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History and Development of the Eurasian Watermilfoil Program in Iowa

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Following a concerted effort by citizens of the Iowa Great Lakes area to address the threat posed by Eurasian watermilfoil (*Myriophyllum spicatum* L.) to waterbodies in Iowa, the Iowa Eurasian Watermilfoil Law was passed in 1996 by the Iowa legislature. Passage of this law led to the establishment of the Eurasian Watermilfoil Program in July 1996 to address the requirements specified by this legislation. Since establishment of the Eurasian Watermilfoil Program, numerous activities have been carried out to address the threat posed to aquatic ecosystems by Eurasian watermilfoil. These include public awareness and education, boat access monitoring, aquatic vegetation monitoring, management, and enforcement activities. While considerable progress has been made in addressing the problems created by Eurasian watermilfoil, numerous challenges still remain for the Eurasian Watermilfoil Program. These include a permanent funding mechanism, development of enforceable regulations, the need for continued lake monitoring activities, the updating of the state management plan as new research data becomes available, and the need to broaden the scope of the Eurasian Watermilfoil Program to address all aquatic nuisance species.

INDEX DESCRIPTORS: Eurasian watermilfoil, aquatic nuisance species, Iowa Eurasian Watermilfoil Program, *Myriophyllum spicatum*.

HISTORY OF EURASIAN WATERMILFOIL LEGISLATION IN IOWA

As information about Eurasian watermilfoil (*Myriophyllum spicatum* L.) became available in the late 1980s, concern over this aquatic weed began to develop in Iowa. This was especially true in northwest Iowa where lakeshore homeowners and members of local lake protective associations began to question what could be done to protect the Iowa Great Lakes from this invasive exotic plant. Following the discovery of Eurasian watermilfoil in Crystal Lake in 1993, what started out as a general concern about this problem became a focused effort to take action.

During the summer of 1994, members of the East Okoboji Lakes Improvement Corporation, the Okoboji Protective Association, and the Spirit Lake Protective Association began to consider options for dealing with the Eurasian watermilfoil threat. The first formal action taken by these organizations occurred during the spring of 1995 when Spirit Lake attorney Peter Narey called a joint meeting of the three protective associations and suggested that efforts be taken to secure passage of legislation dealing with Eurasian watermilfoil. As a result of this meeting, activities in the Iowa Great Lakes area became more focused and intense as support for this approach was sought.

Local activities culminated in December 1995 with a meeting of Iowa Department of Natural Resources (IDNR) personnel, lake protective association representatives, local politicians, and concerned citizens. This meeting was held to solidify support and make final plans for development of the proposed legislation. This meeting resulted in a commitment from Senator Jack Kibbie and Representative John Greig to support this local initiative in the Iowa legislature.

Using Minnesota's existing Eurasian watermilfoil law as a model from which to work, legislation was drafted for presentation during the 1996 legislative session. Sponsored by Senator Jack Kibbie and supported by Representative John Greig, the proposal made its way

through the legislative process and was passed in the spring of 1996 as the Iowa Eurasian Watermilfoil Law (Appendix A). This law gives the IDNR the authority to restrict the introduction, propagation, use, possession, and spread of Eurasian watermilfoil. To implement the law, a one year appropriation of \$100,000 was approved for establishment of the Eurasian Watermilfoil Program.

RESPONSIBILITIES ASSIGNED TO THE DEPARTMENT OF NATURAL RESOURCES

The 1996 Eurasian watermilfoil legislation requires the IDNR to identify bodies of water with infestations of Eurasian watermilfoil and post signs alerting boaters to the infestation. According to the law, the IDNR may prohibit boating, fishing, swimming, and trapping in infested bodies of water. Enforcement of the Iowa Eurasian Watermilfoil Law is the responsibility of the Law Enforcement Bureau, Fish and Wildlife Division of the IDNR.

To address the requirements outlined by the new Eurasian watermilfoil law, the IDNR established the Eurasian Watermilfoil Program. The primary purpose of the Eurasian Watermilfoil Program is to minimize the harmful effects of Eurasian watermilfoil on the state's aquatic ecosystems. However, there are additional reasons to control Eurasian watermilfoil; it can limit aquatic recreation, negatively impact residential and commercial lakefront property values, and cause declines in local economies which depend on aquatic recreation and tourism (Engel 1993).

Passage of the Iowa Eurasian Watermilfoil Law required the IDNR to prepare a long-term statewide Eurasian watermilfoil management plan to address the detection and prevention of accidental introductions of Eurasian watermilfoil into the state, a public awareness campaign regarding Eurasian watermilfoil, the control and eradication of Eurasian watermilfoil in public waters, and the development of a plan of containment strategies for Eurasian watermilfoil infestations which includes participation by lake associations, local citizen groups, and local units of government in the development and im-

plementation of lake management plans for waterbodies where Eurasian watermilfoil exists. This law also required the IDNR to post notice to travelers within Iowa of the penalties for violation of the Iowa Eurasian Watermilfoil Law.

In the fall of 1996, work was begun on a statewide Eurasian watermilfoil management plan. This plan was completed in April 1997. Following approval by the IDNR commissioners, it was implemented on 1 July 1997. This plan addresses the criteria specified in the Iowa Eurasian Watermilfoil Law by establishing four goals. These goals are to: (1) detect and prevent the accidental introductions of Eurasian watermilfoil into the state of Iowa, (2) increase public awareness of the problems associated with Eurasian watermilfoil, (3) eradicate or control Eurasian watermilfoil infestations in public waters in Iowa in a way that does as little harm as possible to lake ecosystems, and (4) develop a plan for the containment of Eurasian watermilfoil in waterbodies where it exists. A complete discussion of the objectives, strategies, and actions associated with meeting these goals can be found in the *Comprehensive Plan for the Management of Eurasian Watermilfoil in Iowa* (Phillips 1997).

ADMINISTRATION OF EURASIAN WATERMILFOIL PROGRAM

Ecologically harmful aquatic nuisance species, such as the bighead carp and purple loosestrife, have been present in Iowa for a number of years (Aulwes 1999). However, a program to prevent the spread and address the negative impact of an aquatic nuisance species in Iowa is new to state government. In 1996, the IDNR was designated as the state agency responsible for the management and control of Eurasian watermilfoil. The Eurasian Watermilfoil Program is administered by the Fish and Wildlife Division of the IDNR and is directly responsible for the administration of all activities carried out within the state that deal with Eurasian watermilfoil.

Responsibilities for overall supervision of the Eurasian Watermilfoil Program are assigned to Thomas Gengerke, Regional Fisheries Supervisor within the Fish and Wildlife Division. Management and/or eradication activities are coordinated by Regional Fisheries Supervisors and District Fisheries Biologists. Coordination of public awareness and education activities, boat access monitoring, aquatic vegetation monitoring, management plan development, and report preparation are carried out by the Eurasian Watermilfoil Program Coordinator. Gary Phillips, Environmental Studies Program Coordinator at Iowa Lakes Community College, Estherville, Iowa has filled this position since the program was established in 1996. During the 1996 through 2000 field seasons, four part-time field technicians were assigned annually to the program. These technicians were responsible for performing boat access and aquatic vegetation monitoring activities.

Funding for the Eurasian Watermilfoil Program is derived from legislative appropriation. During the 1996 legislative session, \$100,000 was appropriated for this program. This appropriation has been approved during the 1997 through 2000 legislative sessions, thereby allowing for a continuation of this program for five years. Program coordination for Eurasian watermilfoil activities is done under contract with Iowa Lakes Community College. No other contacts have been executed as part of this program. While many states contract with licensed herbicide applicators to chemically treat infestations (Vermont Department of Environmental Conservation 1996), this activity is presently being performed by IDNR staff.

As project officer of the Eurasian Watermilfoil Program, Thomas Gengerke is responsible for federal and regional coordination. Because of the relative newness of this program, regional and federal coordination has been limited and will continue to be so until basic administrative tasks, such as implementation of a state aquatic nuisance species management plan, are completed. However, numerous

contacts were made with aquatic nuisance species coordinators in neighboring states concerning the development and implementation of the Eurasian Watermilfoil Program.

In 1990, the federal Nonindigenous Aquatic Nuisance Prevention and Control Act was passed. This law established the Great Lakes Panel that was designed to keep states informed of regional and federal efforts regarding harmful aquatic nuisance species. In 1996, the National Invasive Species Act was passed which reauthorized and amended the Nonindigenous Aquatic Nuisance Prevention and Control Act to include all waters of the United States. Under this legislation, development of a state aquatic nuisance species management plan would make Iowa eligible for grant money established by this law and would provide increased opportunities for involvement at the regional and federal level.

COMPONENTS OF THE IOWA EURASIAN WATERMILFOIL PROGRAM

On 01 July 1996 the Eurasian Watermilfoil Program became officially operational. Since then a number of activities and projects have been implemented as part of this program. The five primary areas addressed by the program include; public awareness and education, boat access monitoring, aquatic vegetation monitoring, management, and enforcement.

Public Awareness and Education

Since the inception of the Eurasian Watermilfoil Program, public awareness and education activities have been given a high priority. It was felt that the best way to reduce the spread of Eurasian watermilfoil was by making the public aware of the threat posed by this plant and informing boaters of the steps which they can take to prevent the spread of this aquatic plant. For this reason, considerable time and effort have been given to educational activities.

Public awareness and educational activities included presentations to lake protective associations and civic groups, signage of boat ramps, development of informational brochures which have been distributed statewide, development of billboards which are currently being displayed throughout the state, and preparation of numerous press releases and news articles. These public awareness and educational activities have been aimed at informing the public about Eurasian watermilfoil and soliciting the assistance of citizens in helping the IDNR control the spread of this exotic plant.

Since 1996, the program coordinator and fisheries biologists have been actively involved in making presentations about Eurasian watermilfoil to lake protective associations and civic groups. During the first year of the program, most of these presentations were made in northwest Iowa. This was done primarily because of the high number of lakes considered to be susceptible to Eurasian watermilfoil infestations. Since then, efforts have been made to expand these presentations to a statewide basis. The ability to do this was enhanced by the development and distribution of an audio-visual informational slide program in 1999.

Development of new signs for boat ramps was another activity that received attention during the early stages of implementation of the program. Two signs were developed, one calling attention to the threat of Eurasian watermilfoil and describing the actions which can be carried out by boaters to reduce the spread of Eurasian watermilfoil. A second sign, indicating an infested body of water, was also developed for use along the Mississippi River and at those sites where Eurasian watermilfoil was discovered. Initial efforts to sign lakes were begun in northwest Iowa. Because the new signs were not ready for installation until late in the 1996 field season, signage for the rest of the state was not begun until the spring of 1997. Presently, most

boat ramps in the northwest, northeast, and southwest fisheries districts have been signed and efforts are underway to complete signage of the rest of the state.

New informational brochures were also developed and printed in 1996. These brochures address the identification of Eurasian watermilfoil, the distribution of Eurasian watermilfoil in Iowa, and the steps which boaters can take to prevent the spread of Eurasian watermilfoil. Since being developed, these brochures have been distributed statewide. During the summer field seasons, boat access monitoring teams distributed these brochures to boat owners when boat inspections were performed. These brochures have also been given to all boat owners by county recorders when they registered their boats.

In an attempt to reach a statewide audience, numerous press releases and news articles have been distributed as part of the efforts of the Eurasian Watermilfoil Program. In the Iowa Great Lakes area, the activities of the Eurasian Watermilfoil Program received extensive coverage by both local newspapers and radio stations. The program also received extensive newspaper and television coverage in the Sioux City area following the discovery of Eurasian watermilfoil in Snyder Bend and the Waterloo and Cedar Rapids area following the discovery of Eurasian watermilfoil in Sweet Marsh. Articles have also appeared in the *Iowa Conservationist*, the *Des Moines Register*, and the *Omaha World Herald*.

As part of public awareness and education activities, billboards have been displayed throughout the state. These billboards were put up to address the requirement in the state legislation to post notice to travelers within Iowa of the penalties for violation of the Iowa Eurasian Watermilfoil Law. Placement of these billboards was based on proximity to either infested areas or high risk aquatic ecosystems.

Boat Access Monitoring Activities

Boat access monitoring activities were undertaken to address several Eurasian Watermilfoil Program concerns. These concerns included determination of both the level of knowledge which the public possessed in regard to Eurasian watermilfoil as well as the current extent of transportation of aquatic vegetation by boaters in Iowa. To evaluate the level of knowledge of boaters and extent of vegetation transportation, it was necessary to develop a boat access monitoring program which involved active inspection of watercraft and direct contact with boaters.

During the first year of the program, most boat access monitoring activities were concentrated in northwest Iowa, specifically in the Iowa Great Lakes area. Since then, efforts have been undertaken to expand boat access monitoring activities to areas outside of northwest Iowa in order to increase statewide coverage. Throughout these boat access monitoring activities, low levels of public awareness were encountered. While no awareness surveys were conducted, boat access monitors estimated that approximately one in five boaters contacted was familiar with Eurasian watermilfoil. It should be noted that the highest level of public awareness concerning Eurasian watermilfoil was found among boaters from out-of-state, especially those boaters coming from states with ongoing Eurasian watermilfoil programs. Boaters from Minnesota and Wisconsin appeared especially well informed and, in general, were pleased that Iowa had implemented a program to deal with Eurasian watermilfoil.

Between 1 July 1996 and 4 September 2000, a total effort of 3,808 man-hours was devoted to boat ramp monitoring. This effort resulted in the inspection of 11,714 boats and 26,968 personal contacts with boaters. Boat accesses were monitored between the Memorial Day and Labor Day weekends.

During these monitoring periods, 92 of the 11,714 boats inspected had vegetation attached. This is less than one percent of the boats inspected and suggests that transportation of aquatic vegetation is

not a widespread or common problem in Iowa. Four watercraft were inspected with Eurasian watermilfoil attached. A Wisconsin sailboat inspected at Clear Lake, an Iowa boat inspected at West Okoboji Lake, and an Iowa personal watercraft inspected at Storm Lake had all been recently used on infested lakes outside of Iowa. A fourth Iowa boat inspected at Lansing had been recently used on the Mississippi River.

In an attempt to develop local interest and involvement in the Eurasian Watermilfoil Program, efforts were made to promote local volunteer boat access monitoring events. Volunteer events have been extremely successful in other states and represent a way to increase the number of boats inspected and personal contacts made with boaters (Bratager et al. 1996). During the Labor Day weekends, the Spirit Lake High School Student Council held volunteer monitoring events in the Iowa Great Lakes area.

Aquatic Vegetation Monitoring Activities

According to state law, the IDNR is responsible for identifying lakes currently infested with Eurasian watermilfoil. To accomplish this task, an aquatic vegetation monitoring program was established in 1996 to inspect lakes for infestations of Eurasian watermilfoil. To maximize the amount of data obtained during these lake inspections, program monitors compiled aquatic vegetation species lists for each of the lakes surveyed.

As a result of aquatic vegetation monitoring activities, a total of 290 lakes were surveyed for Eurasian watermilfoil between 1 July 1996 and 11 August 2000. Aquatic plant species lists were prepared for all surveyed lakes. Eurasian watermilfoil was found in 11 lakes in eight counties since the beginning of the Eurasian Watermilfoil Program. Follow-up surveys of all infested lakes were conducted annually after treatment of the infestation with herbicides. During these follow-up inspections, Eurasian watermilfoil was not found in Crystal Lake, Walnut Creek Marsh, Wilson Grove Pond, Snyder Bend, Sweet Marsh, Mitchell Lake, and South Prairie Lake. If no Eurasian watermilfoil is detected in a waterbody for three years after treatment, it is assumed that eradication efforts have been successful (Westerdahl and Getsinger 1988). Eurasian watermilfoil, however, was found to still be present in Koutny Pond and St. Benedict Pond, indicating that eradication had not been accomplished for these waterbodies. Both of these sites were scheduled for additional chemical treatment.

In an attempt to develop local interest and involvement in the Eurasian Watermilfoil Program, efforts were made to promote local volunteer aquatic vegetation monitoring events. Volunteer events have been extremely successful in other states and represent a way to increase the number of lakes inspected (Bratager et al. 1996). One volunteer activity was carried out as part of the aquatic vegetation monitoring program. Members of the Spirit Lake Protective Association conducted this monitoring activity during the summers of 1997 through 1999 on Spirit Lake.

Management Activities

As part of the Eurasian Watermilfoil Program, a number of activities were carried out which directly addressed the management of this aquatic nuisance species in Iowa. These activities included the development of a statewide comprehensive management plan, preparation of management strategies for existing infestations, actual control and/or eradication activities, and data collection to evaluate and prioritize the threat of Eurasian watermilfoil within Iowa.

In accordance with the requirements specified by state law, a long-term comprehensive statewide Eurasian watermilfoil management plan was prepared and implemented as part of the first year activities. This plan addresses: (1) the detection and prevention of accidental

introductions of Eurasian watermilfoil into the state, (2) a public awareness campaign regarding Eurasian watermilfoil, (3) the control and eradication of Eurasian watermilfoil in public waters, and (4) the development of a plan of containment strategies for Eurasian watermilfoil infestations. These containment strategies are to include participation by lake associations, local citizen groups, and local units of government in the development and implementation of lake management plans for waterbodies where Eurasian watermilfoil exists.

Following the discovery of Eurasian watermilfoil in a waterbody, management strategies were developed to address these infestations. These management strategies included posting Eurasian watermilfoil infestation signs, mapping the areas of the waterbodies with Eurasian watermilfoil beds, determining water volumes for usage during chemical treatment, surveying the waterbodies for threatened and endangered plant species, and developing management plans for control and/or eradication of the Eurasian watermilfoil.

Other management activities include the chemical treatment of the Eurasian watermilfoil infestations in infested waterbodies. Following these chemical treatments, additional surveys were conducted to evaluate the success of these treatment activities. Additional follow-up surveys need to be conducted for a minimum of three years following chemical treatment to determine if eradication has been successful.

To facilitate Eurasian watermilfoil management activities, a survey of the littoral zone vegetation of 240 lakes in Iowa was conducted during the summer of 1996. The lakes included in this survey were 4 ha (10 acres) in size or larger and capable of supporting harvestable fish populations. Survey results identified 16 lakes that had over 50% of the littoral zone vegetated, 43 lakes with 25 to 50% of the littoral zone vegetated, and 181 lakes with less than 25% of the littoral zone vegetated.

Also, as part of the Eurasian Watermilfoil Program, the 240 lakes surveyed for littoral zone vegetation were also ranked to determine their susceptibility to infestation by Eurasian watermilfoil. This ranking system was based on eight criteria; average summer Secchi disk depth, nutrient loading, sediment loading, fisheries potential, boating/recreational potential, residential/commercial potential, percent of littoral zone in lake, and percent of littoral zone currently vegetated. Ranking results identified eight Category I (high risk) lakes, 85 Category II (moderate risk) lakes, and 147 Category III (low risk) lakes. Lakes listed as Category III (low risk) are considered unlikely to become infested with Eurasian watermilfoil because they currently do not support viable populations of aquatic vascular plants.

Currently aquatic nuisance species management activities within the state are focused specifically on Eurasian watermilfoil. However, there is a very good likelihood that other aquatic nuisance species will soon begin to create problems within Iowa. This will necessitate additional management activities that are beyond the scope of the Eurasian Watermilfoil Program. For these reasons, steps were taken by the IDNR to evaluate the potential for establishing an Aquatic Nuisance Species Program. After reviewing aquatic nuisance species programs in Michigan, New York, and Ohio, it was determined that the first step in establishing such a program Iowa would be to prepare a state aquatic nuisance species management plan.

In 1996, the National Invasive Species Act was passed which reauthorized the Nonindigenous Aquatic Nuisance Prevention and Control Act of 1990 and amended it to include all waters of the United States. Development of a state management plan would make Iowa eligible for grants established by this law and would provide increased opportunities for involvement at the regional and federal level. Research and development of a preliminary outline for a state aquatic nuisance species plan was initiated in July 1997. The Iowa Aquatic Nuisance Species Task Force was formed the following June

to review the preliminary research and begin work drafting an aquatic nuisance species management plan.

After three revisions, the draft plan was submitted to IDNR administrators for internal review. Following review and additional revisions, the final draft management plan was completed and made available for public review. On 16 June 1999 the legal notice of public review was posted in the *Des Moines Register*. As part of the public review process, a public hearing was held on the proposed state aquatic nuisance species management plan utilizing Iowa's fiber optic network. The public hearing was delivered to five regional sites. These included Manchester, Washington, Alleman, Atlantic, and Spirit Lake. Following the thirty day public review period which ended on 15 July 1999, the task force met to review the public comments.

Following final revision by the task force, the *Plan for the Management of Aquatic Nuisance Species in Iowa* (Phillips 1999) was submitted to the Governor's Office for review. On 17 September 1999, Governor Thomas Vilsack submitted his transmittal letter and the plan to the U.S. Fish and Wildlife Service. After extensive external review, the U.S. Fish and Wildlife Service Aquatic Nuisance Species Task Force evaluated the plan at their December 1999 meeting in Washington D.C. and recommended approval. Notification of official U.S. Fish and Wildlife Service approval was sent to the state of Iowa on 13 January 2000.

Since approval of the management plan, a request was submitted to the U.S. Fish and Wildlife Service for a grant to provide funds to establish an aquatic nuisance species program. This grant was approved in August 2000, providing the IDNR with \$125,023 for fiscal year 2001. With these funds in place, steps are being taken to implement an aquatic nuisance species program. This program should be fully operational during the 2001 field season.

Enforcement Activities

With passage of the Eurasian watermilfoil legislation in 1996, prohibited activities were defined and penalties for these acts were established. Prohibited acts include transporting Eurasian watermilfoil on a public road, placing a trailer or launching a watercraft with Eurasian watermilfoil attached in public waters, and operating a watercraft in a marked Eurasian watermilfoil area. The penalty for violation of the Eurasian watermilfoil law is a fine of \$100. Enforcement of Eurasian watermilfoil regulations is the responsibility of the Law Enforcement Bureau, Fish and Wildlife Division, of the IDNR.

Since the establishment of the Eurasian Watermilfoil Program, emphasis has been placed on public awareness and education rather than enforcement. As a result of this approach, no citations have yet to be issued to any boaters. Efforts have been made to alert conservation officers to the new regulations and to inform them about Eurasian watermilfoil. Materials have also been provided to assist these officers in the identification of Eurasian watermilfoil. However, because of the difficulties in distinguishing between Eurasian watermilfoil and other native milfoils, there has been a concern among law enforcement officials that the existing law is difficult to enforce and because of that, there has been a tendency to refrain from issuing citations for transporting the plant on boats and/or trailers.

In the case of infested bodies of water, no boating or other aquatic recreation restrictions have been implemented, except at Snyder Bend where commercial fishing operations were suspended and Sportsman Pond where all boating activities were suspended. All waterbodies containing Eurasian watermilfoil were posted with signs alerting the public to the fact that the lake was infested. Public awareness activities were also implemented to inform boaters of the need to remove any attached vegetation after using these waterbodies.

CONCLUSIONS

As a result of Eurasian Watermilfoil Program activities, three basic facts have become apparent. First, there is a low level of public awareness in Iowa concerning the problems associated with Eurasian watermilfoil. Second, while the transportation of aquatic vegetation by boaters is not a common or widespread problem, aquatic vegetation is being transported. Because of this, the threat of new infestations of Eurasian watermilfoil in Iowa will continue to exist. Third, because infested lakes continue to be identified throughout the state of Iowa, the problem is more widespread than originally believed. These facts suggest that there is a continued need to increase public awareness of Eurasian watermilfoil, how it is spread, and the problems which it is capable of causing when a new infestation becomes established in a waterbody. If Iowa is to be successful in managing Eurasian watermilfoil, the activities of the Eurasian Watermilfoil Program must continue to be carried out on a statewide basis.

While the activities carried out since the establishment of the Eurasian Watermilfoil Program represent a positive development in dealing with this aquatic nuisance species, much remains to be done. Results of boat access and aquatic vegetation monitoring suggest that Eurasian watermilfoil is going to continue to be a problem in Iowa. Only through the cooperation of the citizens of Iowa can the IDNR hope to effectively manage and control the spread of Eurasian watermilfoil.

Citizens can help by making sure that they clean all aquatic vegetation from their boat and trailer before leaving any boat ramp and by reporting any aquatic vegetation that they suspect to be Eurasian watermilfoil to IDNR personnel. This cooperation can only be achieved by educating the public about this problem. While education may not completely stop the spread of this aquatic plant, hopefully it can prevent it from becoming the environmental problem that it has become in other states.

At the present time, several immediate needs exist for the Eurasian Watermilfoil Program. First, there is the need to address a permanent funding mechanism. This would appear to be best achieved by looking at a surcharge associated with boating registrations. This mechanism is working effectively in other states and would provide the money needed to continue this program. Assessing this surcharge to boater registrations is the most logical place to look for funding because boaters would be that group most directly affected by infestations of Eurasian watermilfoil.

Second, there is an immediate need for development of enforceable regulations related to the transport of Eurasian watermilfoil. In its present form, the Eurasian Watermilfoil Law is virtually unenforceable due to the inability of conservation officers to conclusively differentiate Eurasian watermilfoil fragments from fragments of native milfoils. If enforcement activities are to be undertaken, it will be necessary to change the current law that prohibits the transportation of only Eurasian watermilfoil. Ideally, it should be replaced with a prohibition of the transportation of all aquatic macrophytes on public roads. This change would establish an enforceable law that would prohibit the transporting of Eurasian watermilfoil, incidental transport of zebra mussels attached to aquatic plants, and transporting of other potentially harmful exotic aquatic plants and animals.

Third, there is a need to continue to identify infested lakes. Currently, Iowa has over 242 lakes that are over 4 ha (10 acres) in size and have their fisheries managed by the IDNR. While initial surveys of these lakes have been completed, continued monitoring will be needed to identify any new infestations. Furthermore, there are also numerous state owned marshes and waterfowl production areas that are capable of supporting Eurasian watermilfoil that need to be surveyed. There is also the need to make the owners of private lakes, ponds, and pits aware of the threats posed by Eurasian watermilfoil.

These activities cannot be completed without the continuation of this program. Furthermore, because of the high risk of infestation for certain lakes within the state, annual inspections will have to be made of these lakes.

Fourth, while a statewide management plan has been prepared and implemented, there will need to be continued revisions of this plan as the existing program develops. Because Eurasian watermilfoil management techniques continue to evolve as new research data becomes available, the IDNR will need to take steps to remain current in this area and update the state management plan as needed.

Finally, on a broader scale, there exists a need to consider expansion of the Eurasian Watermilfoil Program to include all aquatic nuisance species. While there is an immediate concern about the spread of Eurasian watermilfoil, other aquatic nuisance species are fast becoming real threats to Iowa's aquatic ecosystems. Some are already creating problems, such as purple loosestrife and zebra mussels, while still others are posed to become real problems in the next several years. These include species such as ruffe, gobies, spiny waterfleas, and flowering rush. Addressing these species now by implementing an aquatic nuisance species program may allow the state of Iowa to deal with these threats in a proactive rather than a reactive fashion.

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Appendix A

Iowa Eurasian Watermilfoil Law

SENATE FILE 2035

AN ACT

RELATING TO THE CONTROL AND ERADICATION OF EURASIAN MILFOIL AND ESTABLISHING A PENALTY. BE ENACTED BY THE GENERAL ASSEMBLY OF THE STATE OF IOWA:

Section 1. *NEW SECTION.* 456a.37 EURASIAN WATER MILFOIL.

1. **DEFINITIONS.** As used in this section:
 - a. "Infestation of Eurasian water milfoil" means an infestation of Eurasian water milfoil that occupies more than twenty percent of the littoral area of a body of water.
 - b. "Watercraft" means any vessel which through the buoyance of water floats upon the water and is capable of carrying one or more persons.
 2. **EURASIAN WATER MILFOIL MANAGEMENT PLAN.** Before January 1, 1998, the commission shall prepare a long-term state-wide Eurasian water milfoil management plan. The plan shall address all of the following:
 - a. The detection and prevention of accidental introductions into the state of Eurasian water milfoil.
 - b. A public awareness campaign regarding Eurasian water milfoil.
 - c. The control and eradication of Eurasian water milfoil in public waters.
 - d. The development of a plan of containment strategies that at a minimum shall include all of the following:
 - (1) The participation by lake associations, local citizens groups, and local units of government in the development and implementation of lake management plans where Eurasian water milfoil exists.
 - (2) Notice to travelers of the penalties for violation of laws relating to Eurasian water milfoil.
 3. **GRANTS.** The director of the department of natural resources shall accept gifts, donations, and grants to aid in accomplishing the control and eradication of Eurasian water milfoil.
 4. **RULEMAKING.** The commission shall adopt rules pursuant to chapter 17A. The rules shall:
 - a. Restrict the introduction, propagation, use, possession, and spread of Eurasian water milfoil.
 - b. Identify bodies of water with investigation of Eurasian water milfoil. The department shall require that bodies of water be posted as infested. The department may prohibit boating, fishing, swimming, and trapping in infested bodies of water.
 5. **PROHIBITIONS.**
 - a. A person shall not do any of the following:
 - (1) Transport Eurasian water milfoil on a public road.
 - (2) Place a trailer or launch a watercraft with Eurasian water milfoil attached in public waters.
 - (3) Operate a watercraft in a marked Eurasian water milfoil infestation area.
 - b. The penalty for violating this subsection is contained in section 805.8, subsection 5B.
- Sec. 2. Section 805.8, Code Supplement 1995, amended by adding the following new subsection:
NEW SUBSECTION. 5B. EURASIAN WATER MILFOIL. For violations of section 456A.37, subsection 5, the scheduled fine is one hundred dollars.