenance and operation of sewage and industrial waste systems to protect the present and future use of such waters for, among other reasons, the propagation of fish and aquatic life and wildlife.

CONTROL, PREVENTION, AND ABATEMENT OF POLLUTION OF SURFACE WATERS

61-28-02. Definitions. As used in this chapter, unless the context otherwise requires:

1. “Board” means the state water pollution control board.

2. “Department” means the state department of health.

3. “Discharge” means the addition of any waste to state waters from any point source.

7. “Pollution” means the manmade or man-induced alteration of the physical, chemical, biological, or radiological integrity of any waters of the state.

10. “Wastes” means all substances which cause or tend to cause pollution of any waters of the state, including dredged spoil, solid waste, incinerator residue, sewage, garbage, sewage sludge, munitions, chemical wastes, biological materials,

radiological materials, heat, wrecked or discarded equipment, rock, sand, and cellar dirt and industrial, municipal, and agricultural pollution discharged into any waters of the state.

11. "Waters of the state" means all waters within the jurisdiction of this state including all streams, lakes, ponds, impounding reservoirs, marshes, watercourses, waterways, and all other bodies or accumulations of water on or under the surface of the earth, natural or artificial, public or private, situated wholly or partly within or bordering upon the state, except those private waters that do not combine or effect a junction with natural surface or underground waters just defined.

61-28-04. Powers and duties. The department shall have and may exercise the following powers and duties:

1. To exercise general supervision of the administration and enforcement of this chapter and all rules and regulations and orders promulgated thereunder.

2. To develop comprehensive programs for the prevention, control, and abatement of new or existing pollution of the waters of the state.

3. To advise, consult, and cooperate with other agencies of the state, the federal government, other states and interstate agencies, and with affected groups, political subdivisions, and industries in furtherance of the purposes of this chapter.

4. To accept and administer loans and grants from the federal government and from other sources, public or private, for carrying out any of its functions, which loans and grants shall not be expended for other than the purposes for which provided.

5. To encourage, participate in, or conduct studies, investigations, research, and demonstrations relating to water pollution and causes, prevention, control, and abatement thereof as it may deem advisable and necessary for the discharge of its duties under this chapter.

6. To collect and disseminate information relating to water pollution and the prevention, control, and abatement thereof.

7. To issue, modify or revoke orders:

a. Prohibiting or abating discharges of wastes into the waters of the state.

10. To require proper maintenance and operation of disposal systems:

a. Have the power to require the owner or operator of any point source to:

(1) Establish and maintain records.

(2) Prepare and submit a report.

(3) Install, use, and maintain monitoring equipment or methods, including, where appropriate, biological monitoring methods.

(4) Sample effluents.

(5) Provide such other information as the department may reasonably require.

b. Have the right of entry, upon or through any premises in which an effluent source is located, or in which any records required to be maintained pursuant to subdivision a are located. Such power may be exercised by authorized agents, representatives, and employees of the department.

c. Have the power to have access to and copy any records, inspect any monitoring equipment or method required under subdivision a, or to sample any effluents being discharged into the waters of the state.

11. To exercise all incidental powers necessary to carry out the purposes of this chapter.

14. To establish and modify, jointly with the state water commission, the classification of all waters in accordance with their present and future most beneficial uses.

15. The department, with the cooperation of the state water commission, shall formulate and issue standards of water quality and classification of water according to its most beneficial uses. Such standards of quality shall be such as to protect the public health and welfare and the present and prospective future use of such waters for public water supplies, propagation of fish and aquatic life and wildlife, recreational purposes, and agricultural, industrial, and other legitimate uses.

APPENDIX OF ADMINISTRATIVE CODE

NORTH DAKOTA ADMINISTRATIVE CODE
TITLE 7. AGRICULTURE, COMMISSIONER OF
ARTICLE 7-01. GENERAL ADMINISTRATION
CHAPTER 7-01-01. ORGANIZATION OF DEPARTMENT
Current through Supplement 300 (June 1, 2004)

7-01-01-01. Organization and functions of the department of agriculture.

1. Organization of department.

a. History. The department of agriculture was originally part of the department of agriculture and labor, established by section 12 of article V of the Constitution of North Da..~jt~ approved in 1889. In the years following its creation, the department served primarily as an agency for the collection of statistics related to crop yields, labor forces, and other agricultural statistics. In 1965 a constitutional amendment was approved by the voters which provided for a separate department of labor, making the department of agriculture and labor simply the department of agriculture and creating a new department of labor.

b. Commissioner of agriculture. The office of commissioner of agriculture is an elected position. The commissioner, elected for a four-year term, is responsible for the determination of policies for operation of the department; dissemination of information concerning agricultural issues to the governor, members of the legislative assembly and the public; assumption of a leadership role in formulating policies affecting the direction of the state's agricultural industry; and advocacy for farmers' needs on the state and national levels. The commissioner or the commissioner's designee serves on numerous boards and commissions.

c. Divisions. The department is organized into these divisions with a director in charge of each division:

(1) Apiary.
(2) Dairy/Poultry.
(3) Livestock.
(4) Marketing.
(5) Pesticide.
(6) Plant protection.
(7) Agricultural mediation service.

2. Functions of the divisions.

a. Apiary division. The apiary division is responsible for the annual licensure of beekeepers, as well as the inspection, certification, and regulation of bees and equipment for purposes of disease control. The division also enforces applicable laws and regulations.

b. Dairy/Poultry division.

(1) The dairy division is responsible for the promotion of the state dairy industry. It regulates the production, processing, and handling of milk and milk products, and enforces applicable laws and regulations.

(2) The poultry division supervises the national poultry improvement plan and cooperates with the United States department of agriculture in providing grading services. The division promotes the state poultry industry and enforces licensing and bonding rules.

c. Livestock division. The livestock division is responsible for the licensing of livestock dealers and auction markets, as well as the recording and rerecording once every ten years, of brands and marks identifying livestock. The division also enforces applicable laws and regulations.

d. Marketing division. The marketing division is responsible for providing a variety of marketing services to North Dakota food producers and processors, thereby enhancing the sale of agricultural products. The services include educational seminars,

counseling, market research, secondary crop development, and direct export marketing. The division also works with commodity groups to promote and market North Dakota agricultural products in this country and abroad. Administration of the honey and turkey promotion funds is another responsibility of this division.

e. Pesticide division. The pesticide division enforces laws and regulations regarding the storage, transportation, application, and disposal of pesticides. It also enforces laws and regulations dealing with chemigation, noxious weeds, and anhydrous fertilizer plants.

f. Plant protection division. The plant protection division is responsible for the inspection, certification, and enforcement of laws and regulations pertaining to nurseries. It invokes and maintains quarantines to prevent the introduction and spread of plant pests and it conducts surveys to evaluate established pests and detect new ones. It also initiates control programs for the suppression or eradication of pests. Through inspection and certification, this division ensures that plants and plant products meet domestic and foreign plant quarantine requirements.

g. Agricultural mediation service. This division disseminates information and provides assistance to farmers regarding agricultural credit problems. It provides training for negotiators and mediators, assigns them to individual farmers, and coordinates the efforts of public and private entities dealing with agricultural credit matters and financially distressed farmers.

3. Inquiries. Information about the department of agriculture and its programs and responsibilities may be obtained by contacting:

North Dakota Department of Agriculture

State Capitol

Bismarck, North Dakota 58505

History: Amended effective December 1, 1981; February 1, 1986; May 1, 1990.

General Authority: NDCC 28-32-02.1
Law Implemented: NDCC 28-32-02.1
ND ADC 7-01-01-01

NORTH DAKOTA ADMINISTRATIVE CODE
TITLE 7. AGRICULTURE, COMMISSIONER OF
ARTICLE 7-06. NOXIOUS WEEDS
CHAPTER 7-06-01. GENERAL PROVISIONS
Current through Supplement 300 (June 1, 2004)

7-06-01-01. Weed control officer's certification.

A weed control officer shall be certified upon completion of certification in two categories under the North Dakota Century Code chapter 4-35. The two categories are agricultural pest control and right of way. A temporary certification may be issued for a period of one year to a weed control officer.

History: Amended effective February 1,1982.
General Authority: NDCC 28-32-02, 63-01.1-03.
Law Implemented: NDCC 63-01.1-05.1.

7-06-01 -02. Noxious weeds listed.

Weeds declared noxious shall be confined to weeds that are difficult to control, easily spread, and injurious to public health, crops, livestock, land, or other property. The following weeds have been declared noxious for the purpose of North Dakota Century Code chapter 63-0 1. 1:

I. Absinth wormwood (Artemisia absinthiurn L.)

2. Canada thistle (Cirsium an'ense (L.) Scop.)

3. Dalmatian toadflax (Linaria genistifolia ssp. dalmatica)
4. Diffuse knapweed (Centaurea diffusa Lam.)

5. Field bindweed (Con voh'ulus arvensis L.)

6. Leafy spurge (Euphorbia esula L.)

7. Musk thistle (Carduus nutans L.)

8. Purple loosestrife (Lythrum salicaria L., Lvthrurn virgatum L. and all cultivars)

9. Russian knapweed (Acroptilon repens (L.) DC.

10. Saltcedar (Tamarix ramosissima Ledeb., including T chin ensis and T pari'ef flora DC.)
11. Spotted knapweed (Centaurea niaculosa Lam.)

12. Yellow starthistle (Centaurea solstitialis L.)

History: Amended effective June 1,1985; February 1, 2000; September 1, 2002
General Authority: NDCC28-32-02, 63-01.1-03

Law Implemented: NDCC 63-01.1-03

NORTH DAKOTA ADMINISTRATIVE CODE
TITLE 60. PESTICIDE CONTROL BOARD
ARTICLE 60-03. PESTICIDES
CHAPTER 60-03-01. PESTICIDE SALE, DISTRIBUTION, AND USE
Current through Supplement 300 (June 1, 2004)

60-03-01-02. Definitions.

As used in this chapter, the following words shall have the meaning given to them below, unless otherwise made inappropriate by use and context. Words not defined in this section shall have the meaning given to them in North Dakota Century Code chapter 4-35.

1. “Act’ means the North Dakota Pesticide Act.

2. “Board” means the North Dakota pesticide control board created pursuant to North Dakota Century Code section 4-35-02.

3. “Broadcast” means any intentional application of a pesticide over an area, such as a lawn, field, room, crawl space, or other such surface.

4. “Bulk pesticide” means any volume of pesticide that is intended to be repackaged, can be accurately metered, and can be transported or held in an individual container.

5. “Bulk pesticide facility” means any area, location, tract of land, building, structure, or premises used for the handling or storage of bulk pesticides.

6. “Certification” means certification of dealers, commercial applicators, and private applicators provided for by North Dakota Century Code sections 4-35-09, 4-35-12, and 4-35-14.

7. “Commissioner” means the North Dakota agriculture commissioner.

8. “Compensation” means monetary payment for a specific service.

9. “Custom blend” means any diluted mixture of pesticide prepared by a dealer to the specifications of the end-user and not held in inventory.

10. “End-use labeling” means the written, printed, or graphic matter on, or attached to or accompanying the pesticide or device or any of its containers or wrappers.

11. “End-user” means the person who applies the pesticide.

12. “FIFRA” means Federal Insecticide, Fungicide, and Rodenticide Act of 1947.

13. “General use pesticide” means any pesticide formulation which is not classified for restricted use by the board.

14. “Handling” means the mixing, loading, application, repackaging, storage, transportation, distribution, sale, purchase, or disposal of pesticides.

15. “Mixture” means any diluted combination of pesticide with fertilizer, seed, or other medium.

16. “Mobile container” means a container used to transport pesticides.

17. “Operational area” means a pennanent containment area where pesticides are transferred, loaded, unloaded, mixed, repackaged, or refilled; where pesticides are cleaned or rinsed from containers; or application, handling, storage, or transportation equipment.

18. “Permanent containment area” means:

a. An aboveground pad or dike constructed of impervious material, such as sealed concrete, stainless steel, or other material as approved by the department of agriculture;

b. Bermed, curbed, sloped, or otherwise designed to contain spills, leaks, releases, or other discharges that are generated during the handling of pesticides or pesticide-containing materials;

c. Does not have a drain which exits the containment area; and

d. All seams and cracks must be sealed to prevent leakage.

19. “Pesticide-containing material” means:

a. Any container of a pesticide product that has not been triple-rinsed or the equivalent of triple-rinsed;

b. Any rinsate that is derived from a pesticide container, pesticide application equipment, or equipment washing;

c. Any material that is used to collect or contain excess or spilled pesticide or rinsate;

d. Any mixture of pesticide and diluent such as wash water, rinse water, or rainwater; or

e. Material that is generated as a result of contact with or utilization of a pesticide in an application, containment, recovery, reuse, or treatment system. The term does not include personal protective equipment that contains pesticide residue.

20. “Pesticide-producing establishment” means any site where a pesticide is manufactured, packaged, repackaged, prepared, processed, labeled, relabeled, or held for distribution.

21. “Repackaging” means the transfer of a pesticide in an unaltered state from a container into a designated or dedicated refillable container.

22. “Rinsate” means a dilute mixture of pesticide obtained by rinsing pesticide containers or from rinsing the inside and outside of spray equipment.

23. “Spill kit” means a portable kit or other equipment that is designed to recover, minimize, contain, or absorb spills, leaks, releases, or other discharges of pesticides.

24. “Use of a pesticide” means the loading, mixing, applying, storing, transporting, distribution, and disposing of a pesticide.

25. “Use of a pesticide in a manner inconsistent with its labeling” means to use any pesticide in a manner that is not permitted by the label, except that the term does not apply to any of the following:

a. Applying a pesticide at any dosage, concentration, or frequency that is less than that specified on the label, unless the label specifically prohibits deviation from the specified dosage, concentration, or frequency.

b. Applying a pesticide against any target pest that is not specified on the label if the application is to the crop, animal, or site that is specified on the label.

c. Employing any method of application that is not prohibited by the label unless the label specifically states that the product may be applied only by the methods specified on the labeling.

d. Mixing a pesticide or pesticides with a fertilizer when the label does not prohibit such mixture.

e. Any use of a pesticide that is in compliance with sectionS, 18, or 24 of the Federal Insecticide, Fungicide, and Rodenticide Act of 1947 [Pub. L. 104-170; Stat. 7 U.S.C. 136 et seq.].

History: Amended effective April 15, 1985; October 1, 1990; July 1, 1992; March 1, 2003.

General Authority: NDCC 4-35-06

NORTH DAKOTA ADMINISTRATIVE CODE
TITLE 30. GAME AND FISH DEPARTMENT
ARTICLE 30-0 1. GENERAL ADMINISTRATION
CHAPTER 30-01-01. ORGANIZATION OF DEPARTMENT
Current through Supplement 300 (June 1, 2004)

30-01-01-01. Organization and functions of the game and fish department.

1. Organization of department.

a. History. The first game and fish laws were established in Dakota Territory in 1861 but it was not until 1893 when the superintendent of irrigation and forestry was designated as game commissioner that a game and fish department was formed. In 1909 the game and fish board of control was established. The board continued to function as the agency controlling fish and game until 1929 when legislation was passed providing for a single commissioner charged with certain duties and powers to administer a game and fish department. The title commissioner was changed to director in 1991.

b. Divisions. The department consists of the following five divisions:

(1) Administrative services.

(2) Enforcement.

(3) Fisheries.

(4) Conservation and communications.

(5) Wildlife.

c. Director. The director is appointed by the governor. The director holds office for four years beginning on the first day of July after the governor's election and until a successor is appointed and qualified. The director shall appoint a deputy director who may be removed at the director's pleasure. The director may also appoint a chief game warden, district game wardens, biologists, and technicians to enforce the game laws and to perform duties specified by the director. The director is charged with fourteen statutory duties and has twenty-

seven specific powers relating to the department and the resources it must manage. In addition to these specific duties and powers spelled out in North Dakota Century Code sections 20.1-02-04 and 20.1-02-05, the director has additional authority and power given by various sections of North Dakota Century Code title 20.1.

d. Game and fish advisory board. There is an eight-member game and fish advisory board, each appointed for a four-year term by the governor. The board has the authority to advise the director regarding any policy of hunting, fishing, and trapping regulations, and may make general recommendations regarding the operation of the department and its programs which the director may carry out.

e. Orders and proclamations of the governor. After investigation and recommendations by the director, the governor may open seasons for hunting, fishing, and trapping. The governor may determine in what manner, the numbers, the places, and at what times game, fish, or fur-bearers may be taken.

2. Functions of department divisions.

a. Administrative services division. The division of administration is divided into four programs - accounting and basic operations, data processing, licensing, and planning.

(1) Accounting and basic operations. The program is responsible for accounting and general office and facility management.

(2) Data processing. Coordination and technical support is provided for department personal computers and state mainframe computer activities.

(3) Licensing. All fishing, hunting, and boating licensing is handled as part of this program.

(4) Planning. The planning program is responsible for establishing goals, objectives, and strategies for the department. It is a cooperative effort with the other divisions and is coordinated by a game and fish planner.

b. Enforcement division. The law enforcement program enforces game and fish laws and rules and regulations necessary for proper management of fish and game resources. Enforcement officers called district game wardens have districts averaging approximately two thousand six hundred square miles [673396.92 hectares]. In addition to their enforcement activities, they must carry out education programs, and assist other divisions during busy periods of the year. One of their major non-enforcement activities concerns alleviation of wildlife depredations on farmers' crops and feed supplies.

c. Fisheries division. The fisheries division is divided into three programs - fish management, sport fisheries research, and lake/stream management.

(1) Fish production. Fish are provided for North Dakota waters through fish hatcheries and by trapping and moving fish from one area to another.

(2) Sport fish research. The program is responsible for all research and survey work connected with sport fishing. It gathers information about the status of lakes and fish populations and carries out management practices on lakes.

(3) Lake/stream management. The lake management program provides public use facilities, lake improvement systems, watershed development, lake and pond construction, and other developments on public fishing waters.

d. Conservation and communications division. This division has three major sections:

(1) Conservation section. Many state and federal agencies have programs that affect fish and wildlife habitat. The efforts of this section are directed toward compensation, alleviation of losses, or possibly enhancement of fish and wildlife by working with these agencies. Staff in this division also operate the department's nongame and endangered species programs.

(2) Communications section. The section is divided into four programs - public information resource specialists, department webmaster, North Dakota Outdoors magazine, and videography – production of department videos.

(3) Outreach section. This section includes hunter education, project wild, aquatic education, becoming an outdoor woman, boating education, and public information outreach staff located statewide.

e. Wildlife division. The wildlife division is divided into three programs - lands and development, game management, private land habitat programs.

(1) Lands and development. The lands and development program is responsible for all habitat development, and management and maintenance on wildlife management areas. The program involves tree plantings, herbaceous cover and food plantings, road construction, weed control, signing, water developments, and any other activity that might enhance these areas for wildlife, the hunter, and the outdoors person who enjoys hiking, photography, and nature study.

(2) Game management. Staff carry out population surveys that are used to determine annual hunting seasons on various species of game. Research is done with the objective of providing optimum hunting opportunities for the people of the state.

(3) Private land habitat program. A private land habitat improvement program is funded from moneys derived from the interest earned on the game and fish fund, habitat stamp sales, and game and fish operating funds. The program involves annual leasing and development of fish and wildlife habitat and hunting access on private land, entering into cost-sharing agreements with

landowners to help defray a portion of their share of conservation practices which benefit fish and wildlife. The program also carries out practices which will alleviate big game and predatory animal depredation.

3. Inquiries. General inquiries regarding the game and fish department may be addressed to the:

North Dakota Game and Fish Department 100 North Bismarck Expressway Bismarck, North Dakota

58501-5095

Specific inquiries about division functions may be addressed to the chief of the division involved.

4. Personnel roster. A roster of personnel with the department may be found in the monthly issue of North Dakota Outdoors or on the department's web page.

History: Amended effective February 1, 1982; September 1, 1983; December 1, 1985; January 1, 1992; March 1, 2002.

General Authority: NDCC 20.1-02-04 2

NORTH DAKOTA ADMINISTRATIVE CODE
TITLE 30. GAME AND FISH DEPARTMENT
ARTICLE 30-04. FISH AND WILDLIFE MANAGEMENT
CHAPTER 30-04-04. TRANSPLANTING OR INTRODUCTION OF FISH, FISH EGGS, GAME
BIRDS, OR GAME ANIMALS INTO NORTH DAKOTA
Current through Supplement 300 (June 1, 2004)

30-04-04-05. Bait transfer.

It shall be unlawful for any person to empty the contents of any minnow bucket or other receptacle containing bait into any of the public waters of the state.

General Authority: NDCC 20.1-02-05

NORTH DAKOTA ADMINISTRATIVE CODE
TITLE 30. GAME AND FISH DEPARTMENT
ARTICLE 30-04. FISH AND WILDLIFE MANAGEMENT
CHAPTER 30-04-04. TRANSPLANTING OR INTRODUCTION OF FISH, FISH EGGS, GAME
BIRDS, OR GAME ANIMALS INTO NORTH DAKOTA

Current through Supplement 300 (June 1, 2004)

30-04-04-04. Fish or fish eggs.

The introduction of fish or fish eggs into any state waters shall be illegal unless done with the written consent of the game and fish commissioner or the commissioner's duly designated bonded employee.

General Authority: NDCC 20.1-02-05

NORTH DAKOTA ADMINISTRATIVE CODE
TITLE 33. STATE DEPARTMENT OF HEALTH
ARTICLE 33-16. CONTROL, PREVENTION, AND ABATEMENT OF POLLUTION OF SURFACE
WATER
CHAPTER 33-16-02.1 STANDARDS OF QUALITY FOR WATERS OF THE STATE
Current through Supplement 295 (January 1, 2004)

33-16-02.1-04. Definitions.

The terms used in this chapter have the same meaning as in North Dakota Century Code chapter 6 1-28, except:

1. "Acute standard" means the one-hour average concentration does not exceed the listed concentration more than once every three years on the average.

2. "Best management practices" are methods, measures, or procedures selected by the department to control nonpoint source pollution. Best management practices include, but are not limited to, structural and nonstructural measures and operation and maintenance procedures.

3. "Chronic standard" means the four-day average concentration does not exceed the listed concentration more than once every three years on the average.

4. "Consecutive thirty-day average" is the average of samples taken during any consecutive thirty-day period. It is not a requirement for thirty consecutive daily samples.

5. "Department" means the North Dakota state department of health.

6. A standard defined as “dissolved” means the total quantity of a given material present in a filtered water sample, regardless of the form or nature of its occurrence.

7. “Pollution” means such contamination, or other alteration of the physical, chemical, or biological properties, of any waters of the state, including change in temperature, taste, color, turbidity, or odor. Pollution includes discharge of any liquid, gaseous, solid, radioactive, or other substance into any waters of the state that will or is likely to create a nuisance or render such waters harmful, detrimental, or injurious to public health, safety, or welfare; domestic, commercial, industrial, agricultural, recreational, or other legitimate beneficial uses; or livestock, wild animals, birds, fish, or other aquatic biota.

8. “Site-specific standards” mean water quality criteria developed to reflect local environmental conditions to protect the uses of a specific water body.

9. A standard defined as “total” means the entire quantity of a given material present in an unfiltered water sample regardless of the form or nature of its occurrence. This includes both dissolved and suspended forms of a substance, including the entire amount of the substance present as a constituent of the particulate material. Total recoverable is the quantity of a given material in an unfiltered aqueous sample following digestion by refluxing with hot dilute mineral acid.

10. “Water usage”. The best usage for the waters shall be those uses determined to be the most consistent with present and potential uses in accordance with the economic and social development of the area. Present principal best uses are those defined in subdivisions a, b, c, and d. These are not to be construed to be the only possible usages.

a. Municipal and domestic water. Waters suitable for use as a source of water supply for drinking and culinary purposes after treatment to a level approved by the department.

b. Recreation, fishing, and wildlife. Waters suitable for the propagation or support of fish and other aquatic biota, waters that will not adversely affect wildlife in the area, and waters suitable for boating and swimming. Natural high turbidities in some waters and physical characteristics of banks and streambeds of many streams are factors that limit their value for bathing. Low flows or natural physical and chemical conditions in some waters may limit their value for fish propagation or aquatic biota.

c. Agricultural uses. Waters suitable for irrigation, stock watering, and other agricultural uses, but not suitable for use as a source of domestic supply for the farm unless satisfactory treatment is provided.

d. Industrial water. Waters suitable for industrial purposes, including food processing, after treatment. Treatment may include that necessary for prevention of boiler scale and corrosion.

History: Effective June 1, 2001.

General Authority: NDCC 6 1-28-04, 61-28-05

NORTH DAKOTA ADMINISTRATIVE CODE
TITLE 33. STATE DEPARTMENT OF HEALTH
ARTICLE 33-16. CONTROL, PREVENTION, AND ABATEMENT OF POLLUTION OF SURFACE
WATER
CHAPTER 33-16-02.1 STANDARDS OF QUALITY FOR WATERS OF THE STATE
Current through Supplement 295 (January 1, 2004)

33-16-02.1-09. Surface water classifications, mixing zones, and numeric standards.

1. Classifications. Procedures for the classifications of streams and lakes of the state shall follow this subsection. Classifications of streams and lakes are listed in appendix I and appendix II, respectively.

a. Class I streams. The quality of the waters in this class shall be suitable for the propagation or protection, or both, of resident fish species and other aquatic biota and for swimming, boating, and other water recreation. The quality of the waters shall be suitable for irrigation, stock watering, and wildlife without injurious effects. After treatment consisting of coagulation, settling, filtration, and chlorination, or equivalent treatment processes, the water quality shall meet the bacteriological, physical, and chemical requirements of the department for municipal or domestic use.

b. Class IA streams. The quality of the waters in this class shall be the same as the quality of class I streams, except that treatment for municipal use may also require softening to meet the drinking water requirements of the department.

c. Class II streams. The quality of the waters in this class shall be the same as the quality of class I streams, except that additional treatment may be required to meet the drinking water requirements of the department. Streams in this classification may be intermittent in nature which would make these waters of limited value for beneficial uses such as municipal water, fish life, or irrigation.

d. Class III streams. The quality of the waters in this class shall be suitable for agricultural and industrial uses such as stock watering, irrigation, washing, and cooling. These streams have low average flows and, generally, prolonged periods of no flow. They are of limited seasonal value for immersion recreation, fish life, and aquatic

biota. The quality of these waters must be maintained to protect recreation, fish, and aquatic biota.

e. Wetlands. These water bodies are to be considered waters of the state and will be protected under section 33-16-02-08.

f. Lakes. The type of fishery a lake may be capable of supporting is based on the lake's geophysical characteristics. However, the capability of the lake to support a fishery may be affected by seasonal variations or other natural occurrences which may alter the lake characteristics.

Class Characteristics

1 Cold water fishery. Waters capable of supporting growth of salmonid fishes and associated aquatic biota.

2 Cool water fishery. Waters capable of supporting growth and propagation of nonsalmonid fishes and marginal growth of salmonid fishes and associated aquatic biota.

3 Warm water fishery. Waters capable of supporting growth and propagation of nonsalmonid fishes and associated aquatic biota.

4 Marginal fishery. Waters capable of supporting a fishery on a seasonal basis.

5 Not capable of supporting a fishery due to high salinity.

2. Mixing zones. North Dakota mixing zone and dilution policy is contained in appendix III.

3. Numeric standards.

a. Class I streams. Unless stated otherwise, maximum limits for class I streams are listed in table 1 and table 2.

b. Class IA streams. The physical and chemical criteria shall be those for class I, with the following exceptions:

Substance or Characteristic Maximum Limit

Chlorides (Total)
Sod ium
Sulfate (Total)

175 mg/l
60% of total cations as mEq/l
450 mg/l

c. Class II streams. The physical and chemical criteria shall be those for class IA, with the following exceptions:

Substance or Characteristic Maximum Limit
Chlorides (Total) 250 mg/l
pH 6.0-9.0

d. Class III streams. The physical and chemical criteria shall be those for class II, with the following exceptions:

Substance or Characteristic Maximum Limit
Sulfate (Total) 750 mg/l

e. Lakes.

(1) The beneficial uses and parameter limitations designated for class I streams shall apply to all classified lakes.

However, specific background studies and information may require that the department revise a standard for any specific parameter.

(2) In addition, these nutrient parameters are guidelines for use as goals in any lake improvement or maintenance program:

Parameter Limit

N03 as N .25 mg/i
P04 as P .02 mg/i

(3) The temperature standard for class I streams does not apply to Nelson Lake in Oliver County. The temperature of any discharge to Nelson Lake shall not have an adverse effect on fish, aquatic life, and wildlife, or Nelson Lake itself

History: Effective June 1, 200i.

General Authority: NDCC 6 1-28-04

Appendix C. **Federal Laws Addressing Aquatic Nuisance Species Relevant to North Dakota**

Department or Agency	Authority	Provisions	Organisms Addressed	Pathways or Means of Transport Addressed	Web Site
Dept. of Interior/FWS Dept. of Transportation/Coast Guard EPA Dept. of Defense/Army Corps of Engineers Dept. of DOC/NOAA	National Invasive Species Act (1996)	Reauthorized and amended NANPCA to mandate regulations to prevent introduction and spread of aquatic nuisance species into Great Lakes through ballast water. Authorized funding for research on aquatic nuisance species prevention and control (Chesapeake Bay, Gulf of Mexico, Pacific Coast, Atlantic Coast, San Francisco Bay-Delta Estuary) Required ballast water management program to demonstrate technologies and practices to prevent nonindigenous species from being introduced Modified composition of Aquatic Nuisance Species Task Force Required Task Force to develop and implement comprehensive program to control the brown tree snake in Guam	Aquatic nuisance species and brown tree snake	Unintentional introductions: ballast water	http://www.nemw.org/nisa.htm
Dept. of Interior/FWS Dept. of Transportation/Coast Guard EPA Dept. of Defense/Army Corps of Engineers Dept. of DOC/NOAA	Nonindigenous Aquatic Nuisance Prevention and Control Act (1990)	Established Aquatic Nuisance Species Task Force to: identify areas where ballast water does not pose an environmental threat; assess whether aquatic nuisance species threaten the ecological characteristics and economic uses of US waters (other than the Great Lakes); determine the need for controls on vessels entering U.S. waters (other than Great Lakes); identify and evaluate approaches for reducing risk of adverse consequences associated with intentional introduction of aquatic species. Directs Coast Guard to issue regulations to prevent the introduction and spread of aquatic nuisance species into the Great Lakes through ballast water. Directs Corps of Engineers to develop a program of research and technology to control zebra mussels in and around public facilities and make information available about control methods.	Aquatic nuisance species	Unintentional introductions: ballast water	http://www.anstaskforce.gov/toc.htm
	Alien Species Prevention and Enforcement Act (1992)	Makes the shipment of certain categories of plants and animals through U.S. mail illegal.	Plants and animals whose shipment is prohibited under 18 U.S.C. 42;43, or the Lacey Act Plants or plant matter whose shipment is prohibited under the Federal Plant Pest Act or Plant Protection Act	Intentional introductions: U.S. Mail	
Dept. of Agriculture/ APHIS	Plant Protection Act (2000)	Consolidates and modernizes several major statutes (Plant Quarantine Act, Federal Plant Pest Act, Federal Noxious Weed Act, Organic Act of 1944, and others), replacing them with one flexible statutory framework providing the	Plants and plant material Plant pests	Unintentional and intentional introduction	

Department or Agency	Authority	Provisions	Organisms Addressed	Pathways or Means of Transport Addressed	Web Site
		ability to prohibit or restrict imports, exports, and interstate movement; assess higher civil penalties; issue subpoenas; conduct inspections without a warrant; cooperate with industry and others in "quality assurance" programs; recover costs related to disposal of abandoned shipments; and take emergency action. By expanding the definition of "noxious weed" the Act enables APHIS to address a broader range of weed problems.	Noxious weeds Biological control agents		
Federal land management agencies	Federal Noxious Weed Act of 1974	Although the Plant Protection Act superseded and repealed most of the Federal Noxious Weed Act, it left intact Section 15 (management of undesirable plants on Federal lands). Requires Federal land management agencies to develop and establish a management program for control of undesirable plants on Federal lands under the agencies' jurisdiction. Requires those agencies to ANS-Crdinate management where similar programs are being implemented on State and private lands in the same area.	Noxious weeds Undesirable plant species	Control on Federal lands	http://refuges.fws.gov/FICMNEWFiles/FederalNoxiousWeedAct.html
Dept. of Agriculture/ APHIS	International Plant Protection Convention (1952)	Applies primarily to quarantine pests in international trade. Creates an international regime to prevent spread and introduction of plant and plant product pests premised on exchange of phytosanitary certificates between importing and exporting countries' national plant protection offices. Parties have national plant protection organizations established according to the Convention with authority in relation to quarantine control, risk analysis and other measures required to prevent the establishment and spread of all invasive alien species that, directly or indirectly, are pests of plants. Parties agree to cooperate on information exchange and on the development of International Standards for Phytosanitary Measures.	Pests of plants or plant products: "any form of plant or animal life, or any pathogenic agent, injurious or potentially injurious to plants or plant products" Quarantine pests involved with international trade: "pest of potential national economic importance to the country endangered thereby and not yet present there, or present but not widely distributed and being actively controlled"	"Storage places, conveyances, containers and any other object or material capable of harbouring or spreading plant pests, especially where international transportation is involved." Packing material or matter of any kind accompanying plant products Storage places Transportation facilities	http://www.fao.org/legal/treaties/004t-e.htm
Dept. of Interior	Lacey Act (1900; amended in 1998)	Prohibits import of a list of designated species and other vertebrates, mollusks, and crustacea that are "injurious to human beings, to the interests of agriculture, horticulture, forestry, or to wildlife or the wildlife resources of the United States" Declares importation or transportation of any live wildlife as injurious and prohibited, except as provided for under the Act	Species injurious to human beings or resources	Intentional introduction and trade	

Department or Agency	Authority	Provisions	Organisms Addressed	Pathways or Means of Transport Addressed	Web Site
		BUT Allows import of almost all species for scientific, medical, education, exhibition, or propagation purposes			
Dept. of Agriculture Dept. of Interior	Agreement on the Application of Sanitary and Phytosanitary Measures (SPS Agreement) (1995)	A supplementary agreement to the World Trade Organization Agreement. Provides a uniform interpretation of the measures governing safety and plant and animal health regulations. Applicable to all sanitary and Phytosanitary measures directly or indirectly affecting international trade. Sanitary and Phytosanitary measures are defined as any measure applied a) to protect animal or plant life or health within (a Members' Territory) from entry, establishment or spread of pests, diseases, disease carrying organisms; e) to prevent or limit other damage within the (Members Territory) from the entry, establishment or spread of pests (annex A).	Pests, diseases, disease-carrying organisms, or disease-causing organisms	Importation	http://www.wto.org/goods/spsagr.htm
Dept. of Agriculture/ APHIS	Act of March 2, 1931, often referred to as the Animal Damage Control Act	Gives APHIS authority to control wildlife damage on federal, state, or private land. Protects: field crops, vegetables, fruits, nuts, horticultural crops, commercial forests; freshwater aquaculture ponds and marine species cultivation areas; livestock on public and private range and in feedlots; public and private buildings and facilities; civilian and military aircraft; public health	Damaging species (nutria, blackbirds, European starlings, monk parakeets)	Unintentional introductions	
	North American Agreement on Environmental Cooperation (1994)	Article 10 (2)(h): the Council of the Commission on Environmental Co-operation may develop recommendations regarding exotic species which may be harmful	"Exotic" species: not specified further	Not specified	http://www.cec.org
EPA	Federal Insecticide, Fungicide, and Rodenticide Act	Gives EPA authority to regulate importation and distribution of substances, including organisms, that are intended to function as pesticides	Biological control agents (In terms of biological control agents, EPA currently regulates only eukaryotic and prokaryotic microorganisms under FIFRA. Other biocontrol agents are exempt because they are "adequately regulated" by another agency, I.E. USDA-APHIS)	Intentional introduction	http://www.epa.gov/pesticides/fifra.htm

Department or Agency	Authority	Provisions	Organisms Addressed	Pathways or Means of Transport Addressed	Web Site
Dept. of Agriculture/ APHIS and AMS	Federal Seed Act (1939)	Requires accurate labeling and purity standards for seeds in commerce. Prohibits importation and movement of adulterated or misbranded seeds	Seeds	Intentional introduction through trade	
All	Dept. of Interior	Requires federal government agencies to consider the environmental effects of their actions through preparation of environmental impact statements (or environmental assessments to determine whether a full EIS is required). Effects of non-native species, if harmful to the environment, must be included in the EIS	Non-native species posing harm to the environment	Intentional introductions related to major federal actions	http://es.epa.gov/oeca/ofa/nepa.html
	Convention on International Trade in Endangered Species (CITES) (1975)	Represents alternate model for regulating invasive species not already covered by the IPPC or other agreements. Convention intended to prevent harm in *exporting* country; however, can be applied when species is endangered in exporting country and considered an invasive in importing country.	Species of flora and fauna which are threatened or endangered in exporting countries (Appendices I, II and III- see web site)	Intentional introductions through trade: export, re-export, import and introduction from the sea	http://international.fws.gov/global/citestxt.html (For appendices, see: http://international.fws.gov/global/cites.html)
Dept. of Interior	Wild Bird Conservation Act (1992)	Regulates importation of foreign wild birds	Birds and non-native parasites and diseases transported by foreign birds	Importation	http://international.fws.gov/global/law102.html
Dept. of Interior/FWS Dept. of Commerce/ NMFS	Endangered Species Act	Protects endangered species When non-native invasive species threaten endangered species, this act could be used as basis for their eradication.	Non-native species posing a danger to local endangered species	Not specified	http://endangered.fws.gov/esa.html
All	Executive Order 13112 (Feb. 1999)	Defines invasive species (“any species, including its seeds, eggs, spores, or other biological material capable of propagating that species, that is not native to that ecosystem”) Directs all federal agencies to: -Address invasive species concerns; -Refrain from actions likely to increase invasive species problems. Creates interagency Invasive Species Council Calls for National Invasive Species Management Plan to better ANS-Crdinate federal agency efforts.	All	Unintentional and intentional introductions: escape, release	www. Invasivespecies.gov

Appendix D. **Executive Order 13112**

Executive Order 13112 of February 3, 1999
Invasive Species

By the authority vested in me as President by the Constitution and the laws of the United States of America, including the National Environmental Policy Act of 1969, as amended (42 U.S.C. 4321 et seq.), Nonindigenous Aquatic Nuisance Prevention and Control Act of 1990, as amended (16 U.S.C. 4701 et seq.), Lacey Act, as amended (18 U.S.C. 42), Federal Plant Pest Act (7 U.S.C. 150aa et seq.), Federal Noxious Weed Act of 1974, as amended (7 U.S.C. 2801 et seq.), Endangered Species Act of 1973, as amended (16 U.S.C. 1531 et seq.), and other pertinent statutes, to prevent the introduction of invasive species and provide for their control and to minimize the economic, ecological, and human health impacts that invasive species cause, it is ordered as follows:

Section 1. Definitions.

(a)"Alien species" means, with respect to a particular ecosystem, any species, including its seeds, eggs, spores, or other biological material capable of propagating that species, that is not native to that ecosystem.

(b) "Control" means, as appropriate, eradicating, suppressing, reducing, or managing invasive species populations, preventing spread of invasive species from areas where they are present, and taking steps such as restoration of native species and habitats to reduce the effects of invasive species and to prevent further invasions. "

(a) "Ecosystem" means the complex of a community of organisms and its environment.

(b) (d) "Federal agency" means an executive department or agency, but does not include independent establishments as defined by 5 U.S.C. 104. (e) "Introduction" means the intentional or unintentional escape, release, dissemination, or placement of a species into an ecosystem as a result of human activity.

(f) "Invasive species" means an alien species whose introduction does or is likely to cause economic or environmental harm or harm to human health.

(g) "Native species" means, with respect to a particular ecosystem, a species that, other than as a result of an introduction, historically occurred or currently occurs in that ecosystem.

(h) "Species" means a group of organisms all of which have a high degree of physical and genetic similarity, generally interbreed only among themselves, and show persistent differences from members of allied groups of organisms.

(i) "Stakeholders" means, but is not limited to, State, tribal, and local government agencies, academic institutions, the scientific community, nongovernmental entities including environmental, agricultural, and conservation organizations, trade groups, commercial interests, and private landowners.

(j) "United States" means the 50 States, the District of Columbia, Puerto Rico, Guam, and all possessions, territories, and the territorial sea of the United States.

Sec. 2. Federal Agency Duties. (a) Each Federal agency whose actions may affect the status of invasive species shall, to the extent practicable and permitted by law.

1) identify such actions;

2) subject to the availability of appropriations, and within Administration budgetary limits, use relevant programs and authorities to: (i) prevent the introduction of invasive species; (ii) detect and respond rapidly to and control populations of such species in a cost-effective and environmentally sound manner; (iii) monitor invasive species populations accurately and reliably; (iv) provide for restoration of native species and habitat conditions in ecosystems that have been invaded; (v) conduct research on invasive species and develop technologies to prevent introduction and provide for environmentally sound control of invasive species; and (vi) promote public education on invasive species and the means to address them; and
3) not authorize, fund, or carry out actions that it believes are likely to cause or promote the introduction or spread of invasive species in the United States or elsewhere unless, pursuant to guidelines that it has prescribed, the agency has determined and made public its determination that the benefits of such actions clearly outweigh the potential harm caused by invasive species; and that all feasible and prudent measures to minimize risk of harm will be taken in conjunction with the actions.
(b) Federal agencies shall pursue the duties set forth in this section in consultation with the Invasive Species Council, consistent with the Invasive Species Management Plan and in cooperation with stakeholders, as appropriate, and, as approved by the Department of State, when Federal agencies are working with international organizations and foreign nations.
Sec. 3. Invasive Species Council. (a) An Invasive Species Council (Council) is hereby established whose members shall include the Secretary of State, the Secretary of the Treasury, the Secretary of Defense, the Secretary of the Interior, the Secretary of Agriculture, the Secretary of Commerce, the Secretary of Transportation, and the Administrator of the Environmental Protection Agency. The Council shall be Co-Chaired by the Secretary of the Interior, the Secretary of Agriculture, and the Secretary of Commerce. The Council may invite additional Federal agency representatives to be members, including representatives from subcabinet bureaus or offices with significant responsibilities concerning invasive species, and may prescribe special procedures for their participation. The Secretary of the Interior shall, with concurrence of the Co-Chairs, appoint an Executive Director of the Council and shall provide the staff and administrative support for the Council.
(b) The Secretary of the Interior shall establish an advisory committee under the Federal Advisory Committee Act, 5 U.S.C. App., to provide information and advice for consideration by the Council, and shall, after consultation with other members of the Council, appoint members of the advisory committee representing stakeholders. Among other things, the advisory committee shall recommend plans and actions at local, tribal, State, regional, and ecosystem-based levels to achieve the goals and objectives of the Management Plan in section 5 of this order. The advisory committee shall act in cooperation with stakeholders and existing organizations addressing invasive species. The Department of the Interior shall provide the administrative and financial support for the advisory committee.
Sec. 4. Duties of the Invasive Species Council. The Invasive Species Council shall provide national leadership regarding invasive species, and shall:
(a) oversee the implementation of this order and see that the Federal agency activities concerning

invasive species are ANS-Crdinated, complementary, cost-efficient, and effective, relying to the extent feasible and appropriate on existing organizations addressing invasive species, such as the Aquatic Nuisance Species Task Force, the Federal Interagency Committee for the Management of Noxious and Exotic Weeds, and the Committee on Environment and Natural Resources;

(b) encourage planning and action at local, tribal, State, regional, and ecosystem-based levels to achieve the goals and objectives of the Management Plan in section 5 of this order, in cooperation with stakeholders and existing organizations addressing invasive species;

(c) develop recommendations for international cooperation in addressing invasive species; develop, in consultation with the Council on Environmental Quality, guidance to Federal agencies pursuant to the National Environmental Policy Act on prevention and control of invasive species, including the procurement, use, and maintenance of native species as they affect invasive species;

(d) facilitate development of a ANS-Crdinated network among Federal agencies to document, evaluate, and monitor impacts from invasive species on the economy, the environment, and human health;

(e) facilitate establishment of a ANS-Crdinated, up-to-date information-sharing system that utilizes, to the greatest extent practicable, the Internet; this system shall facilitate access to and exchange of information concerning invasive species, including, but not limited to, information on distribution and abundance of invasive species; life histories of such species and invasive characteristics; economic, environmental, and human health impacts; management techniques, and laws and programs for management, research, and public education; and

(f) prepare and issue a national Invasive Species Management Plan asset forth in section 5 of this order.

Sec. 5. Invasive Species Management Plan. (a) Within 18 months after issuance of this order, the Council shall prepare and issue the first edition of a National Invasive Species Management Plan (Management Plan), which shall detail and recommend performance-oriented goals and objectives and specific measures of success for Federal agency efforts concerning invasive species. The Management Plan shall recommend specific objectives and measures for carrying out each of the Federal agency duties established in section 2

(a) of this order and shall set forth steps to be taken by the Council to carry out the duties assigned to it under section 4 of this order. The Management Plan shall be developed through a public process and in consultation with Federal agencies and stakeholders.

(b) The first edition of the Management Plan shall include a review of existing and prospective approaches and authorities for preventing the introduction and spread of invasive species, including those for identifying pathways by which invasive species are introduced and for minimizing the risk of introductions via those pathways, and shall identify research needs and recommend measures to minimize the risk that

introductions will occur. Such recommended measures shall provide for a science-based process to evaluate risks associated with introduction and spread of invasive species and a ANS-Crdinated and systematic risk-based process to identify, monitor, and interdict pathways that may be involved in the introduction of invasive species. If recommended measures are not authorized by current law, the Council shall develop and recommend to the President through its Co-Chairs legislative proposals for necessary changes in authority.

(c) The Council shall update the Management Plan biennially and shall concurrently evaluate and report on success in achieving the goals and objectives set forth in the Management Plan. The Management Plan shall identify the personnel, other resources, and additional levels of ANS-Crdination needed to achieve the Management Plan's identified goals and objectives, and the Council shall provide each edition of the Management Plan and each report on it to the Office of Management and Budget. Within 18 months after measures have been recommended by the Council in any edition of the Management Plan, each Federal agency whose action is required to implement such measures shall either take the action recommended or shall provide the Council with an explanation of why the action is not feasible. The Council shall assess the effectiveness of this order no less than once each 5 years after the order is issued and shall report to the Office of Management and Budget on whether the order should be revised.

Sec. 6. Judicial Review and Administration. (a) This order is intended only to improve the internal management of the executive branch and is not intended to create any right, benefit, or trust responsibility, substantive or procedural, enforceable at law or equity by a party against the United States, its agencies, its officers, or any other person.

(b) Executive Order 11987 of May 24, 1977, is hereby revoked.

(c) The requirements of this order do not affect the obligations of Federal agencies under 16 U.S.C. 4713 with respect to ballast water programs.

(d) The requirements of section 2(a)(3) of this order shall not apply to any action of the Department of State or Department of Defense if the Secretary of State or the Secretary of Defense finds that exemption from such requirements is necessary for foreign policy or national security reasons.

WILLIAM J. CLINTON

THE WHITE HOUSE,

February 3, 1999.

Appendix E: **Budget Matrix for North Dakota's Aquatic Nuisance Species Management Plan**

Funding for staffing of ANS education and prevention activities.

			ANS-SP and IASC Funding Needs									
			Year 1		Year 2		Year 3		Year 4		Year 5	
Agency or Entity	Staffing or payment type	Description	Man-yr	Salary	Man-yr	salary	Man-yr	salary	Man-yr	salary	Man-yr	salary
Game and Fish Department	ANS-SP	ANS activities	0.9	$33,750	0.9	$33,750	0.9	$33,750	0.9	$33,750	0.9	$33,750
	Field Staff	monitoring	0.2	$8,000	0.2	$8,000	0.2	$8,000	0.2	$8,000	0.2	$8,000
	Clerical	mailing	0.01	$550	0.01	$550	0.01	$550	0.01	$550	0.01	$550
	Wardens	inspecting boats	0.2	$8,000	0.2	$8,000	0.2	$8,000	0.2	$8,000	0.2	$8,000
State Water Commission	MOU for expenses	meetings, mailings, review permits	0.05	$1,750	0.05	$1,750	0.05	$1,750	0.05	$1,750	0.05	$1,750
Department of Health	MOU for expenses	meetings, mailings, review permits	0.05	$1,750	0.05	$1,750	0.05	$1,750	0.05	$1,750	0.05	$1,750
Department of Agriculture	MOU for expenses	meetings, mailings, review permits	0.075	$2,650	0.075	$2,650	0.075	$2,650	0.075	$2,650	0.075	$2,650
Parks & Recreation Department	MOU for expenses	meetings, mailings, review permits	0.075	$2,650	0.075	$2,650	0.075	$2,650	0.075	$2,650	0.075	$2,650
Department of Tourism	MOU for expenses	meetings, mailings, review permits	0.01	$350	0.01	$350	0.01	$350	0.01	$350	0.01	$350
Department of Transportation	MOU for expenses	meetings, mailings, review permits	0.01	$350	0.01	$350	0.01	$350	0.01	$350	0.01	$350
NRCS and SCDs	MOU for expenses	meetings, mailings, review permits	0.01	$350	0.01	$350	0.01	$350	0.01	$350	0.01	$350
Wildlife Clubs												
Fishing Clubs												
Guides and Outfitters												
League of Cities												
ND Water Users												
Tribal												
		TOTAL	***1.59***	***$60,150***	***1.59***	***$60,150***	***1.59***	***$60,150***	***1.59***	***$60,150***	***1.59***	***$60,150***

Budget for training and education of field staff, law enforcement and volunteers.

			Education of Field staff, law enforcement									
			Year 1		Year 2		Year 3		Year 4		Year 5	
	Agencies and Entities	Description	Man-yr	Salary	Man-yr	Salary	Man-yr	salary	Man-yr	salary	Man-yr	salary
Funded by ANS-SP and ANS program	North Dakota Game and Fish Department	Training of field staff, and wardens	0.01	$2,750	0.01	$1,750	0.01	$1,750	0.01	$1,750	0.01	$1,750
	State Water Commission	Training of staff	>0.01		>0.01		>0.01		>0.01		>0.01	
	Department of Health	Training of staff	>0.01		>0.01		>0.01		>0.01		>0.01	
	Department of Agriculture	Train of law enforcement and field staff	>0.01		>0.01		>0.01		>0.01		>0.01	
	Parks & Recreation Department		>0.01		>0.01		>0.01		>0.01		>0.01	
	Department of Tourism		>0.01		>0.01		>0.01		>0.01		>0.01	
	Department of Transportation		>0.01		>0.01		>0.01		>0.01		>0.01	
	NRSC and SCDs	Training of staff	>0.01		>0.01		>0.01		>0.01		>0.01	
	Wildlife Clubs	Train volunteers	>0.01		>0.01		>0.01		>0.01		>0.01	
	Fishing Clubs	Train volunteers	>0.01		>0.01		>0.01		>0.01		>0.01	
	Guides and Outfitters	Train volunteers	>0.01		>0.01		>0.01		>0.01		>0.01	
	League of Cities	Train volunteers	>0.01		>0.01		>0.01		>0.01		>0.01	
	ND Water Users	Train volunteers	>0.01		>0.01		>0.01		>0.01		>0.01	
	Tribal	Train of law enforcement and field staff	>0.01		>0.01		>0.01		>0.01		>0.01	
		TOTAL		***$2,750***		***$1,750***		***$1,750***		***$1,750***		***$1,750***

Budget for educational materials for field staff and enforcement.

	Educational Materials					
	Description	Year 1	Year 2	Year 3	Year 4	Year 5
Funded by ANS-SP and ANS program	field guides to ANS; provide to staff and enforcement officers	$2,500	$500		$500	
	brochures which will be provided to agencies, entities, and the public	$2,000				$5,000
	booklet defining ANS problems, state laws, responsibility of agencies and entities	$1,500				

Budget for local and regional educational campaign using mass media.

	Mass Media					
	Description	Year 1	Year 2	Year 3	Year 4	Year 5
Funded by ANS-SP and ANS program	TV and radio spots, half page articles in newspapers and monthly periodicals	$12,500	$12,500	$12,500	$12,500	$12,500

Budget for promotional items.

	Promotional items					
	Description	Year 1	Year 2	Year 3	Year 4	Year 5
Funded by ANS-SP and ANS program	Items (beverage wraps, mugs, pens, stickers, etc)	$5,000	$5,000	$1,000	$500	$1,500

Budget to collect information from anglers on effects of educational campaign and attitudes.

	Data Collection					
	Description	Year 1	Year 2	Year 3	Year 4	Year 5
Funded by ANS-SP and ANS program	Questions in angler interviews	$750	$750	$750	$750	$750

Budget for signs at boat ramps, bait stores, and marine dealers.

	Signs					
	Description	Year 1	Year 2	Year 3	Year 4	Year 5
Funded by ANS-SP and ANS program	for bait dealers	$250	$250	$250	$250	$250
	signs at marina	$750			$750	$750
	boat dealers	$750			$750	
	Meet Parks and Recreation Department guidelines	$500			$500	

Budget for research as directed by the ANS-SP and IASC.

	Contracts					
	Description	Year 1	Year 2	Year 3	Year 4	Year 5
Funded by ANS-SP and ANS program	Consultant - boater interviews at waterbodies, research avenues of introduction, determine compliance with ANS prevention protocols, sample for veligar in selected waterbodies; summer staff to conduct field surveys, post signs, and conduct interviews	$7,500	$17,500	$17,500	$20,000	$5,000

Budget for monitoring selected waterbodies for adult zebra mussels.

	Adult Zebra Mussel Sampling					
	Description	Year 1	Year 2	Year 3	Year 4	Year 5
Funded by ANS-SP and ANS program	ZM traps, other equipment	$500	$1,000	$1,000	$250	$250

Budget for efforts to provide information to the public and private sector by use of outside entities.

	Agency or Entity	Grants					
		Description	Year 1	Year 2	Year 3	Year 4	Year 5
Funded by ANS-SP and ANS program	Tourism	ANS prevention information in publications	$1,000	$1,000	$1,000	$1,000	$1,000
	Wildlife Clubs	serve as liaison to outdoor interests	$1,000	$1,000	$1,000	$1,000	$1,000
	Fishing Clubs	serve as liaison to outdoor interests	$1,000	$1,000	$1,000	$1,000	$1,000
	Guides and Outfitters	serve as liaison to outdoor interests	$1,000	$1,000	$1,000	$1,000	$1,000
	ND Water Users	serve as liaison to water interest	$1,000	$1,000	$1,000	$1,000	$1,000
	Tribal	serve as liaison to outdoor interests	$1,000	$1,000	$1,000	$1,000	$1,000

Budget for ANS-SP for meeting and conferences on ANS issues and education.

	Attend meetings and conferences					
	Description	Year 1	Year 2	Year 3	Year 4	Year 5
Funded by ANS-SP and ANS program	100th Meridian, WRP, MICRA, WRP, etc	$7,500	$7,500	$7,500	$7,500	$7,500

Appendix F. **Invasive Aquatic Nuisance Species Issues for the North Dakota Legislature**

North Dakota Legislation Issues

The following is a listing of areas that legislation will need to be developed to protect North Dakota's economic and recreational opportunities from ANS:

- Develop North Dakota's list of ANS. The list will be determined by the Aquatic Invasive Species Committee (AISC), and adopted by the North Dakota Game and Fish Department after consultation with other (but consensus is not required to list a species as problem), the list will be regularly reviewed and species added or dropped
- Provide for agencies/entities that have a relationship/responsibility/protection of the State's aquatic resources be tasked with:
    - organize and recognize the AISC as a legislatively authorized advisory board with limited authorities
    - list those aquatic species, plants, animals, and pathogens, that cannot be brought into or moved within North Dakota
    - authorities/powers of agencies and entities responsibility for the best management of North Dakota's resources be expanded to include ANS prevention efforts
    - regulation be provided and expanded where and as needed to prevent ANS movement
    - authority to collect monies or grants to provide for funds for operation of the AISC and conduct ANS education/prevention
    - provide for the partnership of state agencies, state agencies and federal government, private or public organizations to fund ANS prevention efforts
- Provide the agencies authorities/responsibilities/mandated efforts :
    - North Dakota Game and Fish Department to provide for regulations on ANS prevention on the importation in baits, live fish for rearing, stocking, or sale which included the pet trade, transported into or within the state on or in boats, trailers, equipment or vehicles, associated inspections and enforcement of regulations, to apply for those funds held available as grants from state, federal or private sources and to spend such monies on ANS activities
    - Dept of Health to consider including REPPs in permits for water projects of all sorts to prevent the importation or transfer of ANS into or within the state
    - State Water Commission to consider including REPPs in permits for water projects of all sorts to prevent the importation or transfer of ANS into or within the state
    - Dept of Ag to provide for regulations/information on the importation, propagation, and growing of plant in the state or those brought into the state to those engaged in such activities, inspection such plant nurseries, garden centers, or facilities/premises for ANS on a

reasonable bases, enforce such regulations as adopted to prevent ANS
    - USDA or appropriate local government entity involved with food handling and preparation will have responsibility inspection of live animals or plants used in the food industry to assure that they are not ANS or will pose a problem to natural resources if they are allowed to escape
    - Natural Resource Conservation Service/Natural Resource Boards/Water Resource Boards shall participate in ANS prevention as part of their activities, cause those landowners to participate in ANS prevention/control efforts, assist in funding AISC activities, provide for the power to rapidly respond to ANS infestations and take needed/necessary efforts to control or eliminate such problems as are identified to them by the AISC; powers to close waterbodies to use while ANS is being eradicated or control efforts required to use a waterbody
    - Parks and Recreation shall include ANS educational/prevention materials in their published literature and place signs or other devices where and as needed; enforce ANS regulations on the movement of ANS into or within the state
    - Tourism shall include ANS educational/prevention material in literature published
    - mandate that law enforcement professionals and DOT representative include ANS inspection on vehicles as prudent and as suspect to/of need
    - provide for a system of fines/legal forfeitures of such ANS regulations as to make Class B misdemeanor
    - agencies/entities which receive public funds shall include ANS educational/prevention literature

- ANS cannot be imported or transported into or within the state; a civil penalty for violation of such regulations is needed; develop a system of fines/legal actions that are commensurate with the problem – Class B misdemeanor
- provide for the authority to enforce ANS legislation to appropriate agencies with a mandate to enforce such regulations which includes the impounding of vehicles or vessels with ANS, and provide for monies/manpower to do such and mandate that such enforcement be done
- Develop a standing committee to deal with ANS prevention, education, and outreach similar to the Invasive Aquatic Species Committee
- Any boat could be inspected by appropriate authorities before being allowed to be launched into ND waters or transported into or within North Dakota
- Fish, including live baitfish, aquarium pet trade, aquiculture, and similar venues, entering the state would be accompanied by certification of ANS

free from the state they were produced in and brought from, the certification can come from an independent laboratory, a fine compensatory with the problem will be established

- Plants, included those sold in plant nurseries, garden supply centers, home improvement stores, and similar venues, plants would be certified as not being ANS from the supplier, state/county of origin, or by an independent laboratory, a fine compensatory with the problem will be established
- Provide for the Rapid Response Plan's authority to quarantine or require ANS prevention protocols from waterbodies with ANS infestations
- Provide for regulations to prevent the sale of live fish or aquatic creatures in the food market, but allow for the display of live fish or aquatic creatures
- Authority to detain, impound, or hold boats, recreational equipment, industrial equipment, and associated trailers or other equipment that require cleaning and disinfection for ANS and to bill those individuals for agencies time and effort to do that work if not done by owner/operator.

This legislation gives the North Dakota Game and Fish Department and other state agencies the authority to properly prevent the importation and establishment of ANS in North Dakota waters. The AISC will foster cooperation between existing agencies and their programs dealing with aquatic nuisance species, fill the gaps between the programs, and to provide funding for ANS activities.

Appendix G: **Agencies, Public and Private Groups, and Individuals (the representative) on the Aquatic Invasive Species Committee**

Aquatic Invasive Species Committee

Named entities and individuals

North Dakota Department of Health
(Mike Sauer, appointed representative)
600 East Boulevard, 2nd Floor-Judicial Wing
Bismarck ND 58505-0200

North Dakota Department of Parks and Recreation
(Kathy Duttenhefner, appointed representative)
1600 East Century Avenue, Suite 3
Bismarck, ND 58503

North Dakota Game and Fish Department
(Lynn R Schlueter, ANS-Coordinator/designated representative)
100 North Bismarck Expressway
Bismarck, ND 58501

Fishing Clubs and Conservation Groups
(Duane Ash/President, volunteer)
ND Sportfishing Congress
PO Box 365
Devils Lake, ND 58301-0708

North Dakota Tourism and Commerce Department
(Mark Zimmerman, appointed representative)
Outdoors Promotion
North Dakota Tourism
1600 East Century Avenues, Suite 2
Bismarck, ND 58501

North Dakota State Water Commission
(Mike Noone, appointed representative)
900 East Boulevard-State Office Building
Bismarck, ND 58505-0187

North Dakota Department of Agriculture
(Rachel Seifert-Spilde, appointed representative)
600 East Boulevard Avenue
Dept. 602
Bismarck, ND 58505

North Dakota Water Users Organization
(Jason Debouds, appointed)
1605 East Capitol Ave
Halkirk Offices
Bismarck, ND 58505-0187

Wildlife Clubs and Conservation Groups
(John Kopp, President, volunteer)
North Dakota Wildlife Federation
2911 116 R Ave SE
Valley City, ND 58072

Tribal Interests
(Daniel Lonhes, appointed representative)
Marina Director
Spirit Lake Casino and Marina
7889 Highway 57
St Michael, ND 58370

North Dakota Guides and Outfitter Association
(Kyle Blanchfield/Association President, volunteer)
President of
1012 Woodland Drive
Devils Lake ND 58301

Invasive Aquatic Species Committee, standing or associated representatives

Named entities and individuals

United States Department of Agriculture
(Dave Dewald, volunteer)
NRCS, Box 1458
Bismarck, ND 58502

North Dakota League of Cities
(Connie Sprynczynatyk/Director, volunteer)
410 East Front Ave.
Bismarck, ND 58504

North Dakota Department of Commerce
(Lee Peterson)
1600 E. Century Ave, Suite 2
P O Box 2057
Bismarck, ND 58502

North Dakota Water Boards Association
(Ben Varnson, President)
4877 112th Ave NE
Lakota, ND 58344-9481

Garrison Conservative Unit
(Kip Kovar, volunteer)
PO Box 140
Carrington, ND 58421

Eastern Grand Forks County Soil Conservation District
(Nedra Holberg, volunteer)
2397 Demers Avenue
Grand Forks, ND 58201

Contributing agencies or entities, cities, and universities

US Fish and Wildlife Services

US Army Corps of Engineers

Bureau of Reclamation

Cities of
Fargo
Bismarck
Grand Forks
Minot
Dickinson
Devils Lake

Valley City State University

University of North Dakota

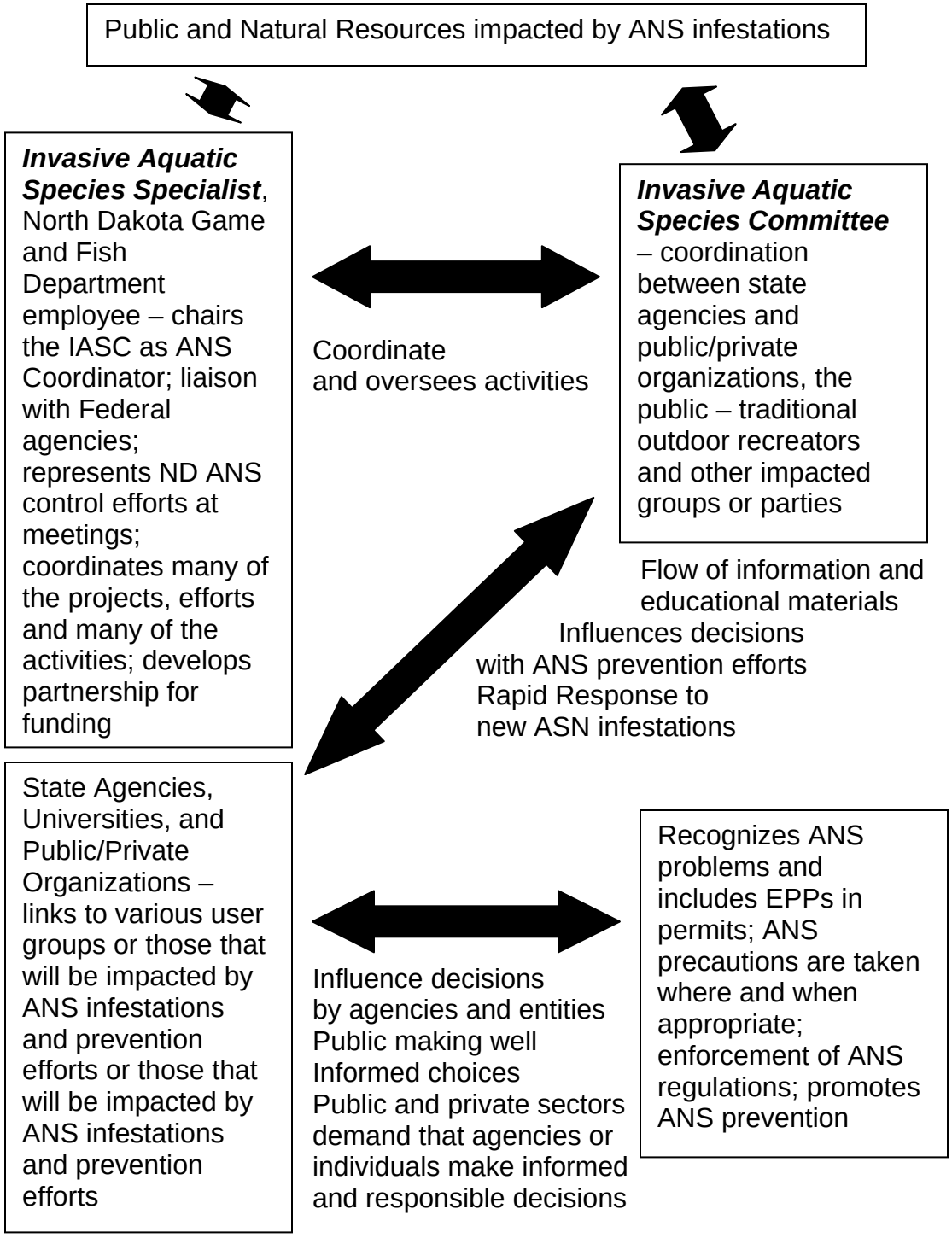
North Dakota State University

Minot State University, Bottineau Campus

Appendix H: **Summary Flow chart for Aquatic Invasive Species Committee and various agencies and entities, public and private.**

North Dakota's Aquatic Invasive Species Committee
Flow Diagram for Visualization Purposes

Educated public and private sector, an educated water user will be aware of the need for ANS precautions, North Dakotans will require that ANS precautions be implemented

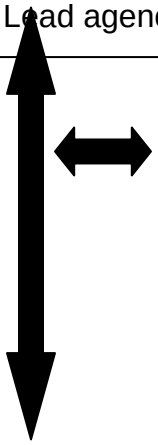


Appendix I: **Detailed Flow chart for Aquatic Invasive Species Committee and various agencies and entities, public and private.**

North Dakota Statewide Aquatic Nuisance Species Management Plan

North Dakota Game and Fish Department
Lead agency for ND-Plan efforts

Fish and Wildlife Service ANS–Task Force will be providing funds



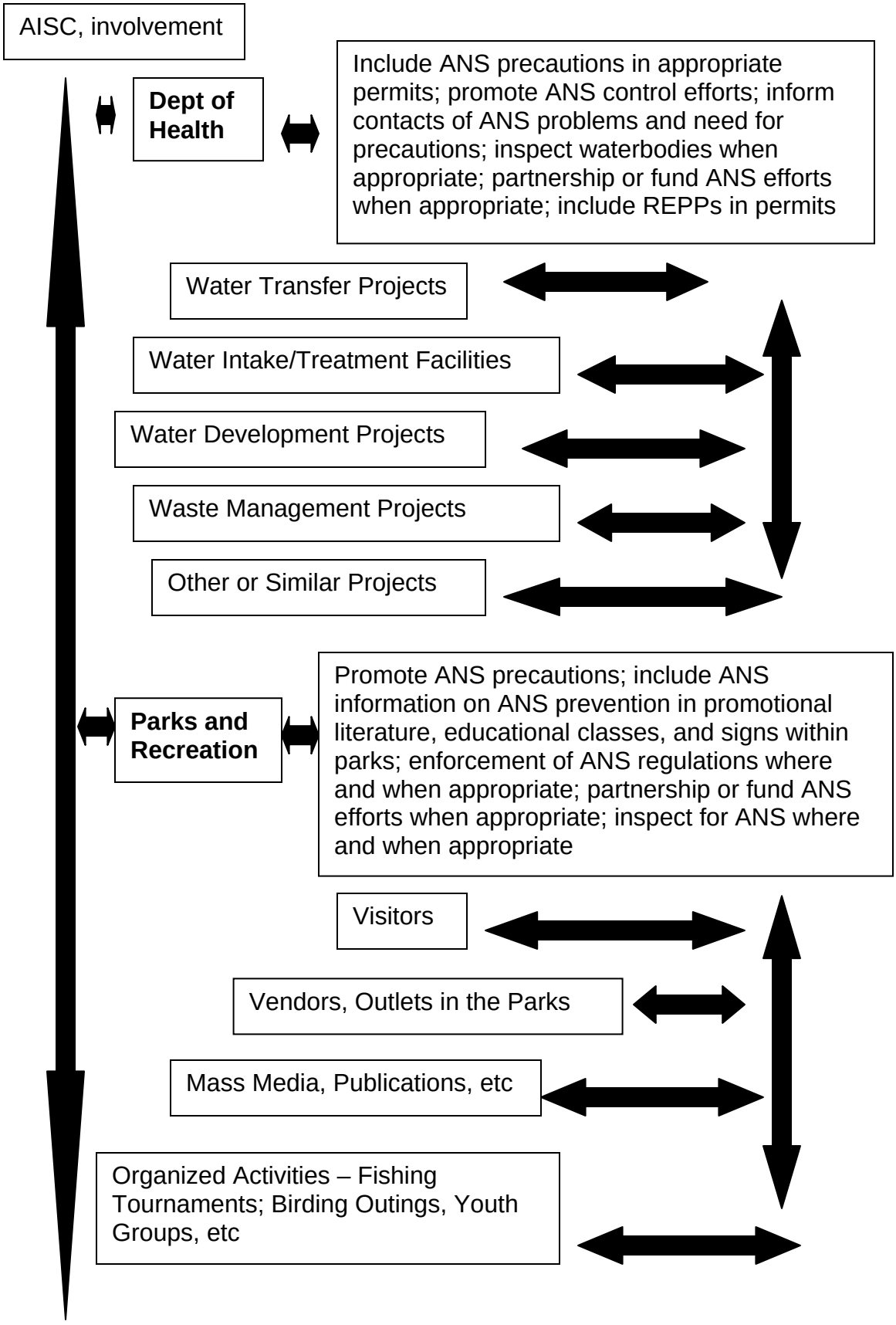
ANS Coordinator, NDGF appointed - the liaison between the various entities (federal entities, state, private, and public) for ANS prevention, education, and control or eradication. Directs the projects and makes recommendation to groups (federal, state, local, private, and private) for ANS education, prevention or eradication. Seek and secure additional funding; alternative sources of funding; use of nontraditional funding sources; partnership between state agencies and federal sources

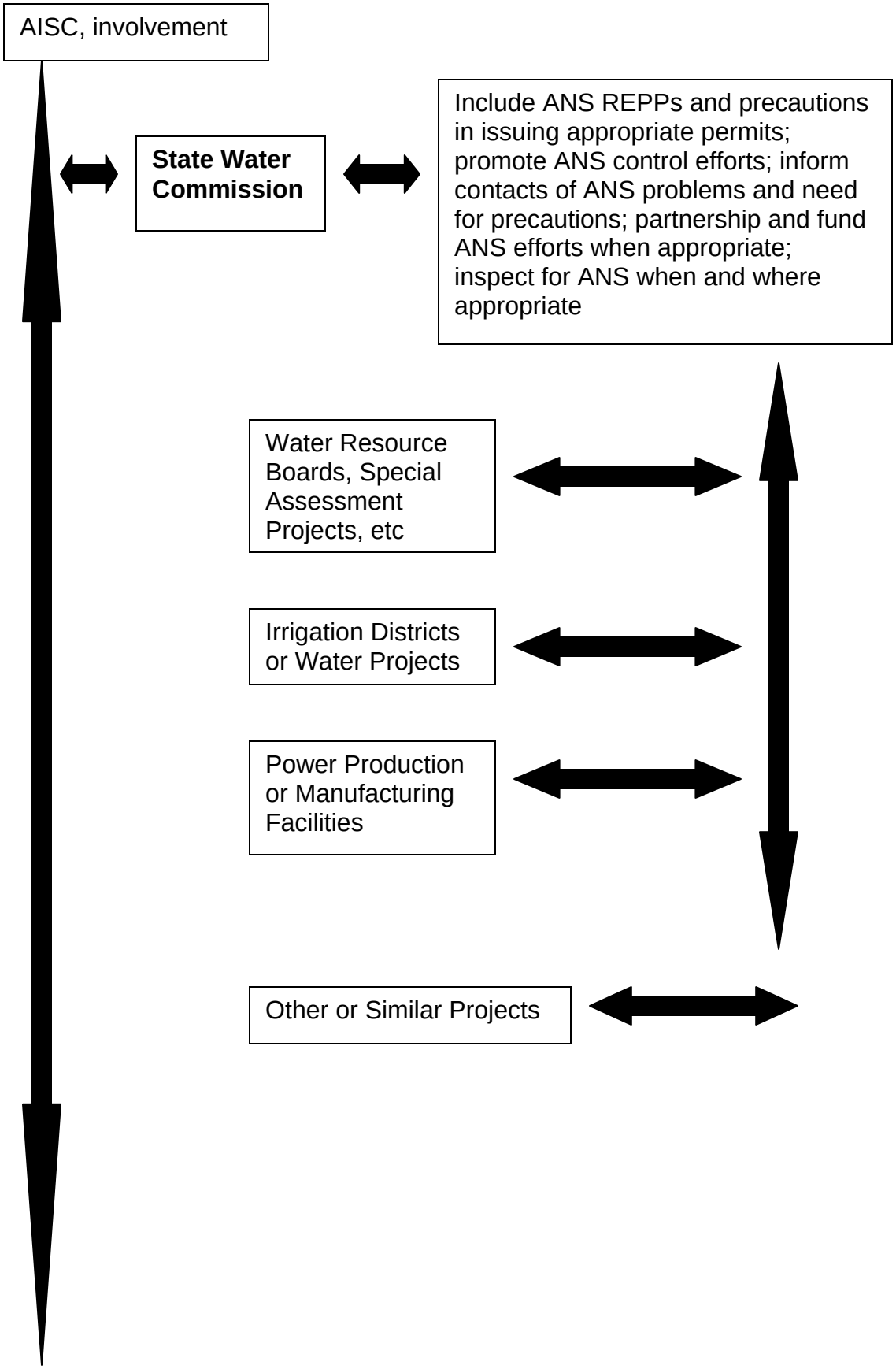
Aquatic Invasive Species Committee (AISC)

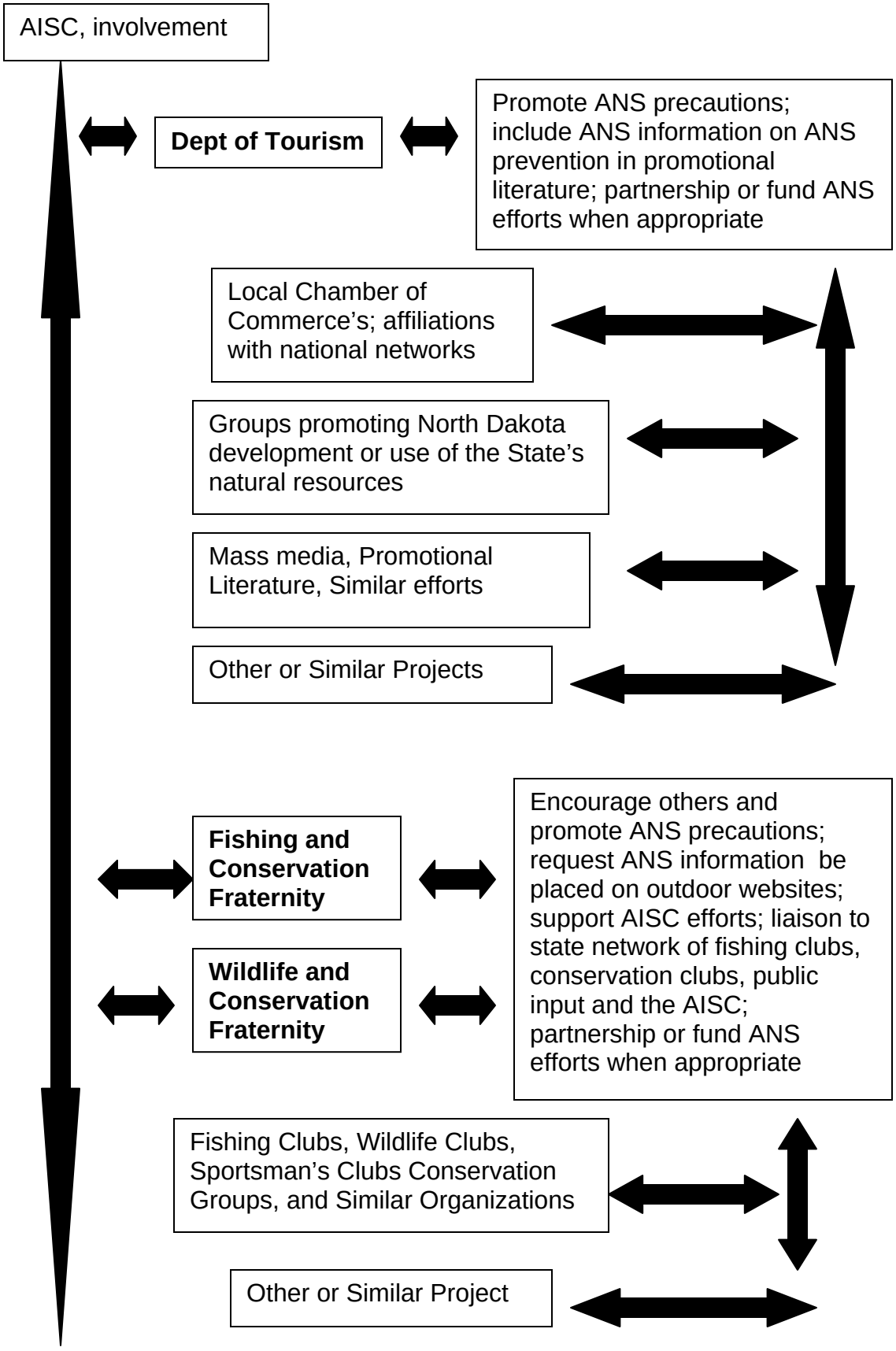
- Development of a North Dakota list of Aquatic Invasive Nuisance Species
- Education and Information, and Public/Private/Commercial Outreach efforts
- Facilitate in monitoring of waterbodies for ANS infestations
- Fund and coordinate monitoring avenues of ANS spread, into or within the state
- Early Detection and Rapid Response to Control or Eradicate Problem Species
- Prevention of Introductions and draft Administrative Code which includes provision for appropriate enforcement of laws and regulations now existing

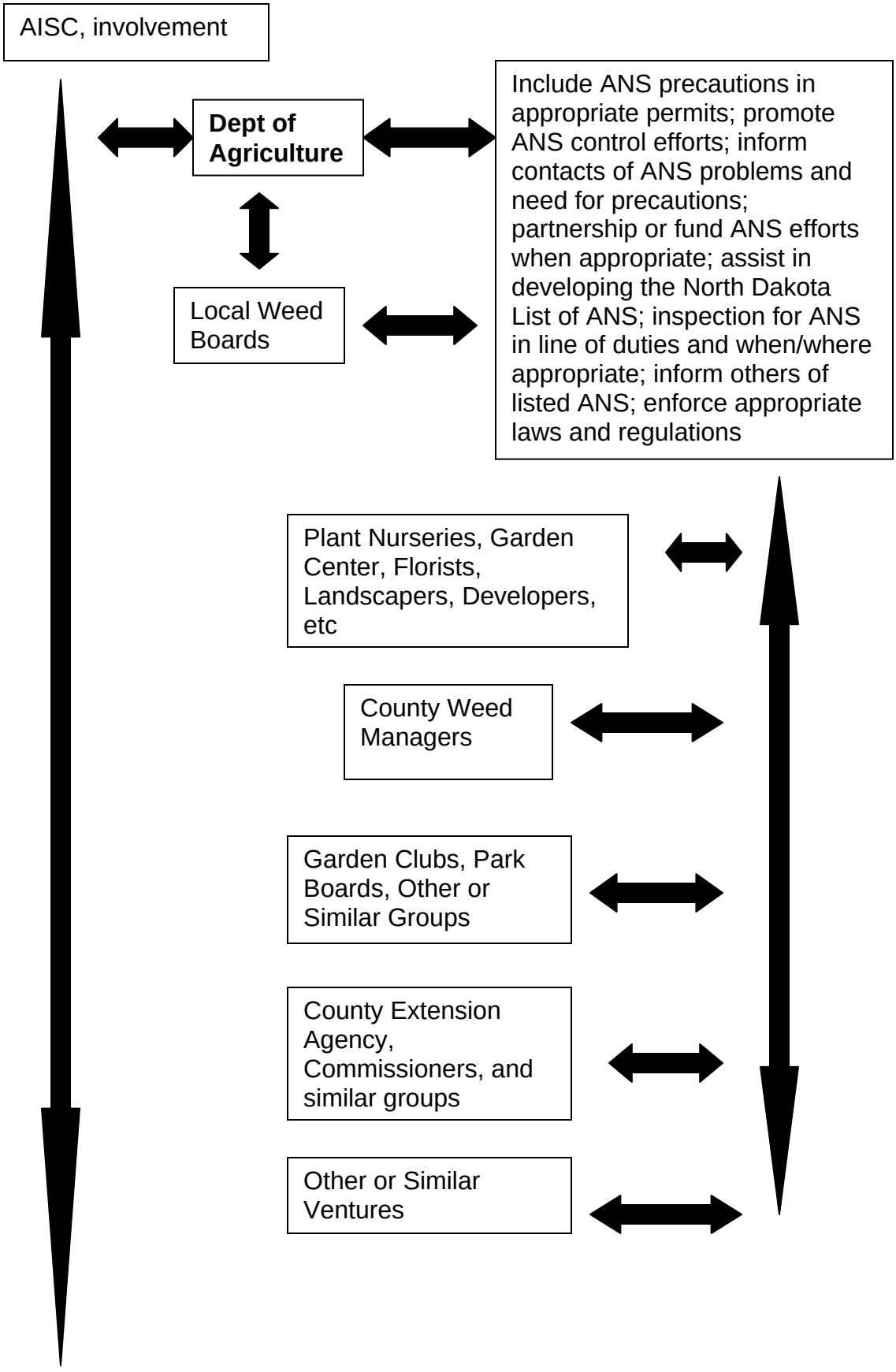
Function as an advisory board for making informed decisions by state, local, public and and private organizations.

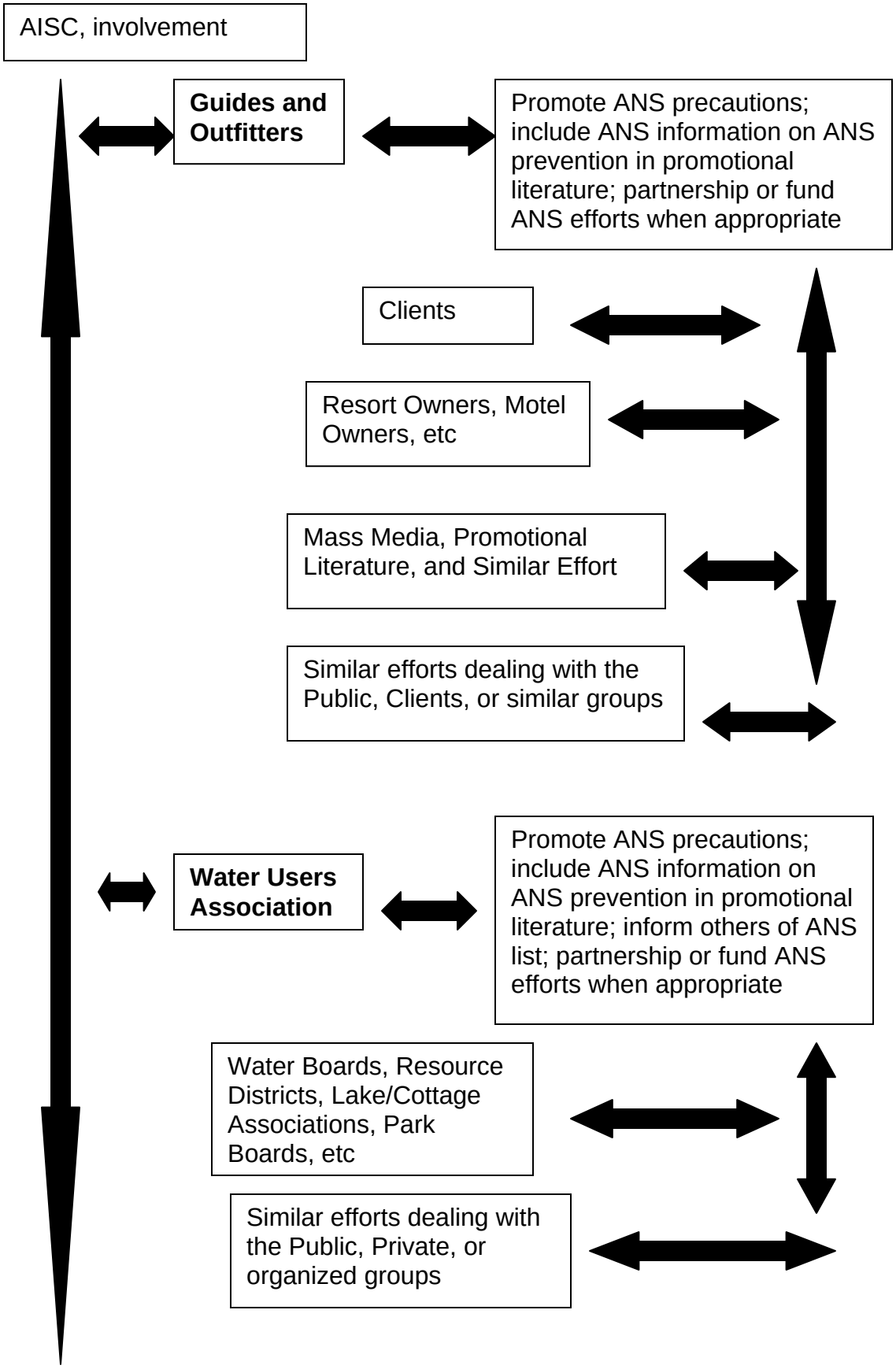
ANS Coordinator is chairperson and facilitates communication between/among agencies, entities, and organizations

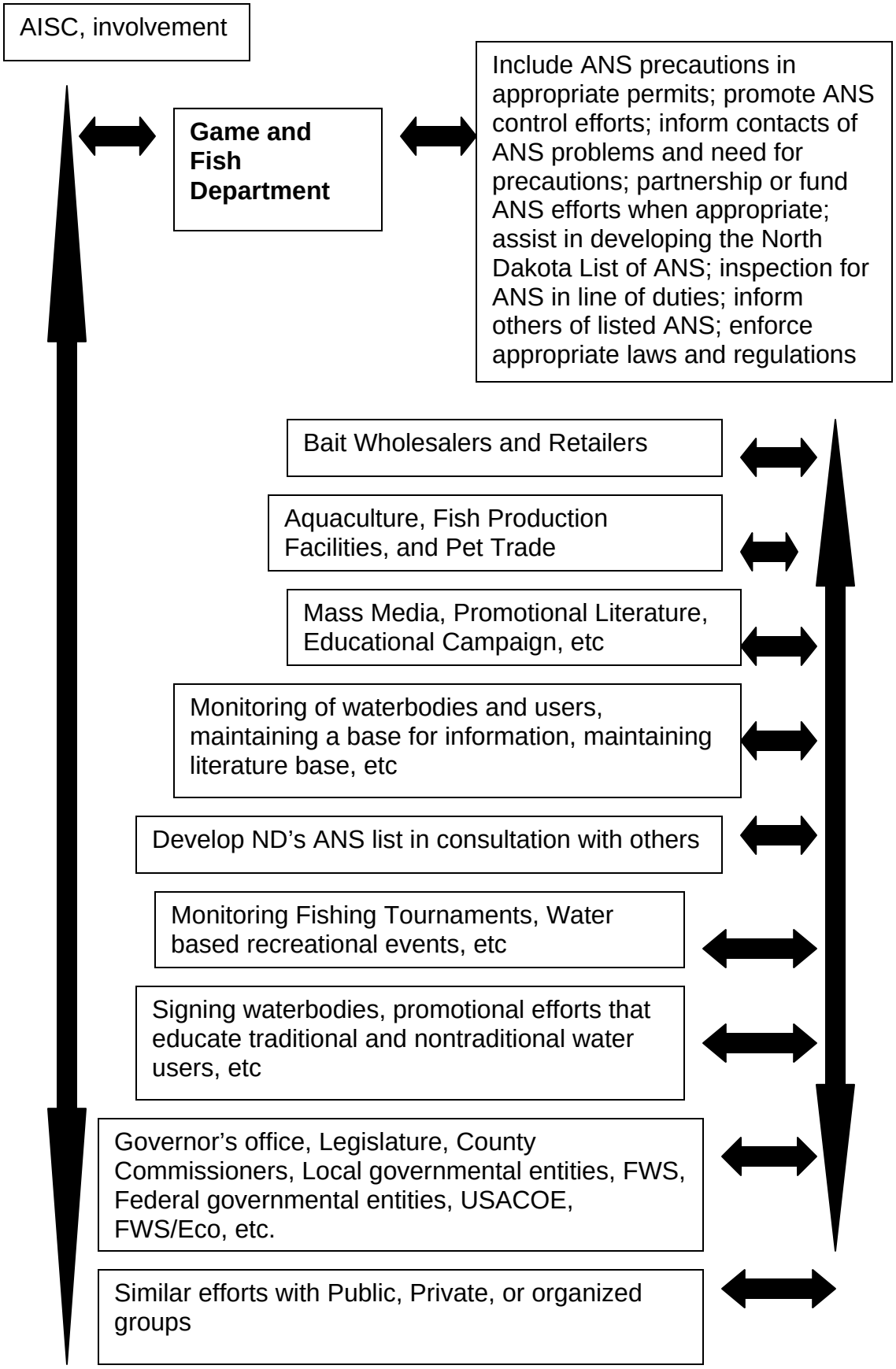

AISC, involvement
Dept of Health
Include ANS precautions in appropriate permits; promote ANS control efforts; inform contacts of ANS problems and need for precautions; inspect waterbodies when appropriate; partnership or fund ANS efforts when appropriate; include REPPs in permits
Water Transfer Projects
Water Intake/Treatment Facilities
Water Development Projects
Waste Management Projects
Other or Similar Projects
Parks and Recreation
Promote ANS precautions; include ANS information on ANS prevention in promotional literature, educational classes, and signs within parks; enforcement of ANS regulations where and when appropriate; partnership or fund ANS efforts when appropriate; inspect for ANS where and when appropriate
Visitors
Vendors, Outlets in the Parks
Mass Media, Publications, etc
Organized Activities – Fishing Tournaments; Birding Outings, Youth Groups, etc

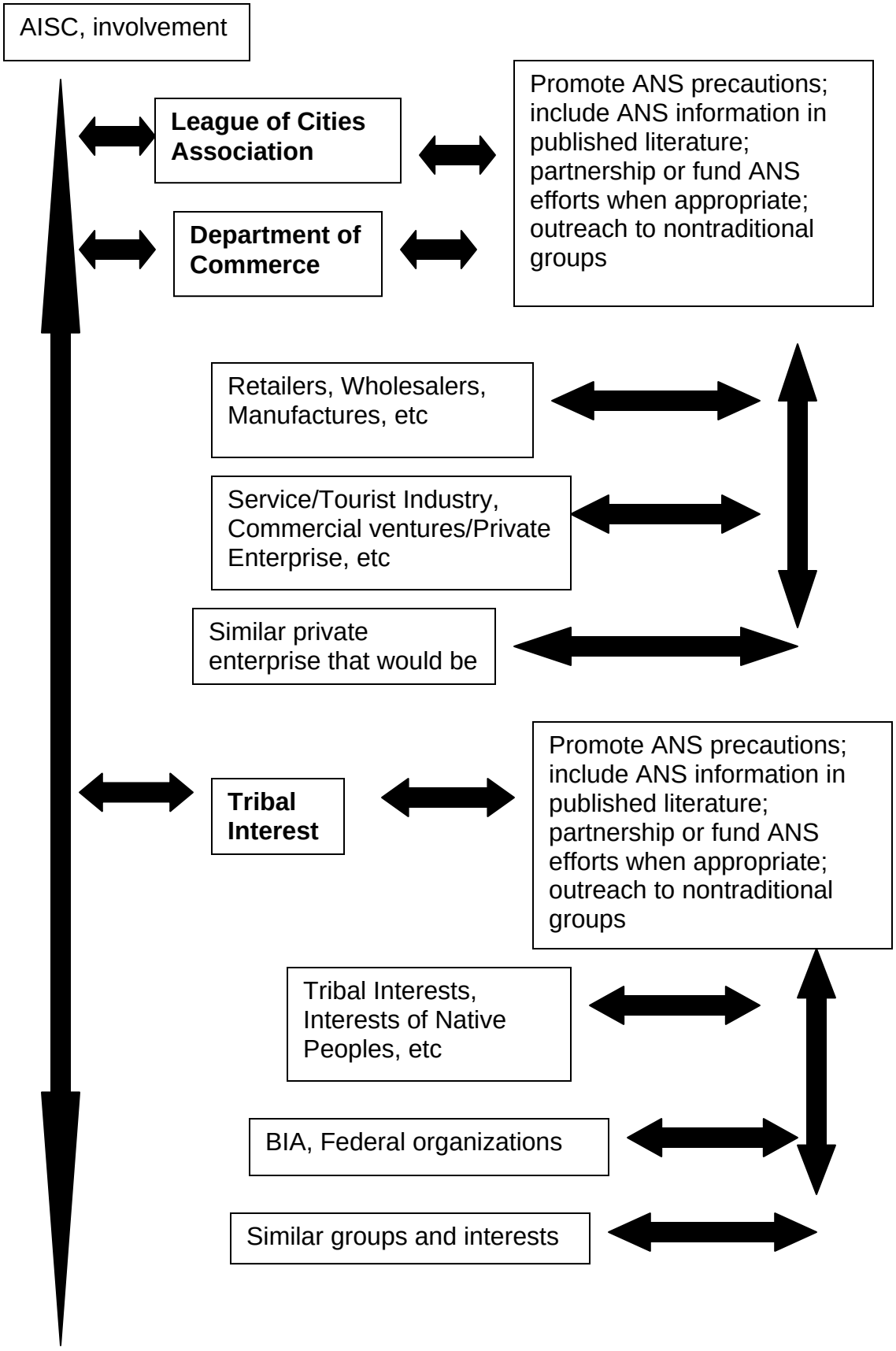

AISC, involvement
State Water Commission
Include ANS REPPs and precautions in issuing appropriate permits; promote ANS control efforts; inform contacts of ANS problems and need for precautions; partnership and fund ANS efforts when appropriate; inspect for ANS when and where appropriate
Water Resource Boards, Special Assessment Projects, etc
Irrigation Districts or Water Projects
Power Production or Manufacturing Facilities
Other or Similar Projects

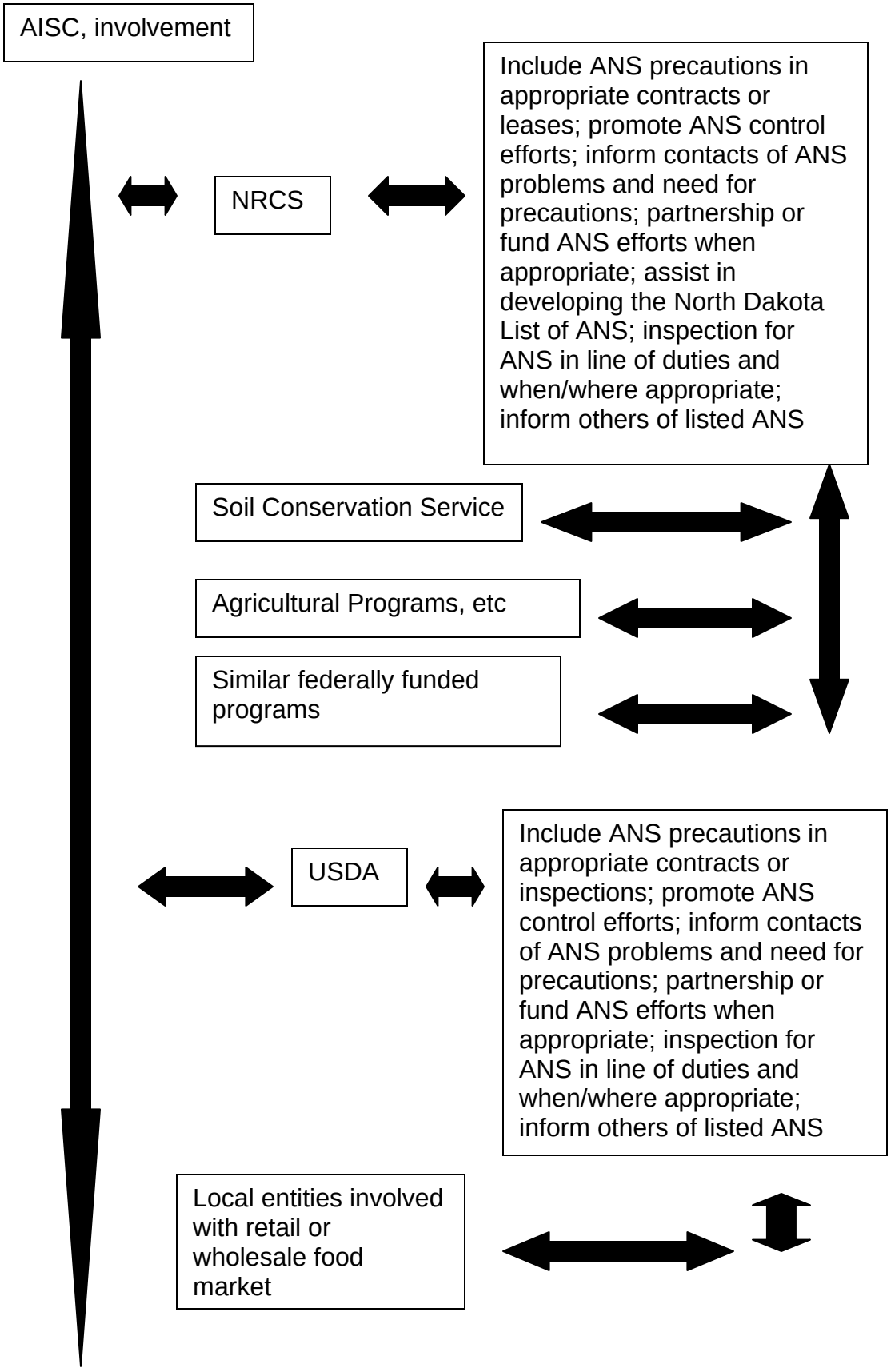

AISC, involvement
Dept of Tourism
Promote ANS precautions; include ANS information on ANS prevention in promotional literature; partnership or fund ANS efforts when appropriate
Local Chamber of Commerce's; affiliations with national networks
Groups promoting North Dakota development or use of the State's natural resources
Mass media, Promotional Literature, Similar efforts
Other or Similar Projects
Fishing and Conservation Fraternity
Wildlife and Conservation Fraternity
Encourage others and promote ANS precautions; request ANS information be placed on outdoor websites; support AISC efforts; liaison to state network of fishing clubs, conservation clubs, public input and the AISC; partnership or fund ANS efforts when appropriate
Fishing Clubs, Wildlife Clubs, Sportsman's Clubs Conservation Groups, and Similar Organizations
Other or Similar Project

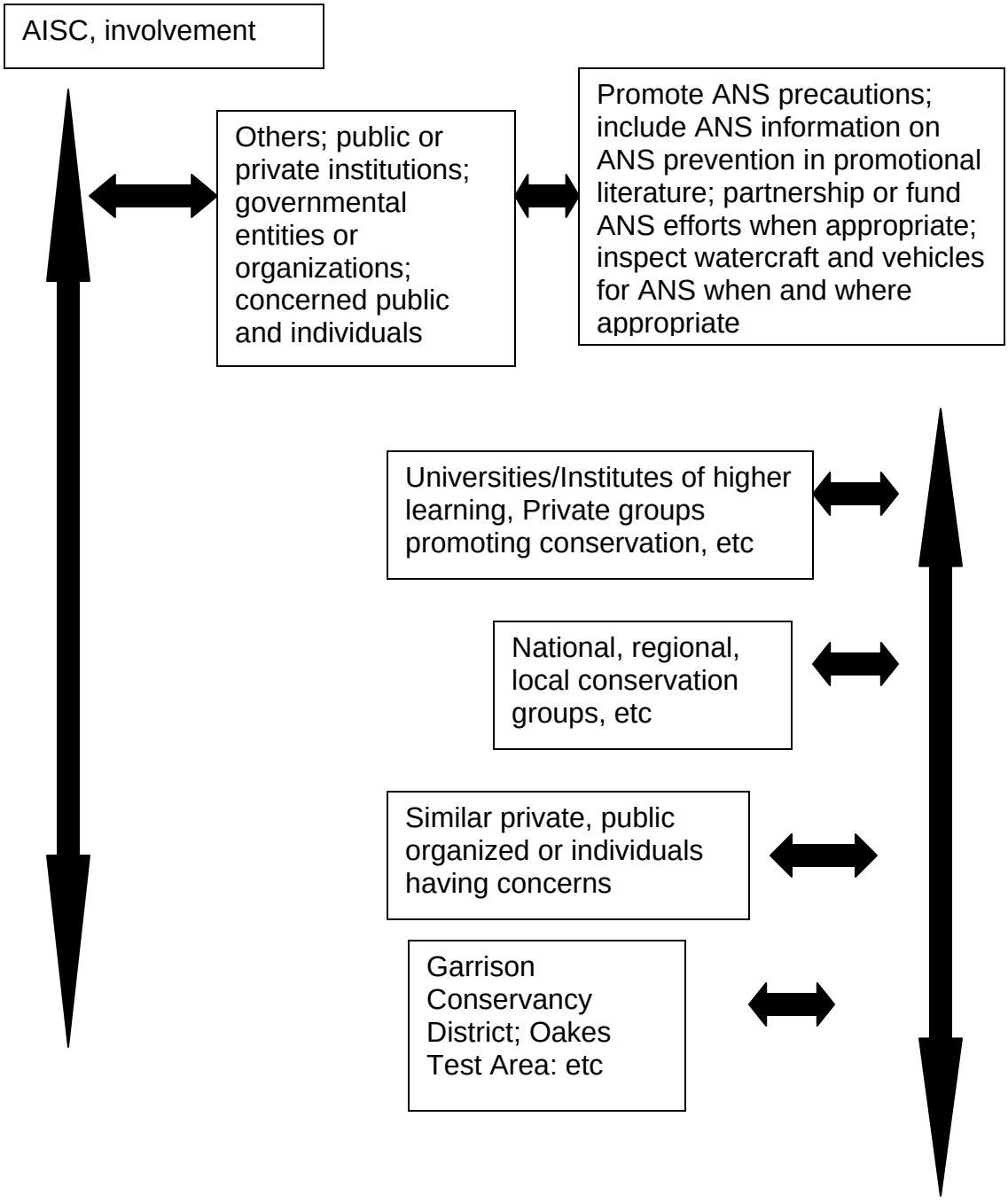

AISC, involvement
Dept of Agriculture
Include ANS precautions in appropriate permits; promote ANS control efforts; inform contacts of ANS problems and need for precautions; partnership or fund ANS efforts when appropriate; assist in developing the North Dakota List of ANS; inspection for ANS in line of duties and when/where appropriate; inform others of listed ANS; enforce appropriate laws and regulations
Local Weed Boards
Plant Nurseries, Garden Center, Florists, Landscapers, Developers, etc
County Weed Managers
Garden Clubs, Park Boards, Other or Similar Groups
County Extension Agency, Commissioners, and similar groups
Other or Similar Ventures


AISC, involvement
Guides and Outfitters
Promote ANS precautions; include ANS information on ANS prevention in promotional literature; partnership or fund ANS efforts when appropriate
Clients
Resort Owners, Motel Owners, etc
Mass Media, Promotional Literature, and Similar Effort
Similar efforts dealing with the Public, Clients, or similar groups
Water Users Association
Promote ANS precautions; include ANS information on ANS prevention in promotional literature; inform others of ANS list; partnership or fund ANS efforts when appropriate
Water Boards, Resource Districts, Lake/Cottage Associations, Park Boards, etc
Similar efforts dealing with the Public, Private, or organized groups


AISC, involvement
Game and Fish Department
Include ANS precautions in appropriate permits; promote ANS control efforts; inform contacts of ANS problems and need for precautions; partnership or fund ANS efforts when appropriate; assist in developing the North Dakota List of ANS; inspection for ANS in line of duties; inform others of listed ANS; enforce appropriate laws and regulations
Bait Wholesalers and Retailers
Aquaculture, Fish Production Facilities, and Pet Trade
Mass Media, Promotional Literature, Educational Campaign, etc
Monitoring of waterbodies and users, maintaining a base for information, maintaining literature base, etc
Develop ND's ANS list in consultation with others
Monitoring Fishing Tournaments, Water based recreational events, etc
Signing waterbodies, promotional efforts that educate traditional and nontraditional water users, etc
Governor's office, Legislature, County Commissioners, Local governmental entities, FWS, Federal governmental entities, USACOE, FWS/Eco, etc.
Similar efforts with Public, Private, or organized groups


AISC, involvement
League of Cities Association
Department of Commerce
Promote ANS precautions; include ANS information in published literature; partnership or fund ANS efforts when appropriate; outreach to nontraditional groups
Retailers, Wholesalers, Manufactures, etc
Service/Tourist Industry, Commercial ventures/Private Enterprise, etc
Similar private enterprise that would be
Tribal Interest
Promote ANS precautions; include ANS information in published literature; partnership or fund ANS efforts when appropriate; outreach to nontraditional groups
Tribal Interests, Interests of Native Peoples, etc
BIA, Federal organizations
Similar groups and interests


AISC, involvement
NRCS
Include ANS precautions in appropriate contracts or leases; promote ANS control efforts; inform contacts of ANS problems and need for precautions; partnership or fund ANS efforts when appropriate; assist in developing the North Dakota List of ANS; inspection for ANS in line of duties and when/where appropriate; inform others of listed ANS
Soil Conservation Service
Agricultural Programs, etc
Similar federally funded programs
USDA
Include ANS precautions in appropriate contracts or inspections; promote ANS control efforts; inform contacts of ANS problems and need for precautions; partnership or fund ANS efforts when appropriate; inspection for ANS in line of duties and when/where appropriate; inform others of listed ANS
Local entities involved with retail or wholesale food market



Activities are to promote and benefit the citizens of North Dakota and to provide protection to the State's aquatic resources from the introduction and establishment of injurious species.

Appendix J: **Invasive Aquatic Species Committee Meeting Dates and Summary of that meeting, and How the North Dakota statewide aquatic nuisance species plan was developed.**

Invasive Aquatic Species Committee meeting dates, a summary of that meeting, and of the development of the North Dakota statewide ANS plan.

Date	Activity/Summary
FEB 04	Discussion with in North Dakota Game and Fish Department about problems associated with ANS
20 MAY 04	Initial meeting; various representatives from federal, state, and local shareholders in ANS prevention
02 JUN 04	Letter for Department to selected representatives to join the ANS efforts
10 JUN 04	Initial meeting of Invasive Aquatic Species Committee
22 JUN 04	Meeting to review draft of ND-Plan
06 JUL 04	Meeting to review draft of ND-Plan
20 JUL 04	Meeting to review draft of ND-Plan
17 AUG 04	Meeting to review draft of ND-Plan
21 SEP 04	Meeting to review draft of ND-Plan
25 SEP 04	ND-Plan for internal review within ND Game and Fish Department
26 SEP 04	ND-Plan provided to consultant for review and comment
12 OCT 04	Contacted Consultant about comments that were provided
21 OCT 04	Provided AISC with draft of ND-Plan with consultants comments
03 NOV 04	Final meeting of AISC to review draft plan
05 NOV 04	Final draft of ND-Plan prepared
15 NOV 04	Draft of the ND-Plan provide to the public and other agencies or entities, comments due by 24 DEC 04
24 DEC 04	Final day for comments to be received
06 JAN 05	Review and incorporated comments received into final version of the ND-Plan
14 JAN 05	ND-Plan provided to Director of the North Dakota Game and Fish Department for review and comment
19 JAN 05	ND-Plan provided to North Dakota Governor's Hoeven for review and comment

PROCESS and PLANNING
involved in preparing the
North Dakota statewide aquatic nuisance species plan.

The initial meeting of interested state and federal agencies, public organizations, and interested parties was held on 20 MAY 04 at the Department of Game and Fish headquarters in Bismarck, North Dakota. Following a brief presentation on ANS impacts to North Dakota aquatic resources, an invitation was made to participants to become part of the Aquatic Invasive Species Committee (ASIC) and work to develop the ND-Plan. A letter from the Department was sent out on 02 JUN 04 asking agencies and private groups to participate in the AISC and to name a representative for future contact. On 10 JUN 04, the AISC was formed. With the AISC formed, the Aquatic Invasive Species Coordinator provided this group a working copy of a statewide ANS plan. The AISC reviewed this draft, made suggestions which the Coordinator considered and incorporated where needed. This review was considered to be the first draft of the ND-Plan. A number of AISC meetings were required to prepare a final draft

ND-Plan which was suitable for public review. News releases were provided to all the newspapers in North Dakota via the Department's Conservation and Communication Division.

The final draft of the ND-Plan was provided to the public and interested agencies via the North Dakota Game Fish Department webpage, public meetings, and to all who requested a hard copy or CD. A forty-four day comment period was provided for and comments could be provided to the Bismarck office or to the Devils Lake office.

The draft of the ND-Plan was provided to technical advisors who provided species-specific information and technical review of the document (see Appendix I for a list of those who reviewed the final draft).

Public meetings were held at Grand Forks, Fargo, Riverdale, and Bismarck to provide opportunities for private and agencies or entities to comment on the ND-Plan.

After the public, technical, and other state agency review, a final draft plan was provided to North Dakota's Governor for review and approval. With the signature of the Governor, the ND-Plan was provided to the federal ANS TASK Force for their review and approval.

The development of the ND-Plan was the result of the dedication and coordinated efforts from all of these individuals on the AISC and those that reviewed the draft document.

Appendix K: **Public Comments (reference the North Dakota's statewide aquatic nuisance species management plan.**

Comments on the North Dakota aquatic nuisance species statewide management plan.

Public Comments

Only a few individuals attended the public meetings: Grand Forks – 3 people; Fargo – 3 people; Riverdale – 3 people; and Bismarck – 2 people. There were no negative comments from these individuals and these comments were all verbal. The individuals were encouraged to provided written comments, but they choose not to do such.

Comments from Agencies or Entities

No written comments were received from agencies or entities in opposition to the North Dakota's state management plan for prevention and control of aquatic nuisance species. These groups or representatives from those groups did offer verbal support of the Department's effort to organize the state's efforts to prevent aquatic nuisance species introduction into or within North Dakota.

Appendix L: **Technical Advisors and Individuals that Reviewed North Dakota Aquatic Species Management Plan**

Technical Advisors and Individuals that Reviewed North Dakota Aquatic Species Management Plan

ANS Coordinators

Doug Jensen
Minnesota Sea Grant

Jeff Shearer
South Dakota Game Fish and Parks

Steve Schainhost
Nebraska Game and Parks Department

Eileen Ryce
Montana Game, Fish, and Parks

Kim Bogenschutz
Iowa Department of Natural Resources

Tom Flatt
Illinois Department of Natural Resources Section

Federal

Steve Krentz
Fisheries Assistance Operation
Fish and Wildlife Service

Universities

Steven Kelsch
University of North Dakota
Chair of Biology Department

North Dakota Game and Fish Department

Ron Wilson
Editor of North Dakota Outdoors

Terry Steinwand
Chief of Fisheries

Consultant

Michael E. Fraidenburg
Dynamic Solutions Group, LLC

Appendix M: **Comments from the Technical Advisors that Reviewed the North Dakota ANS Management Plan**

Comments on the North Dakota aquatic nuisance species statewide management plan provided by other states' aquatic nuisance species coordinator or technical representatives

Excerpts from ANS Coordinators' Comments

From
Tom Flatt, Aquatic Habitat Coordinator (AIS and Contaminants)
Div. of Fish and Wildlife, Fisheries Section
402 W. Washington St., Room W273
Indianapolis, IN 46204-2781
Phone: 317-232-4093 FAX: 317-232-8150

Lynn …. I went through it (the ND-Plan) enough to see how it was developed. I see what you mean by the plan being action orientated with development of a comprehensive public input plan coming later. And I can't disagree with your approach. Most of the action items necessary for control and prevention of ANS are universal and do not have to be reinvented in each management plan. I think the main purpose of the public input process is to get stakeholders and partners to have ownership in the plan, but that can happen later as your plan proposes. I think your approach will be as, if not more effective, as the traditionally developed plans.

From
Kim Bogenschutz
Aquatic Nuisance Species Program Coordinator Iowa Department of Natural Resources
1436 255th Street
Boone, Iowa 50036
515-432-2823 (phone)
515-432-2835 (fax)
Kim.Bogenschutz@dnr.state.ia.us

Lyn-

I have a few comments on your ANS plan based on my own experience implementing our plan. I was not involved in writing our plan but can tell you how things have gone over the past four years since we began implementation. Most of my comments are minor, so that must mean you did a great job developing your plan. I loved that you really made it North Dakota's plan, not a Game and Fish plan. I am sure that helps with agency and public buy-in.

From
Eilleen Ryce [ERyce@state.mt.us]

Montana Aquatic Nuisance Species Coordinator
Montana Fish, Wildlife, and Parks
1420 East 6th Avenue
Helena, MT 59620-0701

Hi Lynn,
Your plan looks great. I will get a formal letter sent to you today stating how Montana supports your plan …..

A couple of comments that I have:
1) on pg 2 under the "Outdoor Recreation" section. Whirling disease is a parasite NOT a viral pathogen.
2) in Appendix J, I work for Montana Fish, Wildlife and Parks
3) the only thing I thought a little strange about the way the plan was arranged was that in the plan there was no listing of the priority ANS in North Dakota. I noticed that this information is all in Appendix L in the Risk Assessment. To me it makes sense to have a section in the plan on exactly which species are of highest concern and why they are of concern.

For what they are worth, those are my comments.

Great job, Eileen.

From
Hazel Sletten
Supt. Water Utility
P.O. Box 5200
Grand Forks, ND 58206-5200
(701) 746-2595
Hsletten@grandforksgov.com

Lynn
I apologize for the delay in getting back to you with comments on the INS Report and presentation. I enjoyed the presentation. As a representative of a water utility using surface water I appreciate the opportunity to review the document and the acknowledgement of potential impacts to water utilities from invasive species. I have no comments on the document, it appears to be well thought out and addresses the concerns of the water utility.

Thanks you for the opportunity to comment and review the document.

Hazel

Appendix N: **Outtakes from: RISK ASSESSMENT FOR THE INTRODUCTION AND ESTABLISHMENT OF AQUATIC NUISANCE SPECIES IN NORTH DAKOTA**

Outtakes from:

RISK ASSESSMENT FOR THE INTRODUCTION AND ESTABLISHMENT OF AQUATIC NUISANCE SPECIES IN NORTH DAKOTA

Prepared by
Larry Brooks, Minot State University – Bottineau, 105 Simrall Boulevard,
Bottineau, ND 58318

and

Lynn R Schlueter, Special Project Biologist, North Dakota Game and Fish Department

Submitted on January 2004

Status of Aquatic Nuisance Species in North Dakota - Priority for Action

All nonindigenous species impact native species and habitat in some manner, but not all of them pose a significant threat, and some provide an economic and recreational benefit in certain areas. While it is hard to elucidate the effects that species will have once they are introduced, there are species that have current or potential impacts on native species and habitats and economic and recreational activity in North Dakota are known to be negative and significant are of concern. These ANS are a priority for management actions. At the same time, the ability to manage each species varies greatly, and the resources available are limited. Management efforts must, therefore, be focused on species where actions can produce the greatest benefit. In recognition of the known threats, impacts, and potential problems of certain ANS and the state's current management capabilities, a system to classify species was developed that recommends management activities for each classification. Yet, because impacts either do not occur immediately or may not be apparent until well after establishment, effort must also be devoted to assessing the overall impacts of nonindigenous species, regardless of their classification. The following are examples of species to be addressed by the ND-Plan. This list is not comprehensive, but is provided to illustrate species in each management class. The Plan provides for an on-going assessment of potential priority class species.

PRIORITY CLASS 1

Priority Class 1 species are currently not known to be present in North Dakota, but have a high potential to invade and there are limited or no known management strategies for these species. Appropriate management for this class includes prevention of introductions and eradication of pioneering populations. Examples of species that need to be addressed under this management class are discussed below.

Eurasian Watermilfoil (*Myriopyllum spicatum*)

Eurasian watermilfoil (EWM) was accidentally introduced to North America from Europe. Spread westward into inland lakes primarily by boats and water birds, it reached the Midwestern states between the 1950s and 1980s. A key factor in the plant's success is its ability to reproduce through stem fragmentation and runners. A single segment of stem and leaves can take root and form a new colony. Fragments clinging to boats and trailers can spread the plant from lake to lake. Once the plant is established it is almost impossible to eradicrate it. Populations of this plant exist in Minnesota and Wisconsin which is the home to many of the non-resident outdoor recreators which come to North Dakota.

While EWM was sampled in the Sheyenne River above Valley City, North Dakota, in the early 1990's, it has not been found in subsequent sampling. The Sheyenne River above Valley City was dewatered in the late fall in the mid 1990's to repair the city's water intake. The temperature dropped to zero or below for a few days and the mudflat on which the ANS was growing froze solid. Eurasian watermillfoil has not been found after that event.

Zebra Mussel (***Dreissena polymorpha*)**

In the late-1980s, the zebra mussel was discovered in Lake St. Clair, between Lake Huron and Lake Erie. Zebra mussels were introduced from Eastern Europe via ballast water discharge from European freighters. This species spread rapidly to 20 states in the Mississippi River drainage. Nationwide expenditures to control zebra mussels in water intake pipes, water filtration equipment, and electric generating plants are estimated at $3.1 billion over 10 years (OTA, 1993).

Zebra mussels can easily survive overland transport from the Midwest to North Dakota while attached to boat hulls or in live wells, engine cooling systems, or bait buckets. Live zebra mussels have been found in Minnesota lakes which are less than 100 miles from North Dakota's border. Juvenile zebra mussels have been found in the Missouri River below Gavins Point Dam and Big Bend Dam in South Dakota. These two areas are within a short drive from North Dakota's primary fisheries, i.e., Devils Lake, Lake Sakakawea, and the Missouri River. The zebra mussel is a prolific fouling organism with great potential to disrupt municipal water intake structures and cause ecological and economic damage in upper Midwest. Zebra mussel die-off can occur and large numbers of individuals are left rotting on the shoreline which is a human health concern. In addition, the shells of the zebra mussel can be jagged and be dangerous to walk on with bare feet associated with wading or swimming on beaches.

Asian clam *(Corbicula fluminea)*

Corbicula are freshwater natives of southern and eastern Asia. The sources and pathway of initial introductions are not well documented. This ANS has been in found in the United State beginning in the late 1070's. *Corbicula* will cause the same problems as zebra mussel.

In 2003, *Corbicula* was discovered in the water intake for Yankton, South Dakota and is the closest known population. *Corbicula* have been documented in many of the Midwest states, but no populations are reported this close to North Dakota.

Asian Carp (*Four Species*)

The black carp (*Mylopharyngodon piceus*) has been approved for release for stocking commercial aquaculture ponds to control snails and will surely escape into the wild just as the other three species of Asian carp, the silver (*Hypophthalmichthys molitrix*), bighead (*H. nobilis*) and the grass carp (*Ctenopharyngodon idella*) have. The latter three species were released in the 70s, 80s and early 90s for aquaculture and pond applications and have now developed large wild populations in the Missouri River basin.

Large numbers of bighead carp have been reported "staking in large numbers" below Gavins Point Dam, near Yankton, South Dakota. Gavins Point Dam is the first barrier on the Missouri River. If Asian carp get past the dam, one way or another, they will proceed up the Missouri River and to impact recreation in North Dakota. These carp also have the ability to capitalize on inundated river habitats such as upper Lake Sakakawea and upper Lake Oahe in North Dakota. The bighead carp, a plankton feeder may compete for food with paddlefish and bigmouth buffalo, as well as with forage fishes. All three species compete for food with the larval stages of our native game fish.

Although the extent of their impact and distribution in the Missouri River is largely unknown it would be prudent to keep them out of North Dakota waters.

Round Goby (***Neogobius melanostomus*)**
This fish is a bottom-dwelling fish, native to eastern Europe that entered the eastern Great Lakes in ballast water. They can spawn several times per year, grow to about 10 inches, are aggressive, and compete with native bottom-dwellers including bullheads. The round goby, was introduced, via ballast water, into the St. Clair River and vicinity on the Michigan-Ontario border where several collections were made in 1990. The numbers of native fish species have declined in areas where this goby has become abundant. The round goby has been found to prey on darters, other small fish, and lake trout eggs and fry in laboratory experiments (Marsden, J. E., and D. J. Jude, 1995). The round goby's potential range includes North Dakota and would do well in most of North Dakota's waterbodies.

Ruffe (***Gymnocephalus cernuus*)**
The ruffe (*Gymnocephalus cernuus*) is a small perch-like Eurasian fish. It was apparently introduced to the Great Lakes in the St. Louis River near Duluth, Minnesota from a ballast water discharge. In Europe the ruffe feeds on whitefish eggs and competes with other more desirable fish. The spiny dorsal fins of the ruffe discourage predation by other fish. In Lake Superior, the species of fish that is most affected by the ruffe is the yellow perch. Populations of perch have declined up to 75% in water bodies where the ruffe have become established. If established in North Dakota, there could be serious affects to our lake and reservoir fisheries.

Spiny Water Flea (*Bythotrephes cederstroemi*)
The spiny water flea is not actually an insect, but a tiny (less than half an inch long) crustacean with a long, sharp, barbed tail spine. This creature is native to Great Britain and northern Europe east to the Caspian Sea. The animal was first found in Lake Huron in 1984, probably imported in ballast water of a transoceanic freighter. Since then populations have exploded and the animal can be found throughout the Great Lakes and some inland lakes.

The effects spiny water fleas will have on the ecosystems of the Great Lakes region are unclear. The animals compete directly with young fish for food, such as Daphnia zooplankton. Spiny water flea also reproduces rapidly. During warmer summer conditions, each female can produce up to 10 offspring every two weeks. As temperatures drop in the fall, eggs are produced that can lie dormant all winter.

It is not known if this exotic will have larger impacts on inland lakes. Spiny water fleas eggs and adults spread unseen in bilge water, bait buckets, and livewells. In addition, fishing lines and downriggers will often be coated with both eggs and adults.

Heterosporosis (**Parasite that infects a variety of fish species)**

Heterosporosis is a microscopic parasite, which has the potential to infect several fish species resulting in muscle lesions and can cause serious harm to fish. The parasite was first reported in yellow perch, but may also be found in walleye, northern pike, fathead minnows or other fish species. This parasite has been reported in fish in Minnesota and Wisconsin. It has never been reported in North Dakota, but has the potential to become established in North Dakota fish if infected fish are imported into North Dakota. The parasite causes milky white lesions with a granular texture in fish fillets. Severity of the infection will vary between infected fish populations, but in heavily infected fish as much as 80% of the fillet may be affected.

Infectious Hematopoietic Necrosis (IHN) Virus

IHN virus is an example of a pathogen, which is not currently known to occur in North Dakota, but which has the potential to cause serious mortality if it is introduced. It is a pathogen known to occur in fish in states west of North Dakota. We must constantly be on guard to ensure it is not imported into North Dakota with fish imported from other states. For this reason, IHN virus and other viral pathogens are listed as "pathogens of concern" on North Dakota import and disease laws. Fish may not be imported into North Dakota unless they are certified to be disease free at the request of the Chief of Fisheries.

PRIORITY CLASS 2

Priority Class 2 species are present and established in North Dakota and have the potential to spread in North Dakota and there are limited or no known management strategies for control of these species. These species can be managed through actions that involve mitigation of impact, control of population size, and prevention of dispersal to other waterbodies. Examples of species addressed under this management class are discussed below.

Saltcedar (*Tamaricaceae spp.)*

While this plant is not an aquatic, it has an impact on waterbodies due to its large water volume use during the summer. This invasive small tree or large shrub remains a popular ornamental despite its classification as a "successful" weed. Thousands of tiny pink to white flowers are produced throughout the spring and summer. One mature plant can produce ½ million seeds each year. As well as reproducing by the wind and water borne seed, saltcedar can reproduce vegetatively. Large saltcedar plants can use up to 200 gallons of water a day; reducing and even eliminating water flow. It out-competes native plant communities, degrades wildlife habitat and has resulted in the decline of many species. Tamarisk reduces recreational and agricultural use, and increases wildfire frequency. In North Dakota, counties east of the divide are experiencing a tremendous impact from the rapid spread of the competitive saltcedar. Western North Dakota has an abundance of these ornamentals that pose a threat. A very active group of weed fighters are working together to develop a North Dakota Saltcedar management plan that targets a statewide survey, containment, and eradication program.

Curlyleaf Pondweed (*Potamogeton crispus*).
Curlyleaf pondweed is a perennial, rooted, submerged aquatic vascular plant native to Eurasia, Africa, and Australia. By 1950 most of the U. S. was infested by this species. By late spring it may form dense mats which interfere with recreation and limit the growth of native aquatic plants. By July, this plant senesces and forms vegetative propagules called turions. The turions are dispersed by water movement throughout a water body. Turions may also be transferred to uninfested lakes by the usual means. In some areas it may not be considered a problem but in shallow lakes it can grow dense enough to affect recreational boating and fishing. It can alter the nutrient dynamics of a fertile lake causing heavy summer algae blooms.

PRIORITY CLASS 3

Priority Class 3 species are not known to be established in North Dakota and have a high potential for invasion and appropriate management techniques are available, but effectiveness is of concern. Appropriate management for this class includes prevention of introductions and eradication of pioneering populations. Examples of species that need to be addressed under this management class are discussed below.

Whirling Disease (***Myxobolus cerebralis*)**
Whirling disease is caused by a metazoan parasite that infects cartilage tissue of many Salmonid species. The whirling disease parasite was first introduced to the United States from Europe in the 1950s, probably through trout infected in Europe. This parasite has a two-host life cycle which includes both the primary Salmonid host and a common aquatic worm (*Tubifex tubifex*). Infective spores are produced in each host and are capable of spreading the disease in a variety of ways. The disease is now known to occur in over 20 states. Whirling disease has become a major problem in some western states, and has caused major declines in some wild rainbow trout populations and is especially severe in Colorado and Wyoming. Currently whirling disease has not been found in North Dakota waters.

Asian tapeworm (*Bothriocephalus acheilognathi*)
The Asian tapeworm is not known to be present in North Dakota at this time. As with any fish pathogen or parasite, if the Asian tapeworm is introduced and does become established in North Dakota, it will be extremely difficult or impossible to eradicate. For this reason, it is essential that this parasite not be introduced into North Dakota waters. The Asian tapeworm may infect many species of game, forage and bait fish. It has the potential to do serious harm to fish if introduced into North Dakota waters. This parasite was introduced into the United States through shipments of infected grass carp from China. It has spread into several states with infected fish. The tapeworm can result in mortality, but most often is responsible for reduced growth and poor condition of infected fish.

New Zealand Brown Mud Snail (***Potamopyrgus antipodarum*)**

Native to New Zealand but long established in Australia and Europe, this species was discovered in North America in 1987 in the Snake River in south-central Idaho. Population levels can exceed 100,000 snails per square meter (NCSE, 1999). New Zealand mud snails (NZMS) have become established in every major river drainage in Yellowstone National Park, in the Madison River Drainage in Montana, at several other locations in the western U.S., and in Lake Ontario, New York. Modes of transportation may include hitchhiking on recreational equipment and other equipment used in water, in the guts of harvested or illegally transported fish, or via transport on waterfowl and other aquatic birds. Effects on native aquatic invertebrates are being documented in the Madison River and in Darlington Ditch, a small stream along the lower Madison River. NZMS degrade habitat due to their high reproductive capacity and the subsequent impacts on invertebrate food sources. Fish receive little, if any, nutritive value from eating the snail. The snail has an operculum that it closes when threatened, which prevents digestive juices from reaching the soft tissue of the snail's body when ingested by fish.

PRIORITY CLASS 4

Priority Class 4 species are present and have the potential to spread in North Dakota but there are management strategies available for these species. These species can be managed through actions that involve mitigation of impact, control of population size, and prevention of dispersal to other waterbodies. Examples of species addressed under this management class are listed below.

Common carp (*Ciprio carpio*)

The carp was introduced into Europe from the Caspian Sea region during the era of the Roman Empire and raised as a food fish. Carp were introduced into the United States in the late 1800's to meet the desires of European immigrants for a food fish. The United States government propagated and stocked carp in many states during this time period. This fish species proved to be adaptable and thrived in its new environment which allowed it to quickly expand its range. By the early 1900's carp were found in all of the states and in a variety of waterbodies.

Carp are omnivorous, feeding on both plant materials and animal food items. They root for food in the mud for plant materials and roots, insects, worms, crayfish, small clams and other small animals. Their feeding activities dislodge plants, break plants into fragments, they stirs up the bottom and its sediments, and will leave the water very turbid. Carp activity makes a lake an unsuitable environment for angler desirable fish. Waterfowl use decreases in waterbodies with a high carp population as there is no aquatic plants in those water bodies.

Carp can be moved from water body to water body by anglers who are using "dirty", i.e., undesirable fish used as bait, live bait and releasing those small fish being used for bait into the water body where the anglers are fishing at. Carp are not a legal baitfish in North Dakota waters. Anglers cannot import this fish species into North Dakota to use as a baitfish. Control methods for carp include eradicating that ANS infestation at a

tremendous cost to the Department. In addition, when a lake is eradicated, the recreational fishery is eliminated for approximately three to five years as stocked fish grow to an angler acceptable size. In many cases, carp are soon found in that waterbody after the eradication due an incomplete fish kill or the reintroduction of that species.

Purple Loosestrife (*Lythrum salicaria*)

Purple loosestrife is a wetland invader that was imported from Europe in the early 1800s for its medicinal value and for the beautiful purple spikes of the blooming plant. Unsupecting visitors to an infested wetland often admire the beauty of the marsh when purple loosestrife is in bloom, unaware that it has displaced native plants and animals. Its vegetative dominance may increase the likelihood of listing additional native species under the ESA. Purple loosestrife is still sold as an ornamental in nurseries in some states, though 24 states, including North Dakota, have listed it as a noxious weed and prohibit its sale. It is found in 42 of the contiguous states, and could invade the remaining six. The plant is extremely difficult to eradicate although recently a suite of biological control agents, i.e., beetles and weevils, have proven effective in suppressing the plant. Estimated losses are $45 million per year in control costs and forage loss (ATTRA, 1997). The North Dakota Purple Loosestrife Task Force has developed a statewide management plan for this species and active eradication programs are currently underway in Lake and Cascade counties in North Dakota.

Yellow Flag Iris (*Iris pseudacorus)*

Yellow iris is a rhizomatous emersed wetland forb. It has very showy yellow iris flowers, and is a tall plant with long, flat, dark green, sword-like leaves. This invasive plant propagates by both seed and underground rhizomes. The drought tolerant rhizomes break off, and spread downstream, as does the seed. Poisonous if ingested, and irritating to the skin, yellow iris is fast growing, fast spreading, and very competitive. It forms almost impenetrable thickets. It was brought into the United States in the early 1900's as an ornamental and has been used for erosion control, as a dye and fiber plant, and in sewage treatment cells. In North Dakota, there are not known populations of yellow flag iris.

Flowering Rush (*Butomus umbellatus*)

Flowering rush was introduced through the North American shipping trade at the turn of the century in ballast as long-lived seed and possibly reproductive bulblets into the ecosystems of Quebec and Michigan. Use as an ornamental provided this invasive plant another route to the Midwest and expedited it's spread westward to the Idaho panhandle which would include North Dakota. Where flowering rush is found it is reported to be out-competing the native willows and cattails. An emergent in shallow areas of lakes, flowering rush has umbellate pink flowers and grows to 3 (three) feet tall on triangular stems. It has a submersed form also, which can grow in water 10 (ten) feet deep.

Nonindigenous fish, invertebrates, and amphibians

These species have been introduced, intentionally and unintentionally, into North Dakota and are well established in some areas. Fish and invertebrates have been implicated in the decline of native fish and amphibians. Impacts of introduced fishes on native fish species include predation, introduction of diseases and parasites, competition for food and space, and hybridization. In some cases non-natives may be controlled for conservation and restoration of native species. Some species, *e.g*. walleye, largemouth bass, lake trout and rainbow trout, are the basis of popular fisheries that provide recreational benefit to many North Dakotans. In addition, recreational angling can provide substantial economic benefits to local economies. While these species have populations in many waters, these lakes did not have fish populations prior to the Department's management efforts. An environmental assessment is required the Department before a fish introduction can occur.

Bacterial fish pathogens

Bacterial fish pathogens, such as *Aeromonas salmonicida* (Furunculosis), are present in some North Dakota watersheds. *Aeromonas salmonicida* is the bacterial pathogen that causes a disease known as furunculosis in fish. This bacterium is known to occur in several North Dakota watersheds. In the wild it generally does not cause serious problems in fish. However, when fish become stressed, the pathogen can result in a disease problem with high potential mortality. Management actions that can reduce elevated water temperatures or other stress factors may have a significant impact on reducing impact of this pathogen on fish. Furunculosis in a hatchery can often be successfully treated with antibiotics. Because of the potential negative impact of this fish pathogen on North Dakota's wild and cultured fisheries, import and transport of fish infected with this pathogen should be closely regulated. North Dakota law prohibits the importation of live fish infected with this bacterial fish pathogen and other known bacterial pathogens.

Appendix O: **List of Non-indigenous Aquatic species in North Dakota**

LIST OF NONINDIGENOUS AQUATIC SPECIES IN NORTH DAKOTA AND THOSE CONSIDERED TO BE AQUATIC NUISANCE SPECIES (ANS)

The following list of nonindigenous fish species reported introduced into public waters in North Dakota is North Dakota Game and Fish Department Fisheries Division's fish stocking records, information published in *Fishes of Dakota* by the Dakota Chapter of American Fisheries Society, and USGS Nonindigenous List, i.e., website - nas.er.usgs.gov/. Other animals or plants listed here are from the nonindigenous list prepared by the USGS and listed on their website, i.e., "nas.er.usgs.gov/". In addition, the list also notes those plants or animals which are considered to be an invasive and injurious species (an ANS species) to North Dakota waterbodies are noted.

Fish

Common name	Species name	ANS
Sacromental perch	*Archoplites interruptus*	
goldfish	*Carassius auratus*	YES
Cisco	*Coregonus artedii*	
lake whitefish	*Coregonus clupeaformis*	YES
common carp	*Cyprinus carpio*	YES
grass carp	*Ctenopharyngoden idella*	
muskellunge	*Esox masquinongy*	
smallmouth bass	*Micropterus dolomieu*	
largemouth bass	*Micropterus salmoides*	
white bass	*Morone chrysops*	
stripped bass	*Morone saxatilis*	
spottail shiner	*Notropis hudsonius*	
cutthroat	*Oncorhynchus clarki*	
coho salmon	*Oncorhynchus kisutch*	
rainbow trout	*Oncorhynchus mykiss*	
Kokanee	*Oncorhynchus nerka*	
chinook salmon	*Oncorhynchus tshawytscha*	
rainbow smelt	*Osmerus mordax*	
Landlocked Atlantic salmon	*Salmo salar Sebago*	
brown trout	*Salmo trutta*	
brook trout	*Salvelinus fontinalis*	
lake trout	*Salvelinus namaycush*	
Saugeye	*Stizostedion canaense x Stizostedion vitreum*	
Zander	*Stizostedion lucioperca*	

Crustaceans

Common name	Species name	ANS
rusty crayfish	*Orconectes rusticus*	YES

Mollusks

NONE

Aquatic Plants

Common name	Species name	ANS
curlyleaf pondweed	*Potamogeton crispus*	YES
eurasian watermilfoil	Myriophyllum spicatum	YES
purple loosestrife	*Lythrum salicaria*	YES
flowering rush	*Butomus umbellatus*	
watercress	*Nasturtium officinale*	

Amphibians

NONE

Appendix P: **North Dakota Rapid Response Plan**

NORTH DAKOTA

RAPID RESPONSE PLAN

TO

AQUATIC NUISANCE SPECIES

PREPARED BY

AQUATIC INVASIVE SPECIES COMMITTEE

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PURPOSE

Rapid response is essential when an injurious organism is discovered in an area free of that infestation. Rapid response includes the successful control or elimination of the problem specie(s) in a timely and efficient manner. This document identifies factors that affect the probability of developing a successful response to a new problem, and it identifies common problems that may preclude success.

Containment and eradication activities require they be done promptly, will be effective, are focused on the actual problem, and the parties involved in the project are committed. In addition, efforts to control aquatic nuisance species (ANS) cannot effectively move forward in an environment of complex demands that are unfounded, based on uncertain requirements for constraints, and control actions being subject to second guessing with no apparent improvement in the outcome. The goal of the model system is to create a consensus driven decision process of those involved, but one where discussions about general strategies occur before the arrival of a new invader and without influences of turf-wars. The group makes the decision as to the general course of action when a nuisance species arrives and proceeds forward with the control efforts. This decision provides the on-the-ground manager clear goals to obtain within reasonable restrictions. Because each situation tends to include unique conditions related to the species and the environment, this plan is general in nature, and it does not attempt to address regional or national processes or the unique circumstance.

BACKGROUND AND RATIONALE

ANS are obligate aquatic species that are invasive and injurious organisms that create problems for ecosystems or for native or desirable species. They may cause direct problems to outdoor recreators as weeds that interfere with boating, fishing, hunting, and water related activities. ANS will cause problems to all North Dakotans, through the costs being passed on to individuals, such as cleaning of municipal water intakes of zebra mussels, removing Asian clams from power plants cooling towers, and reduced values of waterfront properties. ANS will cause a reduced need for the serves industry, i.e., less motel rooms rented, less tourist at convenience stores, less need for sporting goods and similar nonessential goods and services. The numbers of native or desirable fish or aquatic plants in a waterbody can be reduced by direct competition with ANS and habitat modification by ANS. ANS modify habitats which further reduces the carrying capacity for native or desirable species. Traditional management efforts cannot be used to overcome ANS infestations.

The species listed by the Federal government as invasive and injurious species grows each year as more non-native flora and fauna are found in the United States. The Federal list of aquatic nuisance species is provided in Appendix B.

Aquatic nuisance species can cause large and ongoing costs when they invade new locations, but those costs can be avoided if the species can be kept out of those new areas. This approach of avoiding problems is the general concept behind a variety of

programs. It was first applied to public health with the old quarantine laws, and then in agriculture where it was given the name “Pest Prevention.” Now the concept is being adopted to protect some natural resources as well.

LESSONS FROM SUCCESSFUL RESPONSE EFFORTS

There are three requirements for a successful containment and elimination of the problem species are: **A**ccess to the target organism; **P**ersistence of effort; and adequate **T**ools to control the populations. Any response will have a higher chance of success where these requirements are met. Conversely, in responses where these requirements are not adequately met, the chance of failure will be high. Many interdependent factors influence whether the requirements for a rapid response are met. Significant factors include: funding and other resources; legal authority; will to act or indecisive actions; regulatory hurdles; interagency and public cooperation; experienced oversight; biology of the pest; available control methods; and geographic scope of the project.

Rapid response efforts are not new and lessons can be learned about the elements that lead to success or failure, by considering efforts that have proceeded relatively smoothly or not so smoothly.

The initial approach used in these successful responses was very similar. Someone found an infestation because of heightened public awareness and the infestation was confirmed by an expert. Once the problem was confirmed, different agencies and local groups that might be affected or could assist in the response were contacted. Representatives of the interested parties met to consider the situation. Delimitation proceeded quickly while the control options were quickly reviewed with input from expert biologists and managers. At all of these points, the public was informed and educated to the problems that this ANS infestation could cause. The potential control methods were frankly and openly discussed and the likely outcome for action or what would result from inaction. While there was more than one group or entity working on this project, they all understood the gravity of the situation and how not participating would affect them. The efforts were well coordinated, sufficient manpower was made available, and the funds needed to complete the control efforts were provided in a timely manner.

The key to successful operations was that all affected participants worked together with a common goal to reach the needed and desired outcome. The group working on the solution was not side tracked in turf-wars and side bars of second guessing the outcome of the efforts. Examples of successful ANS controls are provided as an attachment to this Appendix.

LESSONS FROM UNSUCCESSFUL RESPONSE EFFORTS

An important lesson can be gained from rapid response efforts that did not succeed for reasons that could have been avoided, quickly rectified when they became obvious, or the process encumbered by entity or personal inability to interact with another entity or turf protection issues. The major reasons for unsuccessful responses was that that agencies were unwilling to deal with the problem, the agencies were indecisive in action and in funding, and the public and other were not made aware of the problem and its impact to them. Examples of unsuccessful ANS controls are provided as an attachment to this Appendix.

FACTORS LEARNED FROM SUCCESSFUL RESPONSE EFFORTS

An important part of learning is to understand what leads to the spread of ANS and what causes projects to fail. Rather than dwell on this point, it is best to state that knowing of a problem and the failure to take control measures in a reasonable time and without adequate control measures will allow for the establishment of ANS in new locations. There needs to be an overall understanding of the decline of the environment and recreational opportunities if ANS becomes established.

Factors to consider when deciding what control measure to use - is an eradication needed or is an unpopular control method justified:

A. Is there knowledge of the risk of reintroduction and is the risk to non target species low enough to justify eradication?

B. Taken overall, can controls be rapidly initiated?

1. Was the invasion detected early? Is the infestation small and only in a few locations?
2. Was the invader rapidly and accurately identified?
3. Is information on species biology and management quickly available?
4. Are treatment methods available?
5. Are there serious environmental issues or regulatory hurdles that will lead to delays or greatly increase the cost of treatment?
6. If permits are needed, can they be obtained in a timely fashion?
7. Has the species been prioritized for response and is there a pre-existing action plan?

C. Taken overall, is there a will to act?

1. Are there decision making procedures in place and entities/agencies with the power to determine whether eradication should proceed, how, and who should fund it?
2. Has there been a clear assessment of technical, field, administrative, funding, and legal resources available for an eradication campaign?
3. Is there acceptance of the need to proceed on the best information available?

4. Is there acceptance of short-term, local impacts in return for long-term, wide-area benefits?
5. Is there acceptance that the “no action” response has serious impacts and is a poor option?
6. Do a preponderance of the agencies (and their staff) feel they have a clear responsibility to act, or does one agency have a clear mandate and authority to act?
7. Is there recognition and acceptance that the eradication effort can be a long term effort, almost always taking years in the case of plants or other organisms with resistant resting stages?

D. Taken overall, is organization adequate and willing to work together?

1. Is there an ability to quarantine the infested area?
2. Is there a capacity to survey, in order to determine whether the pest is restricted to the quarantine area?
3. Will program staff with experience in pest management and eradication be assigned to direct the control efforts and monitor results?
4. Are funding sources adequate and of sufficient duration?
5. Is there effective collaboration among the parties carrying out the effort?
6. Is there regional collaboration where infestations cross jurisdictions?
7. Are there provisions for monitoring in order to modify, expand or end an eradication campaign?

E. Other factors

1. Is there support for the effort by affected parties, including the public?
2. Is there effective outreach and education for both the public and government decision makers?

Clearly, many of these factors are related but they all bear on ready access to the target, availability of adequate tools, and the ability to persist in the effort long enough to achieve eradication.

UNDERTAKING A RAPID RESPONSE

In the current sociopolitical environment in the U.S., the initiation and success of a rapid response can depend strongly on the extent of the infestation, ease of control, public response to the need to take action, and the governmental groups involved in the response working together to effectively respond to the problem. If the general requirements that are needed to initiate an eradication program are anticipated and preparations are made to meet those needs, the initiation of responses can avoid some of the confused and hesitant nature that sometimes characterize them at present.

A rapid response program is a variation of an integrated pest management program. The difference between rapid response and pest management is that the goal of rapid response is to reduce the population to zero (eradication) or no impact to the existing ecosystem or within manageable numbers of individuals. The goal in pest management is to maintain the population below an economic threshold (the point where potential damage outweighs the cost of control). Also, an eradication program is based upon an

intentional trade-off of short-term, localized impacts for long-term, wide-area benefits, so an eradication effort may require accepting higher levels of non-target damage than a pest management program. Eradication programs become less desirable as they require more widespread treatment and cause longer term damage.

The elements of a basic rapid response are relatively straightforward. It is the sociopolitical and environmental issues in a response that can and will complicate the situation. In a basic response to a known threat the usual steps are: rapid confirmation of the identity of a suspicious organism; survey (delimitation) to determine the extent of the infestation; quarantine of the infested area if possible; a very quick review of the available control options to choose the one best suited for the treatment conditions; application of the chosen control options, with at least a visual evaluation of the results on the target and non-target species; and modification of the control strategy as indicated by the results (sometimes called “adaptive management”).

For a less well-known pest, there would be additional steps. Once the pest was identified, a rapid literature survey of the biology and control of the organism might be needed, as well as quick tests of the potential control options to identify the most promising ones. The first applications of the chosen options might be made on a limited basis, with at least a visual evaluation of the results on the target and non-target species, to check that the treatment works as expected. The treatment might be modified as indicated by the results of the early applications or experiments and then general application would begin, with continued evaluation and modification as before. Some of these steps can be progressing at the same time.

In almost all situations involving aquatic nuisance species, the circumstances of the response will probably be complex and involve multiple entities and impacted participants. In a complex situation, the ELEMENTS OF A RESPONSE that need to be considered include:

1. Authority, leadership, and organization (that is, who has the legal ability to act, as well as who has the operational capability, and who is willing to undertake the control measures);
2. Coordination and cooperation among the different parties;
3. Funding and resources (included is manpower and time);
4. Quarantine establishment and enforcement of precautions to the problem’s spread;
5. Environmental regulatory compliance - obtaining permits, developing documentation(s);
6. Public awareness and education - outreach to affected property owners and parties;
7. Delimitation survey (possibly also widespread detection survey) and mapping, evaluation of the risk of spreading;
8. Review of knowledge on biology and controls, convening a science/management/environment advisory panel, research and technology transfer, and identification of potential treatment methods;

9. Informing the public and impacted participants of the problems, its affect on the regional ecosystem, and the needed control measures, and provide a realistic timeline for completion of each phase of the project;
10. Implementation of eradication methods, including persistent surveys and treatment to ensure eradication;
11. Treatment assessment and adaptation. Accountability for progress towards eradication must be recorded for review;
12. Environmental monitoring; and
13. Restoration/mitigation as needed or as legally permissible.

As was shown by successful control of ANS, the response generally begins when a biologist or field staff recognizes something out-of-place, has a specimen identified, and provides that information to appropriate entities. If the potential problem is identified, there must be an effort to determine if it can be controlled and who is responsible for that effort. In a complex situation, a number of agencies and interested parties come together and try to organize a response.

While it sounds simple and prudent to control the initial infestation, it is often a challenge to find an agency with clear authority, or, even better, a mandate and resources to respond to the introduction or an interest in controlling the problem. As a result, the unorganized group tries to identify a lead agency and resources in a non-binding fashion. Either intentionally or not, they will also address some of the response elements listed above, often embodying the results in a consensus-based action plan while each believes that it is the other parties problem(s) and no one is willing to take the lead.

THE MODEL SYSTEM AND RAPID RESPONSE PLANS

The initial rapid response plans for aquatic problems were adapted from agricultural plans. In both terrestrial and aquatic responses to exotic species, the problem(s) begin with detection capabilities, which are extremely important to success in a rapid response. In rapid response itself, the problems center on the lack of clear authority, funding, resolution of environmental issues, and planning to control the problem. These are problems that have been recognized at the national level and they have been identified as issues in the “National Invasive Species Management Plan” released by the National Invasive Species Council in November, 2000. The Council is a Cabinet-level group created by President Clinton’s Executive Order of February 3, 1999.

The model system attempts to address the weaknesses that have been identified in current rapid response efforts. It uses a two-level approach, both organized within the state government. The first level works on a statewide basis to address authority, policy, funding, and priorities. The second level addresses the details of implementing specific projects, particularly the need for experienced supervision. Either embodied in this structure or through a separate fund, adequate resources for responses also need to be available on short notice, because new introductions are unpredictable. The goal of this approach is to create a system, where, for a given introduction, the question of

whether to eradicate is decided at the outset or even prior to introduction, and, if the decision is to eradicate, then all aspects of the eradication are provided for. The system should address the response elements listed above, which currently are typically addressed in an ad hoc action plan developed by a volunteer group as the response unfolds.

North Dakota's Rapid Response Plan will utilize a central working group associated with North Dakota's Aquatic Nuisance Species Management Plan (ND-Plan), the Invasive Aquatic Species Committee (IASC), and chaired by the ANS-Specialist (ANS-SP) from the North Dakota Game and Fish Department. The IASC's purpose is to develop an invasive species management plan and part of that action will be to write a Rapid Response Plan and suggest to North Dakota's Legislature a series of laws which give authority to undertake control of new ANS infestations to the IASC and to provide funds to do such work. The efforts of the IASC could include work that may include providing grants, manpower, expertise, or a variety of efforts to control ANS infestations, and other needed phases of any ANS control effort.

Determine North Dakota's existing authorities and regulations, develop the authorities need to deal with a new aquatic nuisance species

The ability to control and regulate various flora and fauna for different markets such as agriculture purposes, food industry, pet trade, plant nurseries, and for recreational purposes may be covered by existing authorities and their laws and regulations. Determine if there is an authority that has responsibility in the management of ANS infestations. If there is no single authority, work must proceed with North Dakota's legislature to develop the authority for agencies to conduct ANS prevention or control activities.

Authority for an Invasive Aquatic Species Committee (IASC) to function in a Rapid Response role

The authority to eliminate or control ANS needs to be a matter of law and the regulations should lie within one group or with one agency's core mission and responsibility. The current laws shall be reviewed, areas of authority for each state agency will be delineated and compared to the needs facing the state's natural resources, and the ability and willingness to use those authorities to provide the efforts for control of ANS.

The IASC will be given the authority to act in the best interests of the state, and country in order to provide for long term protection from ANS infestations and with management authorities to take appropriate responses to the those infestations.

NATIONAL INITIATIVES

In addition to setting up a statewide system for addressing rapid response, relatively modest efforts at the national level could help tremendously. The most cost-effective

efforts would be through development of reviews of biology and control methods for various high priority species or higher taxonomic groups to be used as the basis for control projects. It makes little sense for each state to have to develop this information for itself and to keep track of the data or provide a data base for others. Many authorities have repeatedly noted the importance of ready access to technical information in the success of an eradication effort.

SUMMARY

A rapid response can occur in a complicated social and environmental setting, but in most instances a response must be initiated quickly without turf-wars and second guessing to have a successful eradication. Although debate and consensus-building are desirable means to construct public policy, if they are slow, the initiation of a response is likely to be counterproductive to the goal of eradication. Once a new ANS infestation is noticed, there must be a forum that will quickly rapidly address the issues and then make a sound decision. That decision can range for do nothing to a complete eradication. If the decision is made to eradicate, the ultimate goal of this plan is to put competent pest management personnel on the ground and give them the freedom to focus on the infestation with the persistence that is required to achieve eradication.

The approach to these goals employs a two-level organization. The first level, the state's Aquatic Invasive Species Committee (AISC), would focus on the problem of that ANS infestation and on preparing for a vigorous response effort(s). This level agreement must occur at a high level of state management and with participation of affected federal and local interests. The AISC's decisions on a course of action should provide the state a management plan to achieve the goals of control or eradication of the problem(s). The second level of organization focuses on the operations on the ground. It also identifies the various issues and options surrounding invasive species and informs the first level about them and further uses that information to prepare for introductions. Once the first level outlines a course of action, the second level focuses its knowledge and experience on the field operations needed to achieve the goals.

A successful response to an invasive species requires access to adequate tools, access to the target species, and, often, dogged persistence. Sometimes these requirements are inconvenient or too expensive for society, and extra costs fall on the people and habitats caught up in the area of the infestation. The decision to eradicate or otherwise respond to an invasive species can be difficult, and it needs to have a forum that reflects the importance of the issues involved. Once the decision is made to eradicate or suppress an introduced population, the managers on the ground then need to put their full energies on finding and removing the target species. This plan attempts to address these dual needs and maximizes success against invasive aquatic nuisance species.

THE FRAMEWORK PROVIDING FOR NORTH DAKOTA'S RAPID RESPONSE ACTIONS

The steps that follow provide the framework of the actions that North Dakota will take in the event that a new ANS is discovered within the state.

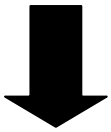
Discovery of new infestation

The Department will develop a website for reporting the occurrence of ANS, provide for the reporting methodology for the discovery of new ANS, for tracking the presence or absence of ANS species and their locations, and a protocol to verify specimen suspected of being a new ANS.

Confirmation of a new ANS or an ANS in a new location is done by the Lead Agency (the North Dakota Game and Fish Department). The North Dakota Game and Fish Department may defer to another agency if it is in the best interest of controlling the problem to be the LEAD AGENCY.

The information flow on the new ANS will be from the Lead Agency via the coordinator to prevent problems with conflicting comments, tracking information dissemination, and how information is provided. This step is critical to prevent false and misleading information being provided to the public as direct reports or via mass media.

leads to



Report/Notice to Lead Agency

The Lead Agency will have the responsibility of communicating with other involved agencies that have jurisdiction or regulatory authorities, local experts, stakeholders, directly with the public, and with the mass media. The Department's Director or the Chief of Fisheries will head the committee with assistance of the ANS coordinator (coordinator), a Department position, to facilitate the efforts to eliminate or control the aquatic nuisance species. The Department will contact the AISC and inform them of the new discovery.

The Lead Agency and ANS-SP will notify others (agencies with jurisdiction or regulatory authority, stakeholders, local experts, etc.) when a new ANS is located within the State or is on the state's borders. As a matter of operating procedures, when a new species is found, but not yet confirmed, the ANS-SP and associated response team will be notified when a new ANS has been reported or reported/confirmed in North Dakota.

The Risk Assessment Matrix (RAMx) will be filled out for existing species and for any

new species identified. See attachment for a copy of the RAMx. The value of the RAMx will be in a quick determination of the new species likelihood of become a significant problem to North Dakota waterbodies.

leads to

IASC Convenes a Science Panel to discuss the problem and develop a statement of facts and anticipated direction

The AISC convenes a Science Panel (SP) after an ANS infestation has been confirmed. The SP will be made up of five to eleven experts in their respective field(s) and from various federal, state, and local agencies, or from institutions of higher learning. It shall be the SP's responsibility to make a time review of information on the specie or genera, make a recommendation on the need for control(s), method(s) of control, and likely outcome(s) if no control is done. Included in the "likely outcome" will be an analysis of environmental and economical impacts of the new ANS. A portion of this report will contain the likely scenario of no action being taken and the likely effects on natural resources. This report shall be completed in a reasonable time frame and be of reliable estimations which would include a peer review of regional authorities.

The above effort will need to be done in a timely manner and with a professional product being produced. A concern is if the process drags on for an extended period of time, the ANS can and will spread, which negates the effectiveness of the SP. Any recommendation by the SP could be for remedial action(s) that are only effective in the initial stages of an infestation. When decisions are delayed, the controls may now be inadequate for a widespread infestation that cannot be controlled.

The SP can be called prior to any new ANS infestation, review the available information on controlling species or genera of concern, provide likely problems if a specific ANS becomes established, provide for a likely listing of control options or eradication measures (the tool box approach), and document this information for use at a later date. The exercise on control measures should periodically be updated to reduce the time needed to respond in the event of an actual new ANS infestation.

leads to

Lead Agency actions

The information provided by the SP will be reviewed by the AISC, coordinator, and the Department to determine the next sequence of steps. The Lead Agency's action could range from a news release in that area of the state to a complete closure of the waterbody to all users. Within this range there could be any item of control listed in the tool box of control and elimination measures.

In any course of action, an informed public is vital to allowing for control and to eradicate the problem ANS. When the public is provided the information and that information is correct, the likely outcome from the ANS infestation, ramifications to the them, i.e., environment, water supplies, economics, reduced recreation, increased costs of living, and other appropriate information, it is firmly believed that the general public will select the best alternative for them and the environment.

leads to

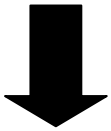
Outreach efforts about the ANS problem, the Science Panel recommendation and concurrence of Lead Agency, and take public input/comment

The AISC, via the coordinator, will provide the public with information about the ANS infestation, the potential impacts of the ANS, the formation of the SP, the objectives of the SP, and alternative(s) to control the problem species. The coordinator will work closely with mass media outlets to provide current and factual information, which will be delivered in a timely manner. It shall be the responsibility of the AISC, via the coordinator, rather than the individuals of the committee or individual entities to provide information to the public or other entities about ANS infestations or potential problems**.**

Public information available to the coordinator and ANS-SP can be provide in many different avenues: mass media presentations, conducting public meetings, give interviews or conduct open houses to provide the information, reporting the data the SP has found, and answer appropriate questions. This effort will be used in selecting the preferred control methodology within the bounds of obtaining reasonable results.

Again, this process should not become involved and time consuming. When the time from discovery of the ANS infestation to control is prolonged, the effectiveness of control or confinement is greatly reduced. To promote local residents being aware of the ANS problem, appropriate field staff of the Lead Agency will be making some of the contacts to various local entities or groups to provide information on the problem.

leads to



AISC shall select the action plan or appropriate solution and inform the public within a reasonable time

The AISC shall review the documentation provided by the coordinator and select the appropriate action plan or control methodology. The ANS-SP shall inform the public of the preferred control methodology and review their comments and concerns. Legitimate concerns will be addressed and appropriate information will be provided to those groups involved in the management of the resource and use of the natural resources.

The ANS-SP shall acquire the needed permits to conduct the action plan or control method that will be used.

The AISC shall have the authority to collect funds or provide billing for reimbursement from the various agencies that make up the working group.

An integral part of this phase of the project will be selecting an appropriate method for the recording of the before and after conditions so a baseline can be established, and results can be determined allowing for an evaluation of the IASC actions.

The process can select from a variety of control methods or a combination of those methods. In general, the control from the tool box of actions could include: 1) a campaign to inform the public of the problem(s) and request their help in not spreading the problem; 2) posting signs at the area informing the public of the problem(s); 3) posting information on the preferred procedures on how to clean and disinfect a boat/PWC/trailer and recreational gear; 3) requiring that recreators take proper cleaning methods when leaving that waterbody; 4) limiting recreation on that waterbody to a time period when the problem(s) is not likely to be moved to a new location; 5) closing of that waterbody to recreational efforts until the problem is eliminated or brought under control; 6) complete eradication of the waterbody which includes elimination of closely associated species and a short term modification of that waterbody's ecosystem; and 7) do nothing as the problem is widespread and cannot be controlled or eliminated by current methodology.

All of the above information and options, along with the preferred method, are to be provided to the Lead Agency for their decision on the method of control and for informing the public. As part of this work, a timeline must be developed which lists the major needs of the control plan, whom (both as an entity or an individual within that entity) will accomplish that section of the control plan, when these sections of the control plan will be accomplished, how the efforts and the status of the control will be reported to the public and involved or impacted participants, and the expected outcome with a

plan for evaluation(s) that includes the methodology to be used and when the evaluation(s) will be accomplished.

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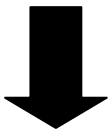


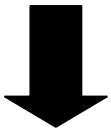
Implementation of the preferred control method

The preferred method of control must be put into place in a timely manner and at the levels decided on by the Lead Agency. To achieve the desired effects, there should not be infighting or disagreements voiced outside of the IASC or SP to the general public. The Lead Agency will designate appropriate staff to complete the activities selected by the AISC.

Implementation will occur as or when all permits are acquired, the public is informed, the public's consent or grudging acceptance or agreement by education has been done, and other agencies concerns addressed with those being satisfied or acknowledged.

The control method will be undertaken within a reasonable timeline to be the most effective. A reasonable timeline must be constructed and followed.

leads to



Evaluation of the outcome

As this is the final portion of the AISC activities, it is important that the process be used to reach the defined objective and be recorded, that the objective was clearly stated, that the objective was one that could be quantified and measured, and the control method used be described and recorded. The monitoring of the infested site is to continue for a reasonable time and the expectation is that the infestation be eliminated, controlled, or its spread curtailed. The latter will be compared to the objective and a determination of success can be made by the members of the AISC. This will also allow for modification of the control measures for future infestation by other species or the same species at another site.

The public will be informed of the evaluation procedures, the status of information being collected, and the outcome of the control methods. This information will be provided in a reasonable time frame and in understandable context for the public.

Attachment to Appendix K

Snakehead in Maryland

A species of snakehead (Family Channidae) that could survive in temperate to cold climates was collected from a small abandoned, rock quarry in Maryland. This specie's diet includes a variety of food items, i.e., bottom dwelling invertebrates, small fish, and animals on the waters surface which they capture with strong, toothed jaws. It can grow to a large size, produce large numbers of young, and are long lived. The source of these fish was likely to have been from the pet trade or from Oriental food markets.

Maryland has had a history of working with ANS infestations and understood the potential for additional problems if this infestation spread beyond this pond. A Scientific Advisory Panel was convened to make recommendations on controlling this fish species. The group reviewed many possible control methods. The working group focused on determining the practical solution to the infestation and this task was completed in less than 24 hours. The solution to the temperate snakehead infestation was to eradicate the pond in a timely manner.

Many state and federal agencies worked closely on this project which allowed for information to be quickly exchanged, problems identified, and compromises to problem areas could be found with little loss of time. The inter agency cooperation was good, the various groups focused on eradicating the abandoned rock quarry in an expedient manner, and the desired outcome was reached.

In all phases of this project, the public was provided with current and honest information which greatly decreased pubic concerns about the project and associated delays. The need to eradicate the quarry was conveyed to the public and little or no objections from the public or environmental groups was voiced.

The eradication was successful as temperate snakeheads have not been found in that pond. Due to the public concern about this species, snakeheads are now included in the Federal list of prohibited animals for importation or for sale.

Caulerpa in Coastal Southern California

Caulerpa taxifolia is a saltwater alga -- a seaweed -- that is native to tropical waters, where it typically grows to a small size and in limited patches. In the late 1970's the species became popular in the aquarium trade because it is a fast growing and decorative plant. A clone of this specie escaped from an aquarium into the Mediterranean and it rapidly spread from a patch of about one square yard to over two acres by 1989. By 1997 it blanketed more than 11,000 acres of the northern Mediterranean coastline.

On June 12, 2000, Caulerpa was noticed in the Aqua Hedionda Lagoon, in
Attachment to Appendix K

Carlsbad, California. Once the plant was identified, the firm contacted a variety of agencies that address invasive species, water, and wildlife issues, and discussions began about possible responses. Several different groups began researching control possibilities by June 22nd. By the end of June the group outlined an action plan that they released on July 12th as the Southern California Caulerpa Action Team (SCCAT) Rapid Response Program. By then, the infested area had been cordoned off and the local police and game wardens were helping enforce the closures. In addition, intensive public outreach efforts had been initiated.

In the ensuing weeks and months, SCCAT continued to focus on eradicating the population and reaching out to other interested groups. By September 18th, all the known patches in the Aqua Hedionda Lagoon had been treated. In early August, another small infestation was found in Huntington Harbor, near Los Angeles. Again decisive steps were taken and the problem was quickly and effectively treated.

The description of the response might give the impression that there was a strong central authority, with a clear strategy and unquestioned lines of command from the outset, but the original records show otherwise. The group had a diversity of opinions and agendas and it developed its strategies through a consensus approach. A different set of people spearheaded the different components of the response and they volunteered according to their abilities as much as being appointed by the group.

Salvinia in the Lower Colorado River

Salvinia molesta is an attractive plant in small quantities and has been used in the aquarium trade and with the current interest in water gardens, offered for sale in the nursery trade. Unfortunately, *Salvinia*'s growth rate, ease of spread, tendency to clump or form large mats, and the creation of critical dissolved oxygen problems when these mats decompose make up for its small size.

On August 4, 1999, a biologist for the U.S. Fish and Wildlife Service (USFWS) noticed thousands of free-floating *Salvinia* plants on the Colorado River as it passes through the Imperial National Wildlife Refuge, about 25 miles north of the Mexican border. On August 20th, over fifty agency representatives and other interested people attended a meeting to consider the situation and plan a course of action. The USFWS was identified as the lead agency for the project. The group decided to quickly and cooperatively expand the search for the plant. They completed the delimitation survey by September 15th, when a second planning meeting occurred. The infested area included two federal wildlife refuges and the habitat of two endangered fish and two endangered birds.

Attachment to Appendix K

At the second meeting, the Task force formed a Science/Management Advisory Panel of five experts in aquatic plants and their control from across the US. This group

established a Task Force and encouraged all land managers in the infested area to undertake "...whatever actions they could to control *Salvinia* within existing and pertinent regulatory constraints". A Task Force began development of an Action Plan and was completed by October 13th. The group's recommendations were for "...a comprehensive, integrated and aggressive control program whose objectives are…to **eliminate** (their emphasis) populations in the River and all waters of the Western states". Yet the all-out eradication program failed to materialize.

The primary problems with completing the eradication were typical for interjurisdictional endeavors. Some of the specific areas of concern were:

1) Serious environmental concerns created a difficult situation, because two wildlife refuges, four endangered species, and a major water supply all required special consideration; 2) Within the authorities working on the problem, no consensus about an overall approach to treatment throughout the infestation could be reached; 3) The involved institutions had difficulty finding funds to provide a dedicated project manager or other staff and necessary support; 4) Everyone involved tried to participate in the response in addition to all their normal duties; 5) Federal agencies could use their funds for herbicide treatments but that would likely trigger the need for an Environmental Impact Statement, and this would cause likely delays; and 6) The biological control method which holds out the best hope was a Brazilian weevil specializing in feeding on *Salvinia,* which was not certified for release in this area.

Momentum for an all-out eradication program did not materialize. Although the U.S. Fish and Wildlife Service took on the role of lead agency for the response, a variety of agencies have jurisdictions along the River, and there was no consensus about an overall approach to treatment throughout the infestation. Part of the difficulty was to use pesticides which would likely trigger an Environmental Impact Statement, with the attended delays. Another factor was that biological control holds out hope for a less painful option. For some unclear reason, but probably related to water chemistry, *Salvinia* has not thrived in the Colorado River itself, although it does well in the ditch. These latter two factors made the situation appear less threatening, reducing the incentive to eradicate.

<u>Eurasian watermilfoil in Minnesota</u>

Eurasian watermilfoil arrived in the northeastern United States in the 1880's. This plant was used in the aquarium trade during the 1950's. Aquarium owners who dumped their aquariums into local lakes or ponds could have started new infestations. Recreational boats or trailers moved plant fragments to new

waterbodies. By 1985, Eurasian watermilfoil was reported in 33 states and three Canadian provinces. Minnesota's first infestation of Eurasian watermilfoil was reported in Lake Minnetonka, located near the twin cities of Minneapolis and St. Paul, in 1987. This lake has been highly popular with numerous private estates and property holdings

by influential private parties along the shoreline. While the effects of Eurasian watermilfoil is known, there was no interest by the lake's property owners in taking actions which would have included localized application of an aquatic herbicide.

By 2001, 133 waterbodies have been found to have Eurasian watermilfoil infestations. A pattern of infestation was observed where new infestations radiated from Lake Minnetonka and these infestations were along the major travel routes used by recreators. Eight infested lakes are found along U.S. Highway 169 and 65, which lead from the Twin Cities to the lake country of northern Minnesota. There are seven infected lakes along Interstate 94, the
route leading to North Dakota. One of these lakes is about 45 miles east of Fargo, North Dakota. The rate of new infestations of Eurasian watermilfoil has increased in recent years. While the majority of these early infestations were near the Twin Cities, more outlying infestations are being found. Many of these new infestations are located at a considerable distance from the original site near the Twin Cities. One of the new infestations is about 60 miles from the Twin Cities, but is not on a major travel route. The rate of new infestations has been increasing in the past few years. These new infestations can be the source of plants that are being transported to new waterbodies and these then create an infestation at that site or sites.

Efforts to control Eurasian watermilfoil have included a public education campaign, regulations prohibiting the transportation of aquatic vegetation on boats, trailers or vehicles, and chemical eradications. The first two reactions have helped make the public aware of the problems and methods to prevent the movement of the problem species. The latter example, application of a herbicide, is a dramatic step to eliminate the problem from an area and the likelihood of it being spread from that site. The two lakes in Itasca County were treated with a fluridone herbicide, Sonar, in a whole-lake treatment in 1999. Inspections for Eurasian watermilfoil were done in 2001 and these did not find Eurasian watermilfoil to have reestablished an infestation.

The use of a herbicide was an effort to quickly eliminate the problem and prevent its spread. This tactic would have been effective in the initial infestations, but it was not done without public concerns about localized recreational opportunities. As an outcome, the Minnesota Department of Natural Resources is spending approximately $1 million dollars annually to treat ANS. Not all of the monies are used to control Eurasian watermilfoil, but has prevented the problem from
Attachment to Appendix K

spreading. Nor have these efforts of monies and manpower eliminated the problem.

Attachment 1

Risk Assessment Matrix

	Species
Factors Influence the Establishment of ANS in North Dakota	
North Dakota's climate and habitat conditions are similar to those in the specie's native range: very similar - 5; at the end of its range - 3; outside of its range – 1	
This specie is: not on a state or other local lists - 5, is a state or local listed species - 3; on a Federal 1	
The specie already has: statewide distribution - 5, is in isolated areas in the state - 3, or is not present at this time - 1	
The species is: self controlled due to location, time of year, i.e., fall, movement is unlikely for the short term – 1; there is a likelihood that the ANS will be moved – 3; the species is readily moved and is likely to be moved to new areas in a relatively short time – 1.	
Introduction will cause the loss of native or desirable specie(s) or habitats - 5, expanding its range is of ecological concern - 3, and no concerns from the establishment – 1	
This specie causes environmental or economic problem(s) - 5, this specie has the potential to cause problem(s) - 3, has caused no known problems -1	
Control method(s) are: proven - 1, experimental - 3, unknown – 5	
Control efforts are focused on preventing the introduction - 1, eradicate the isolated populations -3, prevent the spread or slow the introduction of the species – 5	
Introduction pathways are: many or unknown - 5, few -3, single – 1	
Agencies have the authority/responsibility to deal with the problem(s): multiple - 1, few - 3, and single – 5	
Agencies that are wiling to deal with the problem(s): multiple - 1, few - 3, and single – 5	
Information available on the specie: extensive on the specific specie - 1, general - 3, little or none – 5	
Public concern about this species: no concern – 5; aware with some concern and might do something – 3; concerned about the problem and willing to do something – 1	
Total Score	

Attachment: **2004 PROGRESS REPORT NORTH DAKOTA AQUATIC NUISANCE SPECIES MANAGEMENT PROGRAM by LR Schlueter, Special Project Biologist, North Dakota Game and Fish Department, Devils Lake, ND.**

2004 PROGRESS REPORT
NORTH DAKOTA AQUATIC NUISANCE SPECIES (ANS)
MANAGEMENT PROGRAM

January 2005

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The following summarizes completed activities or activities in-progress identified in North Dakota Statewide ANS Plan's Strategy and Objectives. It is understood that many of these activities need to continue at the current level or more effort will be required to make sure that ANS prevention is effective. The initial contacts and involvement has been made with target audiences, it is important to continue to work with them in ANS education and prevention as it will be very difficult to keep the momentum if the efforts wane or falter.

Objective 1: Coordination of aquatic nuisance species activities and preparing/implementing a comprehensive management plan

Strategy 1A: Coordination of ANS activities for all ANS management programs and activities within North Dakota through development of the Aquatic Invasive Species Committee.

Strategy 1A1. The Game and Fish Department will designate an Aquatic Nuisance Species Coordinator and support this position with federal ANS Task Force funds and matching state funds. The Coordinator will encourage communication between governmental entities, the public, and private sector; provide information, archive appropriate ANS information, and provide the public with needed information for them to make responsible decisions.

Action Taken: ANS prevention is a priority of the Game and Fish Department. The Department assigned the Special Project Biologist to work on ANS issues and be the coordinator for the state's ANS management. The Department, through the Special Project Biologist, will support the efforts of the Aquatic

Invasive Species Committee (AISC) in developing and implementing North Dakota's Aquatic Nuisance Specie Management Plan (ND-Plan).

Strategy 1A2. The coordinator will identify key personnel in governmental, tribal, private, and the public sector with ANS responsibilities. These individuals will be invited to form the Aquatic Invasive Species Committee to oversee ANS activities within North Dakota. The Coordinator will be the chairperson of this advisory committee. The AISC will work to ensure that the ANS strategy is coherent and consistent throughout North Dakota. AISC will develop ANS assessment guidelines as needed for local governments or cooperating entities.

Action Taken: An *ad hoc* AISC was formed to produce a draft of the ND-Plan. The AISC will become recognized through the approval and acceptance of coordinated, pro ANS management efforts in North Dakota. The Seated Committee, e.g., voting privileges, will provide information and recommendations to the various government agencies, public entities, and the private sector. Using representatives from a variety of agencies, public entities, and private organizations the AISC (see Appendix H for a listing of Seated Committee and Standing Representatives on the AISC) will strive to ensure communication between government and private sectors on ANS issues, resolve issues before they become road blocks to the prevention of ANS, and to make recommendations for continuous improvement of the state's ANS management (see Appendix I for flow chart and communication description). The AISC is open to all interested parties as Standing Representative, e.g., no voting authority, to participate in ANS management in North Dakota. Initial committee representation was a cross-section of North Dakotans. The AISC reviewed a draft of a state management plan adapted from other state's efforts. The ND-Plan and sent it out for technical review (see Appendix J for a listing of the Technical Review panel). The plan received considerable internal review by the AISC (see Appendix K for a review of the plan development process).

Strategy 1A3. The state plan will allow for coordinating North Dakota ANS prevention efforts with those being done on a regional and national scale.

Action Taken: The coordinator is working with the US Fish and Wildlife Service's ANS-Task Force, the Western Regional Panel, other states, and local government agencies to improve and to collaborate on ANS issues. These efforts requires that funding be available to travel to meetings and actively participate in dialog to reach mutually achievable goals and objectives.

Strategy 1B: Prepare and implement a comprehensive management plan.

Strategy 1B1. AISC will prepare a plan to begin comprehensive, statewide ANS management plan for North Dakota.

> **Action Taken:** A draft North Dakota AQUATIC NUISANCE SPECIES (ANS) MANAGEMENT PLAN will have been completed and submitted to the FWS ANS-Task Force for approval and funding by March 2005.

Strategy 1B3. The state plan will allow for coordinating North Dakota ANS prevention efforts with those being done on a local level, in the region such as the efforts outlined in Montana's and Iowa's state plan and Minnesota's Sea Grant work, and on a national scale.

> **Action Taken:** A draft North Dakota AQUATIC NUISANCE SPECIES (ANS) MANAGEMENT PLAN is contingent on state agencies, entities, the private sector, and the public work together to achieve the solutions to ANS problems and the spread of such problems.

Strategy 1C: Participate in and support regional, federal, and international efforts to control ANS.

Strategy 1C1. The coordinator is to participate in the FWS ANS-Task Force's Western Regional Panel, support the Pacific States Marine Fisheries Commission's 100th Meridian Project, and coordinate with Canadian provinces and neighboring states on ANS issues.

> **Action Taken:** The Coordinator is participating with groups that are actively working to prevent the spread of ANS. Those groups include: Western Regional Panel, 100th Meridian Project, Missouri Interstate Cooperative Resource Association ANS-Panel, and initiated coordination activities with neighboring Canadian provinces and states. These activities will continue as funding permits.
>
> **I**nteraction during the meeting and seminars is critical to ANS prevention and networking which provides for better ANS prevention efforts. These efforts are frequently dropped when funding is low, but they need to continue at current or higher levels.

Strategy 1D: Develop partnerships and funding sources to leverage state and federal funds with nonfederal funds to increase ANS prevention efforts that will be undertaken.

Strategy 1D1. Create stable funding sources for ANS management in North Dakota by seeking federal funding from the Nonindigenous Aquatic Nuisance Prevention and Control Act-1990 (NANPCA Act), seek other potential funding sources from state agencies, alternative funding sources, or grants for ANS prevention or control efforts.

> **Action Taken:** The Game and Fish Department requested funding from

the North Dakota Legislature for the 2005 to 2007 biennium. The Coordinator will leverage these funds with federal funds, grant monies, and other funding sources to accomplish the prioritized needs of the ND-Plan.

In preceding years, 1998 through 2004, the North Dakota spent approximately $125,000 on ANS prevention efforts. The funding sources were both federal and state. To accomplish ANS efforts, the Game and Fish was able to shift allocated funds and manpower from other fish management projects. Initial federal funding was part of the impetus for North Dakota concerted ANS prevention effort. Other state agencies were conducting ANS prevention, but the amount that they have spent has not been qualified as the effort was not closely tracked.

The ND-Plan and ANS efforts to date are concrete efforts that the state legislature will recognize. Funding the ND-Plan by North Dakota Legislature should be increased because previous ANS efforts have been successful and is concrete evidence that education is effective in prevention.

The ability to combine state funds with anticipated funds from the FWS ANS-Task Force makes the ND-Plan more likely to be funded at an appropriate level. Federal dollars are needed to make the ND-Plan a more credible program and more effective.

Strategy 1D2. Develop partnerships with state and federal agencies, private enterprise, and the public to leverage existing funding sources to undertake additional ANS prevention and eradication efforts. Partnerships to fund ANS prevention information with local entities will create a buy-in for ANS prevention with those groups and an ownership in preventing ANS importation.

Action Taken: The AISC was developed based on the concept of having partners to accomplish the ND-Plan's prioritized needs. The coordinator has developed partnerships with private groups such as fishbait retailers, fishing and hunting guides, motels and other lodging accommodations, convenience stores, commercial ventures, and local chambers of commerce. Partnerships have been formed with a variety of state and federal agencies or entities such as the US Army Corps of Engineers, US Fish and Wildlife Service, Bureau of Reclamation, Coast Guard, and others that are concerned with ANS prevention. The partnerships have included ANS prevention efforts as funds for educational information and manpower to do monitoring.

The coordinator has worked with Department of Tourism to include ANS information in publication they provide on local and regional bases. This effort has been extended to fishing clubs, local chamber of commences, fishing and hunting guides, and other groups which has resulted in local agreement and buy-in for ANS prevention efforts. The use of partnerships on local ANS information is a ownership of prevention efforts by the local outdoor recreational community.

Strategy 1E: Review and evaluate state efforts in addressing ANS.

Strategy1E1. Update the state ANS plan as needed, with annual progress reports and a five-year program report

> **Action Taken:** The 2004 PROGRESS REPORT-NORTH DAKOTA ANS AQUATIC NUISANCE SPECIES MANAGEMENT PROGRAM is the initial document that addresses ND-Plan's accomplishments. This document will be updated in following years, but dependent on funding for the ND-Plan.

OBJECTIVE 2: PREVENT THE INTRODUCTION OF AQUATIC NUISANCE SPECIES INTO NORTH DAKOTA.

Strategy 2A: Research and address pathways of introduction.

Strategy 2A1. Describe the potential pathways through which ANS can enter North Dakota via recreational, commercial, esthetic, and illegal pathways, and include judgments of the risks of introduction from specific pathways.

> **Action Taken:** The Coordinator reviewed literature on biota introduction into North Dakota, identifying 19 separate pathways. There is a risk associated with each pathway, but the most likely ANS introduction will be from recreational vessels and equipment.

Strategy 2A2. Estimate the potential for ANS introduction for each pathway; conduct a risk analysis.

> **Action Taken:** Conducted comprehensive boater surveys that determined: 1 – boat owners' residence, 2 – water the boat was last in, 3 - intended destination for boaters, 4 – awareness of ANS issues, and 5 – ANS precautions taken prior to this trip. Interviews will be a combination of questions asked during angler creel interviews, statewide questionnaires, and by contract with outside entities to conduct specific boater interviews. Interviews provide a baseline for comparing changes in boater attitudes and evaluating the risk for ANS import to North Dakota's waters. Continue this effort as angler interviews are conducted at North Dakota's major waters, e. g., Devils Lake, Missouri River, and Lake Sakakawea, ever three years and on other waters in association with fisheries management projects.
>
> Pet retailers were contacted to determine origin of goldfish, Koi or other carp. The concerns was the these fish could be a source of Spring Viremia of Carp Virus which can be infectious to cyprinids and related species. Additional efforts are needed to define actual sources of fish or aquatic plants and animals being offered for sale in North Dakota's markets.
>
> The pathways that ANS could enter North Dakota should be continued to be researched and monitored. For each pathway, a risk assessment and likelihood of infections from a pathway or a combination of pathways should be

conducted. These efforts would be best undertaken by contracting with a university to complete a study on non recreational boating ANS pathways.

Strategy 2B: Prevention of ANS along determined pathways of introduction.

Strategy 2B1. Continue to educate public and private groups that are shown to be the likely sources of ANS importation and the results of accidental introduction of ANS.

Action Taken: The coordinator contacted representatives from power production plants, industry and manufacturing, and municipal water plants about impacts of ANS to those systems. These groups were provided with information on the financial impact to their businesses from ANS infestations. North Dakota groups were unaware of the potential ANS financial impact on their ventures. These groups were provided website information on the problem, given contact within umbrella groups to develop their prevention program, and invited to AISC meetings.

Educational efforts must be on-going as to keep the target audiences' awareness at appropriate levels, these efforts need to continue and be increases where and when possible.

Strategy 2B3. Implement the HACCP (Hazard Analysis and Critical Control Point) training program for appropriate fish hatchery, field, and survey personnel of the North Dakota Game and Fish Department.

Action Taken: ANS transport on vessels and prevention protocols were reviewed with the North Dakota Game and Fish Department's Fisheries Division during their staff meeting. To prevent ANS transport on nets or in boats, prevention would include equipment washing and nets, disinfection as required, and air drying when practical. North Dakota fish for stocking sources, e.g., federal fish hatcheries in North Dakota and fish hatcheries outside of North Dakota, were contacted to determine ANS prevention protocols used. These efforts were made to assure that the Fisheries Division and FWS hatcheries were not unintentionally moving ANS with loads of fish.

These efforts need to be ongoing to prevent complacency which could allow for the unintentional introduction on ANS.

Strategy 2B4. Work with fishing tournament officials to ensure boats and equipment under went ANS prevention protocols.

Action Taken: The coordinator worked with fishing tournament officials to provide participants information on ANS impacts, ANS prevention protocols, and encouragement of ANS protocols to be mandatory for the tournament. This effort has been as a presentation at numerous fishing tournaments during 2003 and 2004. Participants' ANS awareness, prevention protocols are determined by questions they are asked at the time they register to participate in a tournament.

Fishing tournament officials ANS inspections were monitored by the coordinator. Information was summarized in unpublished Fisheries Division reports.

Annual efforts were made by the coordinator to reinforce the need to take ANS prevention as tournament anglers travel between lakes. The tournament anglers were requested to include ANS prevention information in seminars they present in the off season.

Strategy 2D: Prohibit, control, or permit the importation of nonindigenous aquatic species based upon their invasive potential.

Strategy 2D1. The develop a non-indigenous species list in North Dakota.

Action Item: The coordinator compiled a North Dakota non-indigenous fish species list from information on file from the Dakota Chapter of American Fisheries Society (see Appendix M for a listing and those species considered to be an ANS) and from the USGS web site on nonindigenous species on record for each state.

Strategy 2D2. Develop a list of defined ANS and those that are of high concern to North Dakota and develop preferred management strategies for dealing with these as listed by priority class.

Action Item: The North Dakota Game and Fish Department contracted with Minot State University, Bottineau Campus for a life history review of selected ANS, comparing that information with abotic condition, e.g., temperature, water chemistry parameters, turbidity, and bottom types, etc., found in North Dakota waters, and determine which ANS species could survive if introduced into them. The information became the "Status of Aquatic Nuisance Species in North Dakota - Priority for Action" report (see Appendix K for the North Dakota ANS Status Report and species of concern). A summary of that information is given below:

Outtake from - *Status of Aquatic Nuisance Species in North Dakota*
Priority Class 1:

Presence in ND:	Currently not in North Dakota
Risk for importation:	High potential to be brought into North Dakota.
Significance of impact to economies or ecosystems:	Significant negative impact to ecosystems and to regional economies.
Cost and/or effectiveness of control options:	Control prohibitively expensive.
Availability of management strategies:	Limited effectiveness, or no known management strategies for these species.
Appropriate management stance:	Prevent introduction and eradication of pioneering populations.

continued: *Status of Aquatic Nuisance Species in North Dakota*

Species in this Priority Class:

1. Eurasian Watermilfoil (*Myriopyllum spicatum*)
2. Zebra Mussel (*Dreissena polymorpha*)
3. Asian Clam (*Corbicula fluminea*)
4. Asian Carp (Bighead *Hypophthalmichthys nobilis)*
   (Grass *Ctenopharyngodon idella)*
   (Silver *Hypophthalmichthys molitrix)*
   (Black *Mylopharyngodon piceus*)
5. Round Goby (*Neogobius melanostomus*)
6. Ruffe (*Gymnocephalus cernuus*)
7. Spiny Water Flea (*Bythotrephes cederstroemi*)
8. Heterosporosis (Micsporidia that infects a variety of fish species)
9. Infectious Hematopoietic Necrosis (IHN) Virus

Priority Class 2:

Presence in ND:	Present and established in North Dakota.
Risk for importation:	High potential to spread within North Dakota.
Significance of impact to economies or ecosystems:	Localized ecosystem and economical impacts.
Cost and/or effectiveness of control options:	Control prohibitively expensive.
Availability of management strategies:	Limited in nature, or no known management strategies.
Appropriate management stance:	Prevent introduction or spread or if the species becomes established mitigate impacts, control of population size, and prevent dispersal.

Species in this Priority Class:

1. Saltcedar (*Tamarix spp*.) – this is a terrestrial plant species, managed as a terrestrial problem, and is listed as an ANS because of its impact on watersheds and water bodies
2. Curlyleaf Pondweed (*Potamogeton crispus*).

Priority Class 3:

Presence in ND:	Not established in North Dakota.
Risk for importation:	Potential for introduction into specific North Dakota waters.
Significance of impact to economies or ecosystems:	Impact to specific ecosystems, watersheds, or economies.
Cost and/or effectiveness of control options:	High costs due the constraints associated with the species life histories.
Availability of management strategies:	No management techniques available for wide spread application.
Appropriate management stance:	Prevention of introductions and eradication of pioneering populations.

continued: *Status of Aquatic Nuisance Species in North Dakota*

Species in this Priority Class:
1. Whirling Disease (*Myxobolus cerebralis*)
2. Asian tapeworm (*Bothriocephalus acheilognathi*)
3. New Zealand Mud Snail (*Potamopyrgus antipodarum*)

Priority Class 4:

Presence in ND:	Present in North Dakota.
Risk for importation:	Potential to easily spread in the state.
Significance of impact to economies or ecosystems:	Wide ranging impact to specific ecosystems or economies.
Cost and/or effectiveness of control options:	Expensive to treat on an extensive level.
Availability of management strategies:	Management strategies are limited.
Appropriate management stance:	Prevention of dispersal to other water bodies and control of species where practical and appropriate.

Species in this Priority Class:

1. Common Carp (*Cyprinus carpio*)
2. Purple Loosestrife (*Lythrum salicaria*) - this is a terrestrial plant species, managed as a terrestrial problem, and is listed as an ANS because of its impact on watersheds and water bodies
3. Yellow Flag Iris (*Iris pseudacorus*)
4. Flowering Rush (*Butomus umbellatus*)
5. Bacterial fish pathogens (various species)

The Priority List must be periodically reviewed and updated as new ANS are found in the United States, the spread of known ANS is found to have occurred, and additional information on life histories becomes available.

2D3. Develop a North Dakota list of ANS that cannot be imported, moved, possessed or sold within North Dakota. Provide that information to the North Dakota Legislature for review and concurrence.

Action Taken: The information for 2D2 and existing regulations were reviewed, and regulations from other states were reviewed. The listingof ANS was developed and can be provided to the North Dakota Legislature when requested.

Strategy 2E: Promote legislation and regulatory rules that establishes or increases the state's authority to control the introduction of new species.

Strategy 2E5. Require that fish imported for hatchery use or bait is disease free or collected from areas free of ANS. Periodically review the status of ANS in areas the fish or bait originate in and new ANS to keep North Dakota's moratorium on importation current.

Action Taken: The North Dakota Game and Fish Department requires that live fish brought into the state are free from known diseases, and that fish for stocking and baitfish are collected from ANS free areas. The prohibited list of diseases and ANS for the importation of fish into North Dakota is updated when relevant information comes available. The location of bait fish collection is required on import permits and reviewed against the current ANS location maps.

The import of fish must continue to be monitored as ANS infestation spread to new locations in bordering states. The moratorium on baitfish or importation of fish from areas that are known to have ANS must continue.

OBJECTIVE 3: DETECT A PIONEERING AQUATIC NUISANCE SPECIES AND MONITOR EXISTING POPULATIONS OF AQUATIC NUISANCE SPECIES.

Strategy 3A: Implement a monitoring and early detection program.

Strategy 3A2. Conduct an annual monitoring of high-risk water bodies and monitor other water bodies with regularity.

Action Taken: The coordinator developed a monitoring program that is conducted on waters where the Fisheries Division is conducting fisheries inventories. Data sets track waters initially surveyed, lakes inspected a last time, and ANS found. ArcView provides layered maps to track the initial infestations and spread of ANS. The efforts to collect data and provide ArcView mapping is contingent on funding of the ND-Plan. These efforts will be important to track any ANS infestation and know in which areas the ANS has not been found.

Strategy 3A3. Place zebra mussel colonization substrates (traps) in areas of high probability of infestation or provide traps to other agencies or individuals. In addition, inspect boat docks or buoy lines that have been recently removed from the water bodies for zebra mussels.

Action Taken: The coordinator developed partnerships with the US Army Corp of Engineers to place and retrieve artificial substrates (traps) for zebra mussel colonization for Lake Sakakawea and Lake Ashtabula. North Dakota Game and Fish, Fisheries Division staff placed and retrieved traps in Lake Sakakawea and Bowman-Haley Reservoir. Fisheries staff and personnel for US Army Corps of Engineers inspected boat dock, marker buoy anchor lines, and other equipment that had been in the water for the summer. Information from these efforts is summarized and provided to the Pacific State Marine Fisheries Commission for their records. North Dakota's zebra trap information is made available as ArchView layers in ANS tracking maps.

Strategy 3B: Develop an early response mechanism to deal with detected and potential invasive species.

Strategy 3B1. Implement a Rapid Response Plan.

> **Action Taken:** The coordinator and the AISC prepared a Rapid Response Plan (see Appendix N for details on North Dakota's Rapid Response Plan). The ND-Rapid Response is proactive in order to quickly eliminate an ANS infestation. This document is a proactive approach towards developing solutions to ANS as they are discovered. This approach differs from the traditional views of "wait to see" or "manage around the problem" and "react after the problem" has caused economic damage. A fundamental reality of the ANS issue in that all agencies must begin to communicate and agree on actions in a timely and effective manner.
>
> The Rapid Response Plan should be periodically reviewed and updated to make sure that it is a useable and functional document.

OBJECTIVE 4: EDUCATIONAL CAMPAIGN TO PREVENT THE SPREAD OF AQUATIC NUISANCE SPECIES.

Strategy 4A: Educate resident anglers and hunters about ANS prevention protocols by providing focused information in the best avenues of dissemination.

Strategy 4A1. Identify what is the key message, the best format to deliver the information, and where to best deliver the message to this group.

Strategy 4A2. Provide information and education (e.g., signs, posters, kiosks, banners, newspaper articles, articles in periodicals, on radio and television spots, and similar venues) on ANS risks and prevention protocols as found in 4A1.

> **Action Taken for 4A1 and 4A2:** The North Dakota Game and Fish Department and the coordinator have developed the following: a 15 minute video on ANS problems; methodology of introduction; prevention protocols; brochures provided with each boat renewal; posters provide to major sporting good outlets, e.g., Cabelas, Gander Mountain, Wal-Mart, K-Mart, and Scheelds,; posters in baits shops, boat dealerships, and marinas; posted signs at boat ramps; produced numerous articles in local and regional news papers, articles in regional periodicals; public appearances; and individual contacts. The North Dakota Game and Fish Department assisted the 100th Meridian with the design and the posting of ANS informational signs at Lewis and Clark Bicentennial destination sites. The coordinator worked with the FWS ANS-Task Force to design and distribute promotional items which were supplied by the FWS.

Increase in marketing to target audience will require additional funds to be in the correct market to reach the intended audience and achieve the desired response.

Strategy 4A3. Determine the levels of ANS awareness and precautions used.

Action Taken: Through interviews and statewide questionnaires, anglers are asked questions to determine their level of ANS awareness and ANS prevention protocols. These interviews are repeated at heavily used waters every three years which will give comparisons over time. Statewide angler questionnaires are done annually. Comparing recent results with those of the prior five-years, North Dakota anglers have had a significant increased in both ANS awareness and of their taking ANS precautions between fishing and boating trip.

Conducting interviews requires funds that need to be made available to complete this section of the ANS prevention efforts.

Strategy 4B: Educate non-resident anglers and hunters about ANS prevention protocols by providing focused information through the best avenues of dissemination.

Strategy 4B1. Identify what is the key message, the best format to deliver the information, and where to best deliver the message to this group.

Strategy 4B2. Provide information and education (e.g., newspaper articles, articles in periodicals, in tourism publications, on radio and television spots, and similar venues) on ANS risks and prevention protocols as found in 4B1.

Action Taken for 4B1 and 4B2: The coordinator is working with State and local tourism officials to determine those regions where North Dakota travel information is most requested and is the most likely source of ANS introductions. Include ANS information in packets being mailed out and list web links of ANS prevention sites. Determine if mass media efforts will provide the ANS prevention message to the market-audience. These mailings require additional postage that is an increased expense to small cities' Chamber of Commerce.

Strategy 4B3. Determine the level of ANS awareness and precautions used.

Action Taken: The coordinator compared the response from nonresidents from recent and previous angler interviews at North Dakota's major waters. Determine if there have been any changes in the level of ANS awareness and of ANS prevention used. Focus on ANS prevention protocols listed to be taken before making the trip to that water.

Determine where the nonresident and resident are receiving the ANS information and if there would be a better source for information dissemination. A secondary effort would be to determine if the style of information dissemination should be adjusted to reach this targeted audience.

Strategy 4C: Educate non-consumptive outdoor recreators about ANS, the need to prevent it, and disseminate information in the best form and venue.

Strategy 4C1. Identify what is the key message, the best format to deliver the information, and where to best deliver the message to this group.

> **Action Taken:** The coordinator worked with established groups, e.g., birding groups and eco-tourism, to determine attitude of non-consumptive recreators toward ANS prevention. Provide eco-tourism information on ANS impacts and prevention protocols.
>
> Determine where the non-consumptive recreators are receiving the ANS information and if there would be a better source for information dissemination. A secondary effort would be to determine if the style of information dissemination should be adjusted to reach this targeted audience.

Strategy 4D: Educate water users about ANS problems for them, the need to prevent the introduction or spread of the problem, and how to best provide that message.

Strategy 4D1. Determine where the different types of water users can be contacted and in what form will the ANS message be best received and understood by them.

> **Action Taken:** The coordinator contacted local water resource boards, and provided them presentations on the ANS impacts. The water resource boards were encouraged to consider ANS impacts and to include REPPs in their projects, and realize their projects impacts extend beyond the traditional take line.
>
> Education will need to continue and this will require additional funds be made available to reach this target audience that was typically over looked in ANS prevention efforts.

Strategy 4E: Provide tourism promotion groups, including state and local efforts which include guides and outfitters, fishing tournament promoters, etc., with information about the impacts of ANS, how ANS are moved into or within the State, and how critical prevention is.

Strategy 4E2. Determine these groups willingness to provide additional information on ANS prevention methods.

> **Action taken:** The coordinator has contacted these groups and determined which will provide ANS information to their contacts or clients.

Strategy 4F: Develop communication with public and private entities, such as the Garrison Conservancy District, water pipeline cooperatives, etc., about potential

ANS impacts to their operation, the need for a cooperative approach to prevention, and the need to heighten staff awareness.

Strategy 4F1. Determine the level of awareness that these groups have regarding potential ANS problems and what ANS prevention and monitoring is currently being done.

> **Action taken:** The coordinator will contact these groups and determined which are receptive to learning about ANS impacts for their particular ventures.

OBJECTIVE 5: INSPECTIONS OF RECREATIONAL BOATS, COMMERCAL VESSELS, AND EQUIPMENT USED IN AQUATIC SITUATIONS.

Strategy 5A: Implement an inspection program for boats used for fishing, hunting, or pleasure.

Strategy 5A1: Develop and implement boat inspections at boat ramps to determine if ASN is present, where the boat has been, where the boat will be used, and owner/operators awareness of ANS problems and preventions.

> **Action taken:** Boaters were contacted at boat ramps in 1999, their boats inspected, and they were interviewed to determine ANS awareness. These interviews should continue as specific projects conducted by contracts to universities or to conservation groups. This should be an ongoing project and be done via contract to outside sources rather than done by Department staff.

Strategy 5B: Implement an inspection program for vessels used during construction in aquatic situations.

Strategy 5B1. Develop and implement requirements as provided in permits that vessels such as barges, tugs, work boats, tenders, or similar vessels be required to be ANS free prior to their being launched or used on or in North Dakota's waters.

> **Action taken:** The Department has preparing verbiage to be provided to Corps of Engineers to be included in permitting. Inspection of vessels has occurred where and when the location of the vessel was made availably to the Coordinator and the vessel could be inspected.

Strategy 5C: Implement an inspection program for equipment used in construction in aquatic situations.

Strategy 5C1. Develop and implement requirements as provided in permits that equipment used in aquatic situations be required to be ANS free prior to their being launched or used on or in North Dakota's waters.

Action taken: The Department has preparing verbiage to be provided to Corps of Engineers to be included in permitting. Inspection of construction equipment has occurred where and when the location of such equipment was made availably to the Coordinator and the vessel could be inspected.

OBJECTIVE 6: WHERE FEASIBLE, CONTROL AND ERADICATE PIONEERING OR ESTABLISHED AQUATIC NUISANCE SPECIES THAT HAVE SIGNIFICANT IMPACTS ON NATIVE OR DESIRABLE SPECIES.

Strategy 6A: Control known nuisance populations where economically and technically feasible.

Strategy 6A3. Provide technical assistance to watershed councils, conservation districts, irrigation districts, lake associations, and other groups for development of management plans.

Action Taken: The coordinator and State Water Commission are working with local Water Resource Boards to prevent common carp from being introduced into waters not infested with carp. Details on fish barriers were provided along with recommendations on which design was the most effective.

The value of local Water Resource Boards including ANS prevention efforts should become part of their planning proposes and not an after the fact thought when it is brought to their attention. Early incorporation of ANS prevention is cost effective and allows designing REPPs.

OBJECTIVE 7: INFORM THE POLICY MAKERS ABOUT THE RISKS AND IMPACTS OF AQUATIC NUISANCE SPECIES.

Strategy 7A: Educate public officials about the problems of ANS and how ANS are spread.

Strategy 7A1. Create med presentation and accompanying information on ANS concerns, impacts, and need for proactive prevention efforts

Action Taken: The coordinator has developed a presentation highlighting the potential ANS impacts to North Dakota's resources.

Strategy 7A2. Provide interested law makers the pertinent points to be considered when crafting legislation to prevent the introduction or spread of ANS.

Action Taken: The coordinator and AISC have prepared a list of items to be considered in promulgating legislation on ANS. (see Appendix K for additional information on ANS concerns provided to North Dakota Legislators)

OBJECTIVE 8: INCREASE THE AQUATIC NUISANCE SPECIES KNOWLEDGE BASE AND DISSEMINATE THAT KNOWLEDGE IN NORTH DAKOTA THROUGH COMPILING DATA, CONDUCTING RESEARCH AND INFORMATIONAL PUBLICATIONS.

Strategy 8C: Facilitate the collection and dispersal of information, research, and data on ANS in North Dakota.

Strategy 8C1. Create a central repository for reference materials and a central data base on ANS infestations.

> **Action Taken:** The coordinator has begun to compile information on ANS species, infestation sites, and life history.