STATE OF MINNESOTA

DEPARTMENT OF NATURAL RESOURCES

DIVISION OF ECOLOGICAL SERVICES

IN THE MATTER OF PROPOSED ADOPTION OF

ECOLOGICAL RULES

STATEMENT OF NEED AND REASONABLENESS

4/17/07

GENERAL PROVISIONS

I. INTRODUCTION

Purpose

The Department of Natural Resources (DNR), Division of Ecological Services administers a diverse group of rules governing natural resources. The primary purpose of these rules is to preserve and protect native plant and animal communities and their habitats, and ensure sustainable recreational and commercial opportunities associated with those resources. The proposed rules and amendments to existing rules cover a variety of areas including: restitution value for lake sturgeon; scientific and natural areas (SNAs); eligibility requirements for native prairie bank easements; designation of invasive species and waters infested with invasive species; falconry permits; and standards for black fly control permits.

Notification to persons and Classes of Persons Affected by the Proposed Rules

A "request for comments" was published in the *State Register* on January 31, 2005. The 60-day comment period ended on April 1, 2005. This notice described the general areas of the proposed rules, the persons affected by the proposed rules, and the statutory authority for the proposed rules. A copy of the request for comments and a cover letter was sent to persons and associations who have requested to be notified of DNR rulemaking as provided by Minn. Stat., sec. 14.14, subd. 1a. In addition, a copy of the request for comments and a cover letter were sent to individuals and organizations who could be affected by or would have interest in the proposed rules including: conservation and environmental organizations; professional societies; educational and research institutions; aquatic plant and biological supply businesses; wildlife rehabilitators; commercial fishing operators; bait dealers; private aquaculturists; commercial aquatic pesticide applicators and aquatic plant harvesters; falconer and bird conservation groups; the Fond du Lac Indian Band; the Metropolitan Mosquito Control District and local units of government that have applied for black fly control permits; and selected private companies located near waters with lake sturgeon. In addition, meetings were held with representatives of the Minnesota Falconers Association to get input on the proposed changes for falconry.

The DNR received numerous comments from individuals and organizations regarding whether or not house sparrows and starlings should be classified as regulated invasive species, though this change was not being considered by the DNR at the time the Request for Comments was published. (Currently these birds are classified as unregulated nonnative species.) The concern was that these species are sometimes released by wildlife rehabilitation centers and can be detrimental to bluebirds and other native bird species. If house sparrows and starlings were classified as regulated invasive species, it would be illegal to release them. The DNR received a total of 34 comments in favor of classifying house sparrows and starlings as regulated invasive species and 11 comments that were opposed to this change. The DNR decided not to change the classification of house sparrows and starlings because the small number that are released do not have a measurable impact on native bird populations and these species are unprotected, which allows people to take them for any reason.

The DNR received comments from three organizations and one individual supporting proposed rule changes that would allow nonresidents to take, possess, and transport raptors, and

sought extensive input from the Minnesota Falconers' Association on the proposed rules. The individual who commented also stated that he did not like some of the falconry reporting requirements in current rule.

The DNR received two comments opposing the proposed changes in restitution value for lake sturgeon, one from an individual and the other from the Rainy Lake Sportsmens' Club, and one comment from the Izaak Walton League in favor of the proposed changes.

The Minnesota Aquarium Society and North American Native Fishes Society commented that classifying several fish as prohibited invasive species would not impact aquarists in Minnesota.

The City of Hoyt Lakes commented that they were satisfied with the current practices regarding DNR permitting of black fly control and did not want to see any changes that would make their control program less effective.

A notice of intent to adopt rules with or without a public hearing will be sent to the same groups and individuals that received the request for comments and to additional groups and individuals who commented after the request for comments was published. The dual notice will be available for public review and comment on the DNR's Internet web site and will link to the proposed rules published in the State Register. The dual notice, proposed rules, and SONAR will be sent to legislators as required under Minnesota Statutes, section 14.116.

Statutory Authority

Statutory authority for the proposed rules is as follows:

Rules Chapter (subject)	Statutory Authority
6133 (Restitution Value for Fish and Wildlife)	97A.345
6136 (Natural Preservation)	
Parts 6136.0100 – 6136.0500 (SNAs)	84.03; 86A.06
Part 6136.0900 (Prairie Bank Easements)	84.96, subd. 9
6216 (Invasive species)	84D.12, subds. 1 and 2
6238 (Falconry)	97A.401, subd. 7; 97A.418
6280 (Aquatic plants and nuisances)	103G.615, subd. 3

II. REGULATORY ANALYSIS

Description of Classes of Persons Affected by the Proposed Rules

The proposed rules would affect individuals, companies, or local government units (LGUs) that cause fish kills in waters containing lake sturgeon and anglers who illegally take this species, people or institutions who use SNAs for recreation or scientific and educational purposes, rural landowners who have native prairie, recreational boaters, commercial fishing operators, bait dealers, businesses that sell aquatic plants or aquarium fish, people who engage in falconry or raptor propagation, and LGUs that wish to control black flies.

Probable Costs to the Agency or Other Agencies from the Proposed Rule

The proposed rules would allow a nonresident to obtain a falconry permit, which will result in some increase in the number of permits requested and the amount of DNR staff time needed to administer the permits. This increase is expected to be small.

The other proposed rules will not result in additional costs to the DNR or other agencies. Many of the changes are to formalize criteria and standards for permits and programs that are already in place. The changes in restitution value for lake sturgeon would not increase enforcement costs. The changes for SNAs primarily provide standards and criteria for when activities are prohibited or allowed and would not affect the management or acquisition costs for that program. The changes for prairie bank easements formalize eligibility requirements for inclusion of land into that program and would not affect management or acquisition costs. The addition of designated invasive species and infested waters to the rules would not, in and of itself, alter the cost of the invasive species program, although the spread of invasive species is increasing management costs to the state. The changes for black fly control formalize criteria and standards for permits and would not increase the cost of administering this small program.

Determination of Less Costly or Less Intrusive Methods for Achieving the Purpose of the Proposed Rules

With the exception of the changes for falconry, the proposed rule would not result in increased costs to the DNR and other agencies. The small increased cost in administering falconry permits is necessary if the DNR is to provide this opportunity to nonresidents.

Most of the proposed rules will not be more intrusive to persons affected by the rules. The addition of designated invasive species and infested waters will bring more restrictions on affected bodies or water; nevertheless, this is necessary in order to comply with Minn. Stat., secs. 84D.03, subd. 1 and 84D.12, subd. 1, and to prevent the spread of invasive species. The proposed rules also include additional restrictions for SNAs, which are necessary and reasonable to protect these areas consistent with statutory direction in Minn. Stat., sec. 86A.05.

Description of Alternate Methods for Achieving the Purpose of the Proposed Rules

Many of the proposed rule changes, including those for SNAs, prairie bank easements, falconry permits, and black fly control permits, formalize criteria and standards for permits and programs because it's required by law or because it is necessary for the DNR to provide better documentation to affected persons on how decisions are made. The alternative would be to leave these rules unchanged; however, that would result in the DNR making decisions that affect the public without having rules to guide those decisions.

The purpose of restitution values for fish and wildlife are to allow the state to receive fair compensation when animals are illegally taken or their death is caused through negligent actions. There is not a good non-regulatory alternative to get this restitution from people, companies, or LGUs who have broken the law or been negligent in their operations. The purpose of designating invasive species and infested waters is to help prevent the spread of invasive species. The act of designating these waters and species helps the public to be aware of invasive species and to comply with laws prohibiting transport and other activities. Taking a voluntary or non-regulatory approach to invasive species would increase the risk of spreading these species throughout Minnesota. The purpose of restrictions on taking raptors is to protect populations

from non-sustainable levels of take. It is not possible to achieve this goal at a statewide level through voluntary or non-regulatory means.

Probable Costs of Complying with the Proposed Rules

The proposed changes to restitution values for lake sturgeon would increase costs to people, companies, or LGUs who illegally take this species or cause death of this species through negligent actions.

The designation of additional infested waters could increase costs for some commercial fishing operators. Minn. Stat., sec. 84D.03, subd. 4 prohibits the use of commercial fishing gear in any other waters if it has been used in waters infested with invasive fish or invertebrates, and requires freezing or drying of commercial fishing gear it has been used in waters infested with Eurasian watermilfoil. Therefore, commercial fishing operators may have to purchase additional gear if they wish to fish in both infested and non-infested waters or multiple waters infested with different invasive species, or may have to spend additional time freezing or drying gear if they fish in waters infested with Eurasian watermilfoil.

The designation of additional infested waters could also increase costs for some commercial bait dealers. Minn. Stat., sec. 84D.11, subd. 2a prohibits commercial harvest of bait in infested waters, except by permit from the DNR. The DNR has issued permits for commercial harvest of bait in waters designated as infested solely because they contain Eurasian watermilfoil and started to issue these permits in some zebra mussel-infested waters in 2006. These permits require that the commercial licensee take training given by the DNR, as provided by Minn. Stat., sec. 84D.11, subd. 3. There is no charge for this training, but there would be some travel costs incurred by the permittee. These permits also have special conditions to prevent the spread of invasive species including requiring separate gear for infested and non-infested waters, or freezing or drying of gear used in infested waters before it's used in non-infested waters. Both of these permit conditions could increase costs for a commercial bait harvester. In addition, where commercial bait harvest is permitted in zebra mussel-infested waters, the activity will be prohibited during certain times of the year, which could increase costs or reduce profits for commercial bait harvesters if they have to move or curtail their operations.

The designation of additional infested waters could also result in increased costs to a LGU if it requests a permit to appropriate, transport, or divert water from an infested water to a non-infested water as provided by Minnesota Rules, part 6216.0500, subp. 4. The DNR may include conditions on such a permit that would result in additional expense to the permittee, such as screening or other treatment of the water.

The LGU that will be most impacted by the proposed infested waters designations will be the City of St. Paul, which gets most of its water supply by diverting water from the Mississippi River at Fridley. The appropriated water is routed through Charles, Pleasant, Sucker, and Vadnais lakes before it enters the McCarrons Water Treatment Plant. Under the proposed rules, this portion of the Mississippi River will be designated as infested with zebra mussels, which are classified as a prohibited invasive species in Minn. Rule, part 6216.0250. St. Paul's current water appropriation system will, at some point, introduce zebra mussels into the aforementioned lakes, unless preventative measures are taken. As a result, the DNR will have to add conditions

to St. Paul's water appropriation permit to prevent the spread of zebra mussels, as provided by Minn. Rule, part 6216.0500. The conditions on the permit will involve both short-term and long-term control strategies. The short-term strategy is to add copper sulfate at the intake pipe to kill larval zebra mussels that may be present. The copper sulfate treatments will result in about $10,000 in start-up costs and $30,000 in annual operating costs (personal communication, Steve Schneider, St. Paul Regional Water Services). The cost of implementing a long-term control strategy has not been precisely quantified, but is expected to be as much as $9 to $18 million initially plus annual operating costs of $1.0 to $1.7 million (personal communication, Steve Schneider, St. Paul Regional Water Services).

The proposed rules for black fly control permits would result in some costs to local units of government (LGUs) if they want a permit. However, there are currently only two permits issued for black fly control and both permittees are already complying with the proposed rules.

Proposed Rules Effect on Farming Operations

The proposed rules would not affect farming operations.

Description of How the Agency Considered and Implemented the Policy to Adopt Rules that Emphasize Superior Achievement in Meeting the Agency's Regulatory Objective and Maximum Flexibility for the Regulated Party and the Agency in Meeting These Goals

A primary objective of the proposed rules is to provide more consistency and clarity to the persons who could be affected by DNR decisions regarding permits and programs. This includes proposed changes for SNAs, prairie bank easements, falconry permits, and black fly control permits. By formalizing decision-making criteria in rule, the DNR will achieve greater consistency in program administration and the public will be in a better position to meet DNR requirements. The proposed rules allow the DNR to consider multiple standards and criteria for the affected program areas, allowing flexibility to be applied to the regulated party where appropriate.

The proposed designations of invasive species and infested waters help the DNR to achieve its goal to limit the spread of harmful invasive species. DNR rules have strived to continue to allow recreational activities on infested waters provided certain safeguards are followed. Rules have also continued to allow commercial activities on most infested waters with appropriate safeguards.

The proposed changes for falconry give more flexibility to the public by allowing nonresidents to take raptors in Minnesota. This change would also provide more opportunities for resident falconers because other states have reciprocity laws that allow nonresidents to take raptors if their home state extends the same privilege to nonresidents.

Consultation with the MN Dept. of Finance on Local Government Impacts

The proposed increase in restitution value for lake sturgeon could impact LGUs if they cause a kill of these species through negligent action.

The designation of additional infested waters could result in increased costs to a LGU if it requests a permit to appropriate, transfer, or divert water from an infested water to a non-infested

water as provided by Minnesota Rules, part 6216.0500, subp. 4. The DNR may include conditions on such a permit that would require additional expense to comply with, such as screening or other treatment of the water. As discussed in the SONAR under the section "Probable Costs of Complying with the Proposed Rules," the DNR will have to add conditions to the Mississippi River water appropriation permit for the City of St. Paul, to prevent the spread of zebra mussels to four lakes. The conditions on the permit will involve both short-term and long-term control strategies. The short-term strategy is to add copper sulfate at the intake pipe to kill larval zebra mussels that may be present. The copper sulfate treatments will result in about $10,000 in start-up costs and $30,000 in annual operating costs. The cost of implementing a long-term control strategy has not been precisely quantified, but is expected to be as much as $9 to $18 million initially plus annual operating costs of $1.0 to $1.7 million.

There would be small costs to LGUs to comply with the proposed changes for black fly control permit criteria and standards; however, there are only two LGUs permitted for this activity at present and both are already complying with the proposed rules.

See the August 21, 2006 memo from Marsha Battles-Jenks for the Department of Finance's evaluation of local government impacts (attached as Exhibit 1).

Determination if First Year Cost of Complying with Proposed Rules Would Exceed $25,000 for Any Business with Less Than 50 Full-time Employees or Any Statutory or Home Rule Charter City with Less Than 10 Full-time Employees

The proposed designations of infested waters may increase costs for commercial fishing operators with less than 50 full-time employees, if the operators wish to fish in non-infested waters and waters infested with fish or invertebrates. Minn. Stat., sec.84D.03, subd. 4 prohibits the use of commercial fishing gear in non-infested waters if it's been used in waters infested with invasive fish or invertebrates. A commercial fishing operator might have to purchase additional gear to meet these requirements. Depending on the type and amount of gear, the cost could exceed $25,000. The DNR does not believe that the proposed infested waters designations will result in first year costs exceeding $25,000 for commercial fishing operators, because the people who commercially fish in these waters have already begun to comply with this provision when the waters were designated by emergency rule or do not currently fish in non-infested waters. However, it is possible that commercial fishing operators could be subject to additional costs in the future because of these designations.

The proposed designations of infested waters may also increase costs for commercial bait harvesters if they wish to operate in infested and non-infested waters. Permit conditions for bait harvesters operating in infested waters may include having separate gear or freezing or drying of gear used in infested waters before it's used in non-infested waters. In general, the DNR cannot accurately estimate if permit conditions for bait harvesters operating in infested waters would result in a first year costs exceeding $25,000, because the DNR does not have records of the waters that bait dealers operate on or the amount of gear they are currently using or would need to use under the proposed rules.

The proposed designations of infested waters are necessary and reasonable to prevent the spread of harmful invasive species to more of the state's waters. The restrictions against using

commercial fishing and bait harvest gear in non-infested and infested waters is necessary, because these operations have a high risk of spreading invasive species if proper protocols are not followed. Commercial gear is often left in the water for multiple consecutive days and operators handle large amounts of fish and water. Commercially harvested bait is shipped live to numerous retail outlets and ends up being possessed by hundreds of thousands of anglers over the course of a fishing season. There is a high probability that commercial operations will come in contact with invasive species in an infested water and it is necessary to take adequate precautions to prevent spreading those species to other waters.

The other proposed rule changes would not increase costs by more than $25,000 for businesses with less than 50 full-time employees or statutory or home rule charter cities with less than 10 full-time employees by more than $25,000.

Probable Cost or Consequences of Not Adopting the Proposed Rule

If the proposed rules to increase restitution value for large lake sturgeon are not adopted, there will be less money received into the Game and Fish Fund when these fish are killed by illegal activity or negligence. Nevertheless, the dollar amount involved would be relatively small and would not substantially impact the overall balance or integrity of the fund.

If the proposed rules for Scientific and Natural Areas (SNAs) are not adopted, probable consequences or costs include: 1) there would continue to be ambiguity to the public regarding the criteria the DNR uses to determine prohibited and allowed activities in SNAs and the conditions DNR places on permits to conduct activities in SNAs; 2) there could be damage to SNA resources from activities such as geo-caching, orienteering, and mountain biking, which are not adequately regulated under current rule language; 3) there could be damage or cost to the DNR from abandoned property in an SNA, because current rule does not specifically prohibit this; 4) there would be decreased recreational opportunities in SNAs if proposed language allowing portable stands for hunting and wildlife observation is not adopted; and 5) people who violate SNA rules could be charged with a criminal penalty, which is inconsistent with Minn. Stat., sec. 14.045, subd. 2.

If the proposed rules for native prairie bank eligibility requirements are not adopted, the DNR would not be in compliance with Minn. Stat., sec. 94.96, subd. 1.

If the proposed rules for invasive species are not adopted a number of lakes and rivers with aquatic invasive species would not be designated as infested, and a number of potentially harmful plant and animal species would not be designated as prohibited or regulated invasive species. This would mean that rules and statutes governing infested waters and invasive species would not apply, which would increase the risk of spread of invasive species. While the exact cost of not adopting the proposed rules cannot be calculated, it is well documented that the spread of invasive species has been very costly to government agencies, private companies, organizations, and the public in general. The DNR spends over $2 million annually on its invasive species programs. Local units of government and lake associations spend hundreds of thousands of dollars annually on control of invasive aquatic plants. As mentioned in this SONAR under “Probable Cost of Complying with the Proposed Rules,” the St. Paul Regional Water Services estimated that it will have to spend $9 to $18 million initially plus annual

operating costs of $1.0 to $1.7 million annually, to prevent the spread of zebra mussels to lakes that it uses for the city's water supply. These are only a few examples and these costs would only increase if infested waters and invasive species are not designated.

In addition to increased costs, there would be substantial environmental and recreational impacts to the states waters from increased spread of invasive species. Eurasian watermilfoil crowds out native aquatic plants reducing biodiversity and forms thick mats on the surface, which interfere with recreation. Zebra mussels interfere with the aquatic food web and make beaches unusable because of their sharp shells.

The proposed rules for falconry would allow nonresidents to take raptors in Minnesota for falconry. If this change is not adopted, there would be fewer opportunities for Minnesota residents to take raptors for falconry in other states, because a number of states have reciprocity provisions that only allow nonresident take of raptors if a person's home state allows nonresident raptor take.

If the proposed rules regarding raptor propagation permit requirements are not adopted, the DNR would not be in compliance with Minn. Stat., sec. 97A.401, subd. 7.

If the proposed rule regarding the taking of owls for falconry purposes is not adopted, it would reduce opportunities for the public to use these birds for falconry.

If the proposed rules regarding take of peregrine falcons are not adopted, there could be excessive take of this species for falconry once it's removed from the threatened species list, which is being considered for the next revision of Minnesota Rule, Chapter 6134. Failure to adopt the proposed rules could also result in loss of information necessary for ongoing management and monitoring of this species.

If the proposed rules for black fly control permits are not adopted, the DNR would not be in compliance with Minn. Stat., sec. 103G.615, subd. 3

Differences Between the Proposed Rules and Existing Federal Regulations

The only parts of the proposed rules that intersect with federal regulations are those pertaining to falconry. Federal regulations set up a framework for taking and propagating raptors, which are protected under the Federal Migratory Bird Treaty Act, and provide that states may enact laws that are more restrictive [see 50 CFR 21.29 (b)]. The following summarizes the differences between the proposed rules and federal regulations and the need for and reasonableness of each of these differences.

Part 6238.0200, subp. 4a, provides criteria for eligibility for a raptor propagation permit that differ from federal criteria set forth in 50 CFR 21.30. Federal requirements include a statement indicating the purpose for the permit and, where applicable, the scientific or educational objectives of the applicant, a statement whether the applicant has been issued a state permit, and a statement that describes the applicant's experience in propagating and handling raptors. The proposed rules require that an applicant for a propagation permit meet one of more of the following criteria: 1) meets the requirements for a Class II falconry permit (part

6238.0300); 2) is conducting research for an educational or government institution; 3) has been eligible for a permit in another country, state, province, or territory; and 4) can demonstrate at least two years of propagating raptors.

In general, these criteria are necessary and reasonable because one of the federal criteria for a propagation permit is documenting whether or not the applicant has a state permit, indicating that federal law expects states to issue these permits under their own regulatory framework. It is necessary and reasonable to require a person to have adequate experience and knowledge to qualify for a raptor propagation permit to ensure that birds are properly cared for and contained. The proposed rules are reasonable because they provide flexibility in how an applicant may qualify for a propagation permit. The proposed rules are also necessary to comply with Minnesota Statutes, sec. 97A.401, subd. 7.

Part 6238.0200, subp. 5 allows the DNR to inspect a person's raptor housing facilities prior to permit renewal or if the housing facilities are moved or changed. Federal law requires applicants to submit a description and photos of a housing facility [see 50 CFR 21.30 (6)], but does not require physical inspection. It is necessary and reasonable for DNR to have the option of inspecting facilities prior to permit renewal or when facilities have moved or changed to make sure standards in subp. 9 are being met. Descriptions and photos of a facility may not always be adequate to determine compliance and it is less practical for federal regulations to require physical inspections, because there may not be federal staff available to inspect facilities throughout the state.

Part 6238.0200, subp. 6, item C, requires raptor propagation facilities to be designed so that domesticated livestock or fowl cannot access the area occupied by raptors. There is no federal regulation addressing this aspect of propagation facility design. The proposed rules are necessary and reasonable to prevent substandard conditions in raptor facilities and to reduce the chance of introducing poultry or livestock diseases to raptors.

III. RULE-BY-RULE ANALYSIS

Scope

Areas covered by the proposed rules include the following:

- restitution values for lake sturgeon;
- criteria and conditions for permits issued to conduct activities on SNAs;
- criteria for determining exceptions to prohibited activities on SNAs;
- restricted activities on SNAs;
- eligibility requirements for inclusion of land in the native prairie bank;
- designation of invasive species and infested waters;
- transporting water and wild animals from infested waters;
- falconry and raptor propagation permits, facility standards, and reporting and marking requirements, and restrictions on taking raptors; and
- standards for black fly control permits.

CHAPTER 6133 (RESTITUTION VALUE FOR FISH AND WILDLIFE)

6133.0080 GAME FISH

Subp. 1. General, Subp. 2 Muskellunge, & Subp. 4 Lake sturgeon

The proposed changes in these subparts increase the restitution value for lake sturgeon that are 40 inches and greater and make technical improvements to current language to remove unnecessary references to exceptions in other subparts. Current rules provide for a base restitution value for most game fish, with a value that increases by the inch once a specified "quality size" is reached. In addition, muskellunge, a game fish that is less common and attains a larger size than most other game fish species, has an increasing restitution value as fish reach sizes of 30, 40, and 50 inches, plus increasing value by the inch for fish over 50 inches.

By contrast, under current rules lake sturgeon have only a base value with no provision for increasing value once a certain size is reached. Lake sturgeon are less common in Minnesota than muskellunge and can attain larger sizes. Muskellunge are present in approximately 105 lakes in Minnesota and typically do not reach lengths past the mid-50 inch range. Lake sturgeon can reach lengths over 70 inches and their distribution in Minnesota is primarily limited to the lower Mississippi and St. Croix rivers and some of their major tributaries, the Minnesota-Ontario border waters, most notably the Rainy River and Lake of the Woods, and in the Red River drainage where restoration efforts are currently underway (Eddy and Underhill 1974; DNR survey information). The lake sturgeon has been listed as a special concern species (Minn. Rule, part 6134.0200, subp. 4) because of its limited distribution in Minnesota and because their populations are considered to be recovering from past problems with water quality, habitat, and over-harvest.

Lake sturgeon are slow growing, long lived, take a long time to reach sexual maturity, and have relatively low reproductive capacity (Eddy and Underhill 1974; Scott and Crossman 1973; Secor et al 2002). For example, in some waters a 50-inch muskellunge, which would have a restitution value of $1,000, would be 10-15 years old (DNR survey data). A lake sturgeon could take 25 years to reach the same length (Mossindy and Rusak 1991), but would have a restitution value of only $500 under current rules.

It is necessary and reasonable to increase lake sturgeon restitution values to reflect their limited presence in Minnesota and potential to reach large sizes, and to make them more equitable with restitution values for other large game fish such as muskellunge. Under the proposed rule changes, the restitution value would remain as is at $500 for fish up to 40 inches. Restitution value would increase to $1,000 for fish from 40 to less than 50 inches, and $1,000 plus $100 for each inch over 50 inches for fish 50 inches and over. The increase in value for fish 40 inches and over is necessary and reasonable because that length corresponds to when male lake sturgeon start to reach sexual maturity, which increases their value to the overall population (Mossindy and Rusak 1991). The increase in value for fish 50 inches and over is necessary and reasonable to put the restitution value of lake sturgeon on a par with muskellunge. In addition, 50 inches corresponds with the length that female lake sturgeon start to reach sexual maturity, making them a very high-value fish for the population as a whole (Mossindy and Rusak 1991).

The proposed changes in restitution value for lake sturgeon are reasonable when compared to the established values for other game fish, especially muskellunge. Under current rules, a 50-inch muskellunge has a restitution value of $1,000, which would be the same as a 50-

inch lake sturgeon under the proposed rules. Given the comparisons between lake sturgeon abundance and life history characteristics with those of muskellunge, it is reasonable for lake sturgeon restitution values to equal if not exceed those for muskellunge. It is necessary and reasonable to increase the restitution value for lake sturgeon over 50 inches by $100 per inch, because it allows for adequate compensation for very large lake sturgeon, which are extremely rare.

CHAPTER 6136 NATURAL PRESERVATION

6136.0100 PURPOSES

The proposed change in this subpart clarifies that recreation is one of the purposes for which SNAs are managed. The current language in this part states that use and protection of SNAs is for "educational and research purposes." Adding recreational purposes is necessary and reasonable because it is consistent with Minn. Stat., sec. 86A.05, subd. 5, paragraph (e), item (iii), which provides for designation of SNAs as public use units.

6136.0200 POLICY

The current language in this part clarifies that the DNR can engage in management and enforcement operations, even if those operations include activities that are generally prohibited in the rules, and also provides that rules can be suspended by permit for scientific and educational purposes. The primary proposed change is to identify the specific parts of the rule that DNR can be exempted from in carrying out its management and enforcement operations. This change is necessary and reasonable because it helps clarify the rules that the DNR can be exempted from. The other change in this part is to strike the language allowing permits that suspend SNA rules. Under the proposed changes, this provision is now included in part 6136.0500, along with specific reference to the rules that can be suspended and criteria the DNR would use to determine if such a permit should be issued. The proposed change is necessary and reasonable, because it informs the public as to the decision-making criteria used in reviewing these permits and will enable the DNR to be more consistent in how it reviews and makes decisions on these permits.

6136.0300 DEFINITIONS

Subpart 1. Scope

The proposed change in this part strikes language that qualifies that the definitions in this part may not apply if a different meaning is manifest from the context. This change is reasonable because such a qualification is unnecessary.

Subp. 3. Controlled substance

The proposed change is to repeal this subpart. The defined term is currently used in part 6136.0500, subp. 9, which bans illegal substances in SNAs. Since it is redundant and unnecessary to have a rule banning something that is illegal under other parts of state law, proposed changes in part 6136.0500 will include striking subp. 9. It is necessary and reasonable to repeal the definition of terms that are no longer used in the rules.

Subp. 4. Intoxicating liquor

The proposed change is to repeal this subpart. It is necessary and reasonable to delete this definition, because this term is already defined in Minn. Stat., sec. 340A.101, subd. 14. In addition, under the proposed changes in part 6136.0500, this term would be replaced with the term "alcoholic beverages," which is defined in Minn. Stat., sec. 340A.101, subd. 2.

Subp. 5. Marijuana

The proposed change is to repeal this subpart. This term is currently used in part 6136.0500, subp. 9, which bans illegal substances in SNAs. Since it is redundant and unnecessary to have a rule banning something that is illegal under other parts of state law, proposed changes in part 6136.0500 will include striking subp. 9. It is necessary and reasonable to repeal the definition of terms that are no longer used in the rules.

Subp. 6. Motor Vehicle

The proposed changes are non-substantive corrections and improvements to grammar and style. The proposed changes are necessary and reasonable to make the rule language grammatically correct and consistent in style.

Subp. 10. Wildlife

The proposed change is to repeal this subpart. Under the proposed changes in part 6136.0400, subp. 2, this term would no longer be used in the SNA rules. It is necessary and reasonable to repeal the definition of terms that are no longer used in the rules.

6136.0400 USE OF SCIENTIFIC AND NATURAL AREAS

Subp. 1. Open to the Public

The proposed change clarifies that SNAs designated as public use units are open to the public. This change is necessary and reasonable to be consistent with Minn. Stat., sec. 86A.05, subd. 5, paragraph (e), which provides for three different types of SNA units: 1) research; 2) educational; and 3) public use. Under this statute, only the public use units are fully open to the public.

The other proposed change in this subpart is to strike language that gives the DNR latitude to impose restrictions beyond that prescribed in other parts of the rule through issuance of permits and to allow exceptions to the restrictions in the rule by commissioner's order. The existing language does not provide the conditions and criteria that the DNR would use in order to determine if additional restrictions or exceptions to the rules should be implemented. The proposed changes in part 6136.0500, subps. 5 and 6 provide for additional restrictions or exceptions to the rule and spell out the conditions and criteria that the DNR would use to decide when this is warranted. It is necessary and reasonable to identify the conditions and criteria the DNR would use to determine if there should be additional restrictions on a permit for activities in an SNA, or exceptions to the prohibited activities in an SNA, because it informs the public on how the DNR makes decisions, enables the DNR to be more consistent in how it makes these decisions, and helps the DNR stay within its authority to regulate public use of SNAs.

Subp. 2. Environmental Protection

The proposed change is to clarify that the restricted activities in this subpart may be allowed by a permit or designation order as provided in part 6136.0500, subps. 5 and 6. There is

also a minor technical change to the language to remove redundant wording. It is necessary and reasonable to make these changes to clarify that there may be exceptions to the restricted activities.

6136.0550 RESTRICTED USES AND ACTS

Before describing the need and reasonableness of the proposed changes in this part, it is necessary to describe the overall purpose of the SNA program. SNAs are established to protect and perpetuate natural features with exceptional scientific or educational value in an undisturbed natural state with very limited physical development [see Minn. Stat., sec. 86A.05, subd. 5, paragraphs (a) and (c)]. SNA acquisition is generally focused on rare and endangered species, rare or unique plant and animal communities, and rare geological features. The SNA program goal is to ensure that no rare feature is lost from any region of the state. These qualities make SNAs unique to the outdoor recreation system and it is necessary and reasonable to manage these areas more restrictively than other types of public land. As a result, public use is allowed on SNAs, but is carefully managed so it is compatible with the values for which SNAs are acquired. Activities that are acceptable on most public lands, such as camping, picnicking, swimming, and boating, may be problematic on SNAs because they concentrate use in specific areas, which could damage the rare features these areas are acquired to protect.

Subp. 1. General Restrictions

The proposed language in this subpart describes activities that are generally prohibited in SNAs unless they are specifically authorized in a permit or by commissioner's designation order. Much of the language in this subpart is not substantively different from existing language, but represents a reorganization and clarification of existing language.

Current rule language authorizes the DNR to have exceptions to the rules by commissioner's order and to impose restrictions and limitations that are not specifically written into rule "through issuance of permits or other methods determined necessary by the commissioner." Language in part 6136.0200 provides for permits to suspend rules, but only for educational or research purposes. The existing language provides wide latitude to the DNR in what these restrictions or exceptions are and how they may be implemented, without providing the conditions or criteria upon which the decisions are made.

The proposed language clarifies that the activities listed in this subpart are prohibited, unless they are authorized by a written permit or by commissioner's designation order. The proposed change is necessary and reasonable to clarify the mechanism the DNR uses to have additional restrictions or allow exceptions to the prohibited activities.

It is necessary and reasonable for the DNR to have flexibility through designation orders and permits in the public, educational, and research uses that are allowed in SNAs, to reflect the wide variety of conditions found across the state. For example, hunting is not a compatible use in some SNAs because it would create too much human disturbance at certain times of the year, particularly in parts of the state with limited public hunting land. On the other hand, hunting might be a compatible use in an SNA that is bordered by large tracts of public hunting land because the amount of human disturbance would be minimal. Similarly, in order to do research on an SNA it may be necessary to permit the collection of plants and animals for further study.

The proposed changes are reasonable because language in subparts 5 and 6 require that permitted activities not harm the resources of an SNA and uses allowed in a designation order are compatible with the purpose for which the SNA was acquired.

The proposed changes also include a list of activities that are prohibited in SNAs. This list of prohibited activities generally corresponds to existing rule language, with some exceptions as follows.

The proposed list of prohibited activities does not include some items that are in current rule language including possession or use of controlled substances and switchblade knives and engaging in "violent, immoral, abusive, loud, or obscene conduct." It is necessary and reasonable to remove these prohibitions from the SNA rules because they are covered in other parts of state law and are, therefore, meaningless and redundant.

The proposed language in items L includes prohibited activities that are not in current rule language including: private events or group activities that are advertised or organized for purposes other than nature observation, education, or research. It is necessary to restrict group or private events that do not involve nature observation, education, or research, because such activities can attract large numbers of people and are often incompatible with the purposes for which SNAs were acquired. For example, in recent years there has been increased interest in using SNAs for orienteering, geo-caching, and athletic or social events. SNAs are vulnerable to attracting these activities in some areas because of their natural and remote character. The proposed restrictions are reasonable given the goal of the SNA program and the ability of the DNR to make exceptions to these prohibitions through permits or designation orders when the activities will not harm SNA resources.

The proposed language in items A through F and H through K includes prohibitions that are already in existing rule language and, therefore, is not a substantive change. This includes prohibitions against camping and picnicking, burning, swimming, boating and use of other watercraft, fishing, hunting, trapping, operation of motorized vehicles, landing aircraft, possession of horses and other pets, and commercial activities. It is necessary and reasonable to restrict these activities to make sure that public use is compatible with the purposes for which SNAs are acquired and to make sure that SNA resources are not damaged. The prohibitions are reasonable given the ability of the DNR to make exceptions through permits or designation orders when the activities will not harm SNA resources.

Item G prohibits operation of motorized vehicles and bicycles, which is different from current language prohibiting motorized vehicles, but not bicycles. It is necessary and reasonable to prohibit bicycles, because mountain biking can destroy vegetation and cause erosion. It is necessary and reasonable to prohibit motorized vehicles to prevent damage to SNA resources and to make sure that public use is compatible with the purposes for which SNAs are acquired. The prohibitions against motorized vehicles and bicycles are reasonable given the ability of the DNR to make exceptions through permits or designation orders when the activities will not harm SNA resources.

Item J prohibits alcoholic beverages, which is slightly different from current language that prohibits intoxicating liquors. It is necessary and reasonable to use the term alcoholic beverages instead of intoxicating liquors, because intoxicating liquors does not include beverages with 3.2% or less alcohol content (Minn. Stat., sec. 340A.101, subd. 14), while alcoholic beverages does (Minn. Stat., sec. 340A.101, subd. 2). The restriction against beverages with 3.2% alcohol (primarily beer) is necessary and reasonable to discourage SNAs from being used as remote "party" sites.

Subp. 2. Abandonment

The proposed language in this subpart makes it illegal for someone to abandon property in a SNA. There is currently no specific or general prohibition in law against leaving property in an SNA. The proposed change is necessary to prevent people from abandoning items in SNAs and to provide a means to issue a citation to people who do. The proposed change is reasonable, because abandoning property in an SNA creates unsightly litter and detracts from the public values for which SNAs are acquired.

Subp. 3. Structures

The proposed language makes it illegal for someone to construct or maintain any type of structure in a SNA except for blinds in an authorized watercraft and stands, or under a permit. There is currently no specific or general prohibition in law against building or maintaining a structure within an SNA. It is necessary and reasonable to prohibit structures in SNAs, because they are not compatible with the management of these areas, particularly the statutory requirement that natural features in a SNA be perpetuated in an undisturbed natural state (Minn. Stat., sec. 86A.05, subd. 5).

Subp. 4. Stands

The proposed language allows use of a portable elevated stand in a SNA, provided the stand does not damage trees and is removed each day at the close of shooting hours. It is reasonable to allow portable stands to be used in SNAs provided they do not damage trees because they are compatible with SNA management. The provision requiring that the stands be removed each day at the close of shooting hours is necessary and reasonable to avoid having a person try to preempt an area. The provisions prohibiting stands that are nailed, spiked, or screwed into trees and spikes, nails, steps, or other devices that are driven or screwed into trees are necessary and reasonable to prevent damage to trees. These provisions are reasonable because commercially made stands and steps that do not damage trees are available at sporting goods stores. In the past, portable stands have been considered illegal on SNAs because of the restriction against any damage to vegetation (part 6136.0400, subp. 2). The proposed language in this subpart is reasonable because it provides additional recreational opportunities, especially on those SNAs where deer hunting is allowed.

Subp. 5. Permits for Activities Within Scientific and Natural Areas

Current language provides for permits that restrict activities in an SNA beyond the restrictions in rule (part 6136.0400, subp. 1) and that allow rules to be suspended for scientific or educational purposes (part 6136.0200). The current language does not provide the criteria that would be considered to determine if a permit should be issued nor is there a provision to issue a permit for otherwise prohibited activities for reasons other than scientific or educational

purposes. It is also unclear in current language if permits can be used to regulate activities as called for in a designation order, even though permits are commonly used for this purpose.

The proposed language in this subpart provides for permits to conduct otherwise prohibited activities provided the activities will not harm the resources of an SNA. The proposed language also provides the criteria used to determine if a permit should be issued and the conditions that may be placed on a permit. It is necessary and reasonable to identify the purposes, decision-making criteria, and restrictions for these permits so the public is aware of why these permits are issued and to help the DNR be more consistent in the issuance or denial of these permits. It is necessary and reasonable to allow permits for public use activities to give the DNR flexibility in how SNAs are managed and to enable restrictions in designation orders to be implemented.

The proposed criteria that the DNR will consider to determine if a permit should be issued include: the activity will advance knowledge, understanding, interpretation or management of SNAs; there are no reasonable alternatives for conducting the activity; the activity will not substantially interfere with other SNA activities; the activity cannot be done without making an exception to the prohibitions; and the applicant is qualified to conduct the activity. The proposed criteria are necessary and reasonable to ensure that the activities allowed through a permit do not damage an SNA, that the activities help to improve management or understanding of SNAs, that there is not a reasonable alternative that would avoid disturbance to the SNA, that the activity does not interfere with existing uses of the SNA, that it is necessary to conduct the activity in order to accomplish the goal of the permit, and that the applicant has the credentials to successfully accomplish the activity.

The proposed conditions that the DNR may include on permits include limits on the number of people, seasonal, daily or other time-related restrictions, geographical restrictions, restrictions on how authorized activities are conducted, limits on the quantity of plants, animals, relics, or other resources that are collected, and the requirement to deposit voucher specimens at the University of Minnesota. The ability to limit the number of people authorized by the permit is necessary and reasonable to minimize the human disturbance caused by the permitted activities. The ability to have time-related restrictions is necessary and reasonable because some species of plants and animals may be more vulnerable to disturbance at certain times of the year or day. The ability to restrict the geographical area where the activities are conducted is necessary and reasonable because certain portions of an SNA may have rare features that are vulnerable to any disturbance. The ability to restrict how authorized activities are conducted is necessary and reasonable to ensure that methods used to collect samples or data do not harm SNA resources. The ability to limit the number of plants, animals, and relics collected is necessary and reasonable to prevent depletion of rare features and protect native species. The requirement to deposit voucher specimens at the University of Minnesota is necessary and reasonable to help advance the understanding of the plants and animals that the SNA is acquired to protect and to help benefit Minnesota's educational institutions.

Subp. 6. Designation Orders

Current rule language gives the DNR the authority to make exceptions to the rules in a specific SNA by commissioner's order (part 6136.0400, subp. 1), but does not specify the criteria

the commissioner uses in determining if exceptions could be made. The proposed language in this part specifies that commissioner's designation orders may make exceptions to prohibited activities in the rules if the activities are compatible with the purposes for which the SNA was acquired and provides the criteria the DNR will use to determine if exceptions should be made. Since commissioner's orders are exempt from the rulemaking process (Minn. Stat., sec. 84.033, subd. 1), it is necessary and reasonable to specify decision-making criteria for the designation orders in rule to inform the public how decisions are made and ensure the criteria are consistently applied across the state and over time.

Although it is generally necessary to manage SNAs with restrictive regulations, it is necessary and reasonable for the DNR to have flexibility in the public uses that may be allowed to reflect the wide variety of conditions found across the state and to enhance public enjoyment of SNAs. As mentioned previously in this SONAR, hunting is not a compatible use in some SNAs because it would create too much human disturbance at certain times of the year, particularly in parts of the state with limited public hunting land. On the other hand, hunting might be a compatible use in an SNA that is bordered by large tracts of public hunting land because the amount of human disturbance would be minimal, or because a particular type of hunting may be necessary for management purposes (e.g., deer hunting to control herd size and prevent damage to vegetation). Similarly, prohibitions against removing vegetation are generally necessary to protect rare plant species, but berry picking may be an appropriate activity on some SNAs.

The proposed criteria the DNR will consider in determining if exceptions to the rules should be allowed in a designation order include: the activity occurred prior to designation; the designation of specific areas for activities will help prevent damage to more sensitive areas; the activity is needed to use a pre-existing travel corridor to access land adjacent to a SNA for a special purpose; the activity will enhance access to or interpretation of the SNA; allowing the activity will provide consistency with regulations of adjacent public lands; and the activity will help achieve management objectives for the SNA. These criteria are necessary and reasonable to assure that exceptions to the rule are consistently applied and compatible with the goals for which the SNA was acquired.

It is necessary and reasonable for the DNR to be able to allow activities that occurred prior to designation, are needed to use a pre-existing travel corridor, or that are allowed on adjacent public land to help increase public acceptance and support for SNAs. It is also necessary and reasonable to allow some activities that occur on adjacent public lands to make enforcement of regulations more consistent and understandable for the public.

It is necessary and reasonable for the DNR to be able to allow activities that steer people away from more sensitive areas or help achieve SNA management objectives. For example, picnic areas are designated in some SNAs to prevent that activity from occurring in sensitive areas and deer hunting on some SNAs may reduce damage to sensitive plant species that the SNA was acquired to protect.

Current rule language also gives the DNR the ability to impose restrictions in addition to the restrictions in rule, although it is unclear what mechanism the DNR uses to do this (see part

6136.0400, subp. 1). The proposed language in this subpart clarifies that additional restrictions may be specified as part of a designation order and lists the types of restrictions that may be included, which are limits on the number of people that can engage in an authorized activity, and restrictions on when, where, and how authorized activities may be conducted. These restrictions are similar to the restrictions that are allowed in current rule language. It is necessary and reasonable for the DNR to be able to impose additional restrictions in an SNA by designation order. For example, an SNA may have a bird rookery that could be negatively impacted by human disturbance during the nesting season. Or, in some cases it may be necessary to prohibit or limit foot travel in specific areas or at specific times to prevent trampling of rare plants.

6136.0600 PENALTIES

The current language in this part provides for a misdemeanor penalty for a person who violates rules pertaining to SNAs. This language is not consistent with Minn. Stat., sec. 14.045, subd. 2, which states that an agency cannot establish a criminal penalty by rule unless it has specific statutory authority to do so. The proposed change is to make penalties for SNA rule violations a petty misdemeanor instead of a misdemeanor. Minn. Stat., sec. 609.02, subd. 4a states that a petty misdemeanor does not constitute a crime. Therefore, under the proposed language, violations of SNA rules would not be a criminal penalty and would not violate the requirement for specific statutory authority in Minn. Stat., sec. 14.045, subd. 2. In addition, the proposed language would eliminate provisions for imprisonment for violation of SNA rules, because a person cannot be imprisoned for a petty misdemeanor violation. The proposed changes are necessary and reasonable to comply with statutory limitations on state agency rulemaking authority.

6136.0900 NATIVE PRAIRIE BANK ELIGIBILITY REQUIREMENTS

Native prairie is one of the most threatened ecosystems in Minnesota. Prior to European settlement Minnesota had about 19 million acres of native prairie, but today less than 1% of that total remains. Once native prairie is plowed it cannot be restored because the diversity of plant species cannot be fully replicated. The state legislature, recognizing the importance of preserving the native prairie that still remains, directed the DNR to establish a native prairie bank program on private land through conservation easements and prescribe eligibility requirements for inclusion of land in this program (Minn. Stat., sec. 84.96).

The proposed changes in this part provide criteria to help determine if a tract of land is eligible for inclusion in the native prairie bank. It is necessary and reasonable to develop criteria for native prairie to comply with Minn. Stat., sec. 84.96, subd. 1. The proposed criteria are: presence of native prairie habitat that has a diversity of native plant and wildlife species; known occurrence of suitable habitat for rare species; and adjacent to or near other public land or part of a larger prairie complex. The proposed criteria are necessary and reasonable to ensure that only native prairie or land that abuts and helps buffer native prairie are included in the program. The proposed criteria are also necessary and reasonable to inform the public how the DNR decides if land is eligible for the prairie bank program and to help the DNR apply the criteria consistently across the state and over time.

CHAPTER 6216 INVASIVE SPECIES

Minn. Stat., sec. 84D.04, subd. 1 categorizes nonnative species into one of four classes: 1) prohibited invasive species; 2) regulated invasive species; 3) unlisted nonnative species; and 4) unregulated nonnative species. These classifications are determined based on the criteria in Minn. Stat., sec. 84D.04, subd. 2, which are: 1) the likelihood of introduction of the species if it is allowed to enter or exist in the state; 2) the likelihood that a species would naturalize in Minnesota if it is introduced; 3) the magnitude of potential adverse impacts of the species; 4) the ability to eradicate or control the species once it is introduced; and 5) other criteria that the commissioner of DNR deems appropriate.

Prohibited invasive species represent the greatest risk to the state because they have a high likelihood of spreading, naturalizing, and having adverse impacts on native species. As a result, prohibited invasive species may not be possessed, imported, purchased, sold, propagated, transported, or introduced except under very limited circumstances (Minn. Stat., secs. 84D.04, subd.1 and 84D.05, subd. 1). It is necessary and reasonable to designate invasive species that carry a high risk to the state as prohibited to prevent or minimize environmental, economic, and recreational impacts to the state and to comply with Minn. Stat., sec. 84D.04.

Regulated invasive species do not carry as great a risk as prohibited invasive species, because their ability to spread or reproduce in the state and potential for impacts on native species is limited. A person may possess a regulated invasive species, but may not introduce it to the wild without a permit from the DNR (Minn. Stat., secs. 84D.01, subd. 1 and 84D.07). It is necessary and reasonable to designate invasive species that carry a low to moderate risk to the state as regulated, to prevent them from being introduced to the wild and to comply with Minn. Stat., sec. 84D.04.

The unlisted classification applies to nonnative species that have not been classified into one of the other three categories. Minn. Stat., sec. 84D.06, subd. 1 prohibits introduction of unlisted nonnative species unless the commissioner of DNR is notified and subsequently makes a classification determination that would allow the introduction. This classification is necessary to prevent introduction of nonnative species that are not covered under the prohibited, regulated, or unregulated classifications.

Unregulated nonnative species are not subject to the laws governing invasive species. Species are put in this classification because they are considered desirable (e.g., ringneck pheasants), are not considered a threat to become established in the state (e.g., tropical species), or are so widely distributed that regulations would do little to reduce their statewide populations (e.g., pigeons).

6216.0250 PROHIBITED INVASIVE SPECIES

The proposed changes in this part add invasive species to the prohibited category or change an invasive species from the prohibited to the regulated category. A detailed fact sheet has been included at the end of this SONAR for each of the species being added or changed (Appendices 1 - 3).

There is also a technical change in the heading for this part to replace “exotic” with “invasive.” “Invasive species” has become the preferred terminology over “exotic species” and

this change has been made previously in other places in statute and rule. It is necessary and reasonable to make this change to be consistent with current terminology.

Subp. 2. Aquatic plants

The proposed change in this subpart is to add brittle naiad to the list of prohibited invasive aquatic plants. This aquatic plant is currently an unlisted nonnative species. Brittle naiad is native to Europe and was first reported in the United States in the Hudson River in 1934 (Appendix 1). It has been found in one lake in Minnesota (Lac Lavon in Dakota County) and has also been found in two counties in Iowa. This species is probably used little if at all in the water-gardening business, based on a 2002 survey of 23 water-gardening catalogs.

The likelihood that brittle naiad will be released or escape if allowed in the state is high, given that it has already been found in Lac Lavon. Brittle naiad has naturalized in Lac Lavon and, since it can tolerate a range of conditions, would likely be able to colonize waters across a broad area of Minnesota. Since brittle naiad commonly grows to a height of eight feet, it has the ability to out-compete many native plants. Similarly, it can create recreational nuisances in the shallow water zone. The magnitude of potential adverse impacts is judged to be moderate because the species is known to form dense stands in shallow water that can out-compete native species needed by waterfowl and other wetland animal species and hinder swimming, boating, and fishing. It is unlikely that brittle naiad could be eradicated once it has become established in a water body because it is a fertile plant that can produce dense seed banks in the bottom sediment. In addition, the ability to control this species' spread to other waters is judged to be low, because it can spread by plant fragments that carry seeds.

It is necessary and reasonable to classify brittle naiad as a prohibited invasive species because it can naturalize in Minnesota's waters, represents a substantial risk to Minnesota's native species, and would be difficult to control. It is necessary and reasonable to classify this species as prohibited to be consistent with the statutory guidelines in Minn. Stat., sec. 84D.04, subd. 2. It is necessary and reasonable to classify this species as prohibited to prevent it from being used in the water-gardening business or for other purposes in the future.

Subp. 2a. Federal noxious weed list

Current language in this subpart states that aquatic plants on the federal noxious weed list are also designated as prohibited invasive species in Minnesota. The proposed change is to make an exception to this rule for Chinese water spinach and classify this species as a regulated invasive species in part 6216.0260. Chinese water spinach is an invasive species that thrives in tropical and subtropical climates and is sometimes cultivated as a food crop (Appendix 1). If this species is allowed in Minnesota, there is a risk that it could be intentionally or unintentionally released into the wild. Nevertheless, it is unlikely that this species could naturalize in Minnesota because it is susceptible to cold weather. If this species was introduced to the wild it may cause short-term environmental impacts, but its inability to survive through the winter would prevent it from causing long-term adverse impacts.

It is necessary and reasonable to classify Chinese water spinach as a regulated invasive species because it is unlikely that it could naturalize in Minnesota and this classification would be consistent with that of other invasive species and statutory guidelines in Minn. Stat., sec.

84D.04, subd. 2. It is reasonable to classify this species as a regulated invasive species since it would still be illegal to release it into the wild unless permitted by the DNR (see Minn. Stat., sec. 84D.07) and would give people the opportunity to cultivate it for food.

Subp. 3. Fish

The proposed changes in this subpart are to add northern snakehead and tubenose goby to the list of prohibited invasive fish. These fish are currently unlisted nonnative species.

The northern snakehead is native to China, Russia, and Korea but has been moved to other parts of the world because of its popularity in live fish food markets and the aquarium industry (Appendix 2). To date it has been reported in the wild in ten states, but is not yet known to exist in Minnesota.

If northern snakeheads were allowed in Minnesota, the likelihood of introduction to the wild would be high because they are usually marketed as live food or aquarium fish. It is also likely that northern snakeheads could naturalize in Minnesota because they survive in similar climates in their native range and can tolerate ice-covered lakes. If snakeheads did naturalize in Minnesota waters, the potential for long-term adverse impacts is high because they are an aggressive predator that could compete with or prey on numerous native species. The ability to control or eradicate this species is low, because their ability to survive low oxygen levels allows them to escape the effects of piscicides by moving to marshy areas or burrowing into the bottom. Other states have had limited success preventing the spread of snakeheads, so the ability to control spread to other waters is judged to be moderate.

It is necessary and reasonable to classify northern snakehead as a prohibited invasive species because it is likely that it could naturalize in Minnesota and is a substantial risk to Minnesota's native species. It is necessary and reasonable to classify this species as prohibited to be consistent with the statutory guidelines in Minn. Stat., sec. 84D.04, subd. 2, and federal regulations, which classify this species as "injurious."

The tubenose goby is native to the estuaries of the Caspian and Black seas, the Sea of Azov, and the rivers of the Aegean and Aral seas (Appendix 2). In Minnesota it has become established in the St. Louis River estuary and Lake Superior, having been introduced from ballast water discharge from ocean-going vessels.

The likelihood that this species could be released or escape if allowed into the state is high. Inadvertent transport through the harvest and sale of live bait would be a likely vector to spread this species. The magnitude of potential adverse impacts from this species is moderate. The tubenose goby could compete with native fishes, especially small benthic fish and young-of-the-year fish that utilize shallow, vegetated areas. This species has already shown that it can naturalize in Minnesota. The ability to eradicate or control this species is judged to be low. It is not feasible to eradicate it from large waters such as those it currently inhabits in Minnesota. In smaller waters a piscicide could be used to remove all fish including tubenose goby, but there has not been sufficient testing to determine if it is feasible to use piscicides to selectively remove this species.

It is necessary and reasonable to classify tubenose goby as a prohibited invasive species because it can naturalize in Minnesota and has the potential to adversely impact native species. It is reasonable to classify this species as prohibited to be consistent with the statutory guidelines in Minn. Stat., sec. 84D.04, subd. 2.

Subp. 4. Invertebrates

The proposed change in this subpart is to add New Zealand mudsnail to the list of prohibited invasive invertebrates. This species is native to New Zealand, but has become widely distributed in the western United States and was discovered in Minnesota in the St. Louis River Estuary in September 2005 (Appendix 3).

The likelihood that the New Zealand mudsnail would escape or be released if allowed into the state is high because there are a number of ways in which this species can be spread including accidental transfer via scientific equipment and recreational fishing gear and natural transfer by waterfowl and other birds. The likelihood that this species would naturalize in Minnesota is high because it has established itself in similar environments in other areas and does not have specialized food or habitat requirements. This species is likely to have adverse impacts on native species because of its large reproductive capacity and its potential to compete for habitat and food. The ability to mange or control the spread of this species is low, because it can survive short periods of adverse environmental conditions by closing its operculum, a trapdoor-like device that allows the snail to shut itself off from its surroundings.

It is necessary and reasonable to classify New Zealand mudsnail as a prohibited invasive species because it could likely naturalize in Minnesota and represents a substantial risk to Minnesota's native species. It is necessary and reasonable to classify this species as prohibited, to be consistent with the statutory guidelines in Minn. Stat., sec. 84D.04, subd. 2.

6216.0260 REGULATED INVASIVE SPECIES

The proposed changes in this part add invasive species to the regulated category or change an invasive species from the prohibited to the regulated category. A detailed fact sheet has been included at the end of this SONAR for each of the species being added or changed (Appendices 1 - 4).

Subp. 2. Aquatic plants

The proposed changes in this subpart are to add Brazilian waterweed and Chinese water spinach to the list of regulated invasive aquatic plants. Brazilian waterweed is currently an unlisted nonnative species and Chinese water spinach is a prohibited invasive species by virtue of its inclusion in the federal noxious weed list (see SONAR language under part 6216.0250, subp. 2a).

Brazilian waterweed is native to Brazil, Argentina, and Uruguay, but is now present in at least 31 states (Appendix 4). It is an aquarium plant that is commonly sold in pet stores in Minnesota and neighboring states.

There is a high probability that Brazilian waterweed will be released into the state since it is sold in pet stores and occurs in Illinois. Nevertheless, the likelihood that this species will

naturalize in Minnesota is low. Minnesota's climate is marginal for this species, which would make it difficult for it to establish a population in this state. The potential for adverse impacts from this species if it does naturalize is high. Brazilian waterweed grows to the water's surface where it can branch out and form mats, and interfere with recreational activities like boating, fishing, and swimming. This species can also reduce the diversity of native plant communities and impede water flow, which could impact irrigation and urban water supplies. The probability of eradicating this species if it did become established is low, because it can reproduce from fragments. The ability to prevent the spread of this species in Minnesota would likely be moderate, because the species is unlikely to survive Minnesota's climate.

It is necessary and reasonable to classify Brazilian waterweed as a regulated invasive species. Although the species is unlikely to survive in Minnesota's climate, the potential for serious impacts if it did survive makes it necessary to regulate it so that it is not introduced into the state's waters. This classification is reasonable for this species, because it would allow the continued sale of this plant as an aquarium species.

See the SONAR language under 6216.0250, subp. 2a for the discussion of the need and reasonableness for changing the classification of Chinese water spinach from prohibited to regulated.

6216.0350 DESIGNATED INFESTED WATERS

The DNR designates a water as infested when it contains an invasive species that could spread to other waters, as required by Minn. Stat., sec. 84D.03, subd. 1. Infested waters are subject to regulations designed to reduce the spread of invasive species to other waters including restrictions on bait harvest, commercial fishing, sport gill netting, aquaculture, and transport or diversion of water (see Minn. Stat., sec. 84D.03, subds. 3 and 4 and Minn. Rule, parts 6216.0400 and 6216.0500).

The DNR is required to consider the extent of a species' distribution within the state, the likely means of spread of a species, and whether regulations pertaining to infested waters will effectively reduce the spread of the species, when determining if an invasive species should trigger an infested water designation. To date, the invasive species that have resulted in infested water designations in Minnesota are Eurasian water milfoil, spiny water flea, zebra mussel, round goby, ruffe, and white perch. In addition, the proposed language designates waters with brittle naiad, flowering rush, and New Zealand mudsnails as infested. Brittle naiad is a nonnative aquatic plant that is proposed to be classified as a prohibited invasive species (see SONAR language under part 6216.0250, subp. 2) and flowering rush is currently classified as a prohibited invasive aquatic plant (part 6216.0250, subp. 2G). The New Zealand mudsnail is a nonnative aquatic invertebrate that is proposed to be classified as a prohibited invasive species (see SONAR language under part 6216.0250, subp. 4). It is necessary and reasonable to designate waters with these species as infested, because they meet the criteria in Minn. Stat., sec. 84D.03, subd. 1 including a limited distribution in the state, the potential to be spread to other waters by recreational boaters, commercial fishing operators, live bait dealers, and other activities that move water or live animals, and the potential to reduce or prevent spread if regulations pertaining to infested waters are followed.

The proposed changes in this part designate infested waters where brittle naiad, Eurasian water milfoil, flowering rush, New Zealand mudsnails, spiny water fleas, and zebra mussels have been found. Many of these waters were previously designated as infested through an expedited rule process as authorized by Minn. Stat., secs. 84D.12, subd. 3 and 84.027, subd. 13. Designations done under this expedited rule authority may not last longer than 18 months.

It is necessary and reasonable to use the permanent rule making process to provide for long-term designation of waters previously designated through expedited rule, because an invasive species cannot be eradicated from a body of water once it's established. It is necessary and reasonable to designate the waters listed in the proposed language as infested, because they have all been documented to contain brittle naiad, Eurasian water milfoil, flowering rush, New Zealand mudsnails, spiny water fleas, or zebra mussels, or are directly connected and adjacent to or downstream of waters documented to contain reproducing populations of zebra mussels.

Subp. 1. Designation listings

The proposed language includes a technical change, which clarifies that lakes in more than one county are listed in the county corresponding to the DNR protected waters inventory number, but the designation applies to the entire lake. The convention of listing a lake under the county corresponding to the protected waters inventory number has been adopted for rules designating infested waters. As a result, for a lake that spans more than one county the designation could be construed to apply only to the portion of the lake falling within the county it's listed under. The proposed change is necessary and reasonable to clarify that infested waters designations apply to an entire lake.

The proposed language in this subpart also includes clarifying language regarding the rules and statutes that apply to designated infested waters, which is currently repeated under each of the other subparts in part 6216.0350. This language is proposed to be deleted under the other subparts in part 6216.0350. The proposed change is necessary and reasonable to avoid repetition.

Subp. 2. Listing of waters with brittle naiad

The proposed language designates Lac Lavon in Dakota County as infested with brittle naiad. It is necessary and reasonable to designate this water as infested because it has been documented to contain brittle naiad and this species meets the statutory criteria for triggering an infested waters designation (Minn. Stat., sec. 84D.03, subd. 1).

Subp. 3. Listing of waters with Eurasian water milfoil

The proposed changes designate additional infested waters where Eurasian water milfoil has been found since the last designations in permanent rule including: Coon and Peltier lakes in Anoka County; Lura Lake in Blue Earth County; Burandt, Eagle, Parley, Steiger, Susan, and Wasserman lakes in Carver County; Leech Lake in Cass County; North Lindstrom Lake in Chisago County; Ossawinnamakee Lake and a portion of the Ripple River in Crow Wing County; Earley, Keller, and Schultz lakes, Sunset Pond, and an unnamed pond in Valley Park in Dakota County; Arbor, Arbor North, Arbor West, Galpin, Mitchell, Snelling, and Wolfe lakes and an unnamed wetland in Hennepin County; Green Lake in Isanti County; North Twin Lake in Itasca County; Green and Norway lakes in Kandiyohi County; East Jefferson and German lakes

in Le Sueur County; Manuella, Ripley, and Wolf lakes in Meeker County; Lake Alexander in Morrison County; Cross, Pokegama, and Sand lakes, a portion of the Snake River, and an unnamed gravel pit in Pine County; Beaver, Birch, Kohlmans, Loeb, McCarron, Owasso, Snail, and Turtle lakes and Ponds three and six in Ramsey County; Cedar Lake in Rice County; Horseshoe Lake in St. Louis County; O'Dowd, Thole and Upper Prior lakes in Scott County; Eagle and Little Elk lakes in Sherburne County; Little Birch Lake in Todd County; Clear Lake in Waseca County; Big Marine, Elmo, Long, and Sunset lakes in Washington County; and Deer, Fish, French, Goose, Howard, Indian, Mink, and Ramsey lakes in Wright County. The proposed changes also include adding legal descriptions for a few previously listed waters that have not been assigned a DNR protected waters inventory number.

It is necessary and reasonable to designate these waters as infested because they have been documented to contain Eurasian water milfoil and this species meets the statutory criteria for triggering an infested waters designation (Minn. Stat., sec. 84D.03, subd. 1). It is necessary and reasonable to add legal descriptions for those waters that do not have a DNR protected waters inventory number so the public can identify where these waters are and comply with regulations pertaining to infested waters.

The proposed changes also clarify that waters with hybrids of Eurasian watermilfoil are included in infested waters designations. It is necessary and reasonable to designate waters with hybrids of Eurasian water milfoil, because hybrids of this species have similar characteristics to the pure strain and, therefore, meet the statutory criteria for triggering an infested waters designation (Minn. Stat., sec. 84D.03, subd. 1).

The proposed changes also delete the language regarding the rules and statutes that apply to designated infested waters and the reference to designations being done by the commissioner. These changes are necessary and reasonable because this language regarding rules and statutes has been moved to subpart 1 and the reference to designation by the commissioner is understood by the context of the rules.

Subp. 4. Listing of waters with flowering rush

The proposed language designates infested waters where flowering rush has been found including: an unnamed wetland in Anoka County; Detroit, Curfman, Muskrat, Sallie, and Melissa lakes and the Pelican River in Becker County; an unnamed lake in Dakota County; North Twin, South Twin, and Hart lakes in Itasca County; Cannon and Wells lakes and a portion of the Cannon River in Rice County; a portion of the Sauk River in Todd County; and Forest Lake in Washington County.

Waters with flowering rush have not been previously designated as infested. Nevertheless, recent research indicates that this species may spread more aggressively than previously thought because of the many ways it can reproduce (Eckert et al 2000). It is necessary and reasonable to designate these waters as infested because they have been documented to contain flowering rush and this species meets the statutory criteria for triggering an infested waters designation (Minn. Stat., sec. 84D.03, subd. 1).

Subp. 5. Listing of waters infested with New Zealand mudsnail

The proposed language designates infested waters where New Zealand mudsnails have been found including the St. Louis River downstream of the Fond du Lac Dam and Lake Superior. This species was discovered in September 2005 in the St. Louis River Estuary, which flows directly into Lake Superior. In addition, they had been previously discovered in Ontario waters of Lake Superior. It is necessary and reasonable to designate these waters as infested because they have been documented to contain New Zealand mudsnails and this species meets the statutory criteria for triggering an infested waters designation (Minn. Stat., sec. 84D.03, subd. 1).

Subp. 6. Listing of waters infested with round goby

The proposed changes delete the language regarding the rules and statutes that apply to designated infested waters. This change is necessary and reasonable because this language has been moved to subpart 1.

Subp. 7. Listing of waters infested with ruffe

The proposed changes delete the language regarding the rules and statutes that apply to designated infested waters. This change is necessary and reasonable because this language has been moved to subpart 1.

Subp. 8. Listing of waters infested with spiny water flea

The proposed changes designate additional infested waters where spiny water fleas have been found since the last designations in permanent rule including Flour, Greenwood, McFarland, Pine, and Saganaga lakes in Cook County, and Rainy Lake in St. Louis County. It is necessary and reasonable to designate these waters as infested because they have been documented to contain spiny water fleas and this species meets the statutory criteria for triggering an infested waters designation (Minn. Stat., sec. 84D.03, subd. 1).

The proposed changes also delete the language regarding the rules and statutes that apply to designated infested waters and the reference to designations being done by the commissioner. These changes are necessary and reasonable because this language regarding rules and statutes has been moved to subpart 1 and the reference to designation by the commissioner is understood by the context of the rules.

Subp. 9. Listing of waters infested with white perch

The proposed changes delete the language regarding the rules and statutes that apply to designated infested waters and the reference to designations being done by the commissioner. These changes are necessary and reasonable because this language regarding rules and statutes has been moved to subpart 1 and the reference to designation by the commissioner is understood by the context of the rules.

Subp. 10. Listing of waters infested with zebra mussels

The proposed changes designate additional infested waters where zebra mussels have been found since the last designations in permanent rule, including waters that are directly connected and adjacent to or downstream of where reproducing populations of this species have been found. The waters include: Little Rock Lake and Little Rock Lake Channel in Benton County; Black Bear, Boom, Half-Moon, Little Rabbit, Miller, Ossawinnamakee, Pickerel, and

Rice lakes, Pelican Brook, a portion of the Pine River, and six unnamed wetlands in Crow Wing County; Mille Lacs, Ogechie, Shakopee, and Onamia lakes in Mille Lacs County; Lake Zumbro in Olmsted County; the St. Croix River downstream of river mile 25.4 in Washington County; Fish Lake in Wright County; and the Mississippi River from the mouth of the Pine River in Crow Wing County to the Minnesota-Iowa border, Rum River, and Zumbro River downstream of Lake Zumbro (multiple counties). It is necessary and reasonable to designate these waters as infested because they have been documented to contain zebra mussels, are directly connected and adjacent to waters that are documented to contain reproducing populations of zebra mussels, or are directly connected and downstream of waters documented to contain reproducing populations of zebra mussels. It is necessary and reasonable to designate these waters as infested with zebra mussels because this species meets the statutory criteria for triggering an infested waters designation (Minn. Stat., sec. 84D.03, subd. 1).

It is necessary and reasonable to designate waters that are directly connected and adjacent to waters where reproducing populations of zebra mussels have been found and waters that are directly connected and downstream of waters where zebra mussels have been found, because a major means of spread of this species is by drift of the microscopic larval stage, known as veligers. Adult zebra mussels produce large numbers of veligers, which can be spread by downstream or wind currents, but cannot move upstream on their own. As a result, the proposed designations include waters where zebra mussels have been found or waters that are downstream of or adjacent to waters with documented reproducing populations of zebra mussels.

For example, reproducing populations of zebra mussels have been documented in Lake Ossawinnamakee and Rice Lake in Crow Wing County. Lake Ossawinnamakee has an outlet to Pelican Brook, which is tributary to the Pine River, which in turn is tributary to the Mississippi River north of Brainerd, Minnesota. Rice Lake is a directly connected backwater of the Mississippi River in Brainerd. Figure 1 (page 25) shows where zebra mussels have been found in Crow Wing County and the downstream waters that will receive veligers due to natural drift. The proposed designations correspond to where zebra mussels have been found (Lake Ossawinnamakee, Pelican Brook, and Rice Lake) and where they will spread to if they have not already (Pine River and Mississippi River and connected lakes and wetlands from the mouth of the Pine River to St. Anthony Falls). It is necessary and reasonable to designate the Pine River and Mississippi River from the mouth of the Pine River down to St. Anthony Falls as infested with zebra mussels, because veligers will drift with the current and the estimated travel time for water flowing from the mouth of the Pine River to St. Anthony Falls is usually less than two weeks and ranges from about five to twenty four days (personal communication, Richard Pomerleau, U.S. Army Corp of Engineers). It is necessary and reasonable to designate the connected lakes and wetlands in the proposed language because veligers will drift from the Mississippi River to these waters with wind currents.

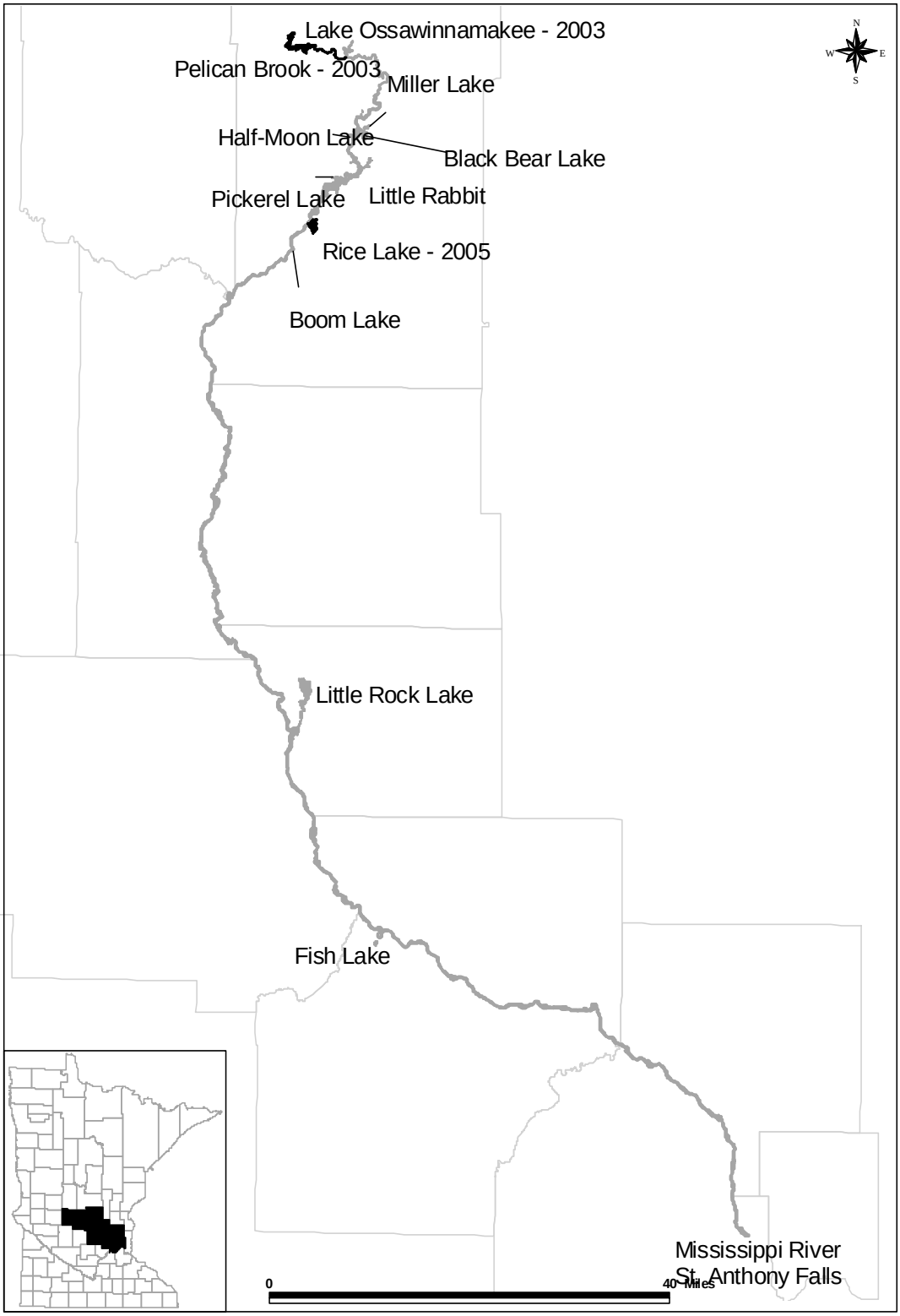
Zebra mussels have also been found in Mille Lacs Lake and appear to be increasing, which is indicative of a reproducing population. In 2005, four zebra mussels were found in three different locations. Based on these findings, it was unclear if there was a reproducing population of zebra mussels or a one-time introduction of a few specimens that would not be able to develop a reproducing population. However, in 2006 eight adult zebra mussels have been found in five locations (as of July), which indicates that they are reproducing and increasing in the lake (DNR

survey information). Therefore, the proposed designations include the Rum River, which is the outlet from Mille Lacs, and Ogechie, Shakopee, and Onamia lakes, which the Rum River flows through. It is necessary and reasonable to include these waters in the infested waters designation, because zebra mussel veligers will drift downstream from Mille Lacs Lake into the Rum River and these lakes.

The proposed language also designates the tributaries to Mille Lacs Lake up to the first public road as infested, though zebra mussels have not been found in any of the tributaries to date. It is necessary and reasonable to designate the tributaries up to the first public road as infested, because Mille Lacs is a large lake that is subject to wind and wave action. Though adult and larval zebra mussels cannot move upstream on their own, waves could dislodge and carry aquatic plants, wood, and other debris with attached zebra mussels into the lower portions of these tributaries. It is reasonable to designate the tributaries up to the first public road as infested with zebra mussels, because that boundary is consistent with the current infested waters designation for Eurasian watermilfoil, is easily identified by the public, and will help with enforcement of infested waters regulations. It is reasonable to include the tributaries up to the first public road in the infested water designation, because it affects only a small portion of each of the tributaries.

The proposed changes also delete the language regarding the rules and statutes that apply to designated infested waters and the reference to designations being done by the commissioner. These changes are necessary and reasonable because this language regarding rules and statutes has been moved to subpart 1 and the reference to designation by the commissioner is understood by the context of the rules.

Figure 1. Waters in Upper Mississippi River watershed proposed for designation as infested with zebra mussels. Bolded areas (Lake Ossawinnamakee, Pelican Brook, and Rice Lake) are waters where zebra mussels have been documented and the year notes when they were first found.



[For text of part 6216.0400,see M.R.]

6216.0500 TRANSPORTATION AND APPROPRIATION OF WATER FROM INFESTED WATERS

Subp. 1. Transporting water and wild animals from infested waters

The proposed change is to repeal this subpart. The provision prohibiting use of water from infested waters to transport wild animals except by permit is unnecessary, because there are already restrictions on the transportation of infested water in subpart 4. The provision allowing fish taken under a commercial fishing license to be transported from infested water to other waters is unnecessary, because Minn. Stat., sec. 97C.825 allows this activity. In addition, the reference to needing a permit pursuant to Minn. Stat., sec. 17.4985 is incorrect because that section applies to aquatic farm licensees, not commercial fishing licensees.

It is necessary and reasonable to repeal this language because it does not help prevent the spread of invasive species and has a statutory reference that is incorrect.

Subp. 1a. Diversion, appropriation, and transportation of infested waters

The proposed changes are to renumber this as subpart 1a (currently it is subpart 4), make a technical change by adding clarifying language, expand the language describing emergencies that would allow transport of infested water, and require the DNR to review water appropriation or public waters work permits issued pursuant to Minn. Stat., Chapter 103G for newly designated infested waters and existing infested waters that are newly designated with an additional invasive species, to determine if permit conditions are needed to prevent the spread of invasive species. The proposed changes also include a description of conditions that may be included on permits to divert, appropriate, or transport infested waters.

Subp. 2. Disposition of water used to transport wild animals from infested waters

The proposed change in this subpart is to remove the reference to subpart 1, which is no longer applicable because it is repealed under the proposed changes. It is necessary and reasonable to remove a reference to a part of the rule that will no longer apply.

It is necessary and reasonable to move this language to subpart 1, because it corresponds to the heading of this part and is the main thrust of what this part is regulating.

The technical change is to use the language “water from designated infested waters” instead of “infested water,” because it is not possible to transport an infested water, which is a lake, river, or stream. It is necessary and reasonable to make this change to avoid ambiguous and confusing language.

The expansion of the language describing the emergencies that would allow transport of infested water includes emergencies that threaten human safety or property. This change is necessary and reasonable to clarify the types of emergencies that take precedence over restrictions on the transport of infested water.

Existing language allows water from infested water to be diverted, appropriated, or transported if allowed in a water appropriation or public waters work permits. Under the current language, infested water could be appropriated or diverted under a public waters work permit even if that permit was issued prior to a water being designated as infested and contains no provisions to prevent the spread of invasive species. The proposed language requires that such permits be reviewed for waters that are newly designated as infested or newly designated with an additional invasive species and allows the DNR to add permit conditions to prevent the spread of invasive species if necessary. The proposed language is necessary and reasonable to insure that adequate safeguards are incorporated into the conditions for these permits when needed to prevent the spread of invasive species.

The types of conditions that may be included for permits issued under this subpart are seasonal or other timing restrictions, requirements to treat water in various ways, and requirements on how water is discharged or disposed of. It is necessary and reasonable to put timing-related restrictions on some infested water permits, because some invasive species are more prevalent or more likely to be spread during certain times of the year. For example, in Lake Ossawinnamakee, DNR survey data indicate that microscopic zebra mussel larvae (veligers) begin to show up around June 1 and are present throughout the summer months. As a result, there may need to be special restrictions against moving water where zebra mussels are present during these months.

It is necessary and reasonable to have treatment requirements on permits issued under this subpart to prevent the spread of invasive species when the DNR allows infested water to be diverted, appropriated, or transported. For example, a certain size screen or chemical treatment may be necessary to prevent an invasive species from being passed from one lake to another.

It is necessary and reasonable to have provisions for how infested water is discharged or disposed of to prevent invasive species from being introduced into new waters. For example, infested water used for irrigation could end up in a drainage ditch that flows into other waters. In such cases, permit conditions may need to prevent the discharge of water in certain locations.

CHAPTER 6238 FALCONRY

6238.0100 DEFINITIONS

Subp. 4a. Falconry permit

The proposed changes in this subpart are to specify the permit being defined as a falconry permit, which is a permit to take and possess raptors and conduct other activities related to falconry as provided in part 6238.0200, subpart 1, and to specify that this permit is for Minnesota residents. The proposed change is necessary and reasonable because the rule amendments require falconry permits to be differentiated from raptor and propagation permits.

Subp. 5. Passage raptor

The proposed change is to clarify that a passage raptor is less than one year old. This has been the “working” definition of this term, but it is not specified in current language. The proposed change is necessary and reasonable to make sure the public understands the intended definition of this term.

Subp. 6a. Propagation permit

The proposed change is to add a definition of propagation permit, which is a permit to propagate raptors as provided in the proposed language in part 6238.0200, subp. 1b. The proposed change is necessary and reasonable because the rule amendments require raptor propagation permits to be differentiated from falconry and raptor permits.

Subp. 7a. Raptor permit

The proposed change is to add a definition for a raptor permit, which is a permit for nonresidents to take, possess, and transport raptors as provided in the proposed language in part 6238.0200, subp. 1a. The proposed change is necessary and reasonable because the rule amendments utilize this term and require raptor permits to be differentiated from falconry and propagation permits.

6238.0200 FALCONRY, RAPTOR, AND PROPAGATION PERMITS

Subpart 1. Falconry permit requirements

The proposed changes in this subpart make technical improvements to the current language and add an exception to the requirement for a falconry permit that is necessary because of proposed language for other types of permits and activities in subparts 1a, 1b, and 2.

Subpart 1a. Raptor permit requirements

Current rule language restricts the taking of raptors to Minnesota residents. The proposed language in this subpart creates a raptor permit, which allows nonresidents to take, possess, and transport raptors in Minnesota. The language requires that a person have a valid permit to practice falconry or its equivalent from the state, county, province, or territory of their residence and gives the DNR the ability to place conditions on permits to prevent depletion of wild raptor populations. The conditions could include limits on the number of raptors that may be taken, which species may be taken, the geographical area that birds can be taken, and when birds can be taken.

The resident take of wild raptors for falconry has been below levels that would affect raptor populations. It is reasonable to allow nonresidents to take raptors for falconry, since relatively low numbers of people engage in this activity and the DNR does not anticipate that the additional take by nonresidents will harm bird populations. Nevertheless, it is necessary and reasonable to build in safeguards against excessive take by nonresidents, because the DNR cannot accurately determine how many nonresidents will apply for permits to take raptors. In addition, current language in part 6238.0300 provides limits on the numbers and species of raptors that residents can take under a falconry permit. Since these limits do not apply to nonresidents, it is necessary and reasonable for the DNR to be able to put conditions on the numbers and species of raptors that may be taken under nonresident raptor permits.

It is necessary and reasonable for the DNR to be able to put conditions restricting the geographical area that nonresidents take raptors in to prevent localized depletion of raptor populations. It is necessary and reasonable for the DNR to be able to put restrictions on when raptors may be taken to prevent disturbance to birds at critical times of the year such as nesting and incubation. Squires and Reynolds (1997) reported that logging activities and camping near

nests have caused nesting failures or nest abandonment for northern goshawk. White et al reported that visits to peregrine falcon nests might cause nest abandonment.

It is necessary and reasonable to require nonresidents to have the equivalent of a falconry permit from their state, country, province, or territory of residence to ensure that they are qualified to handle and care for raptors that they take in Minnesota.

It is reasonable to allow falconry permits to be issued to non-residents, because other states have reciprocity provisions in their falconry laws, which would allow additional opportunities for Minnesota residents to take raptors in those states. These reciprocity provisions generally allow nonresidents to take raptors if the person's resident state also allows nonresidents to take raptors. States that have reciprocity provisions include Arkansas, Georgia, Idaho, Indiana, Iowa, Maryland, Mississippi, New Mexico, North Carolina, Pennsylvania, Virginia, and Wisconsin (personal communication, Steve Estebo, Minnesota Falconers Association).

Subpart 1b. Propagation permit requirements

The proposed language in this subpart provides for issuance of raptor propagation permits to Minnesota residents, requires this permit to breed and raise raptors and to sell or transfer captive-bred raptors, and specifies conditions that may be included on raptor propagation permits. Minnesota Statutes, sec. 97A.401, subd. 7 gives authority for the DNR to issue permits to breed, propagate, and sell raptors and requires the DNR to prescribe conditions for the activities covered under these permits. Although the DNR has issued raptor propagation permits, rules specifying conditions for such permits have never been promulgated. It is necessary and reasonable to specify in rule that the DNR may issue raptor propagation permits to clarify current practice. It is necessary and reasonable to specify conditions that may be included on raptor propagation permits to comply with statutory requirements.

The conditions that may be included on raptor propagation permits include the location of propagation facilities, restrictions on release of birds from captivity, and requirements for the disposition of dead raptors. It is necessary and reasonable to specify the location of raptor propagation facilities on the permit to verify that birds are being held in the facility that has been inspected and approved as part of the permit. It is necessary and reasonable to restrict release of birds from captivity to prevent escape of nonnative species and domesticated or nonnative subspecies of birds that could have negative impacts on the genetic integrity of wild bird populations. For example, 10 subspecies of northern goshawk have been identified, with three of those found in North America. Northern goshawk from the southwestern United States could lack some of the genetic qualities required for survival and reproduction in Minnesota and, if released, could cause outbreeding depression in Minnesota's northern goshawk population.

It is necessary and reasonable for the DNR to have requirements for disposal of dead birds to help verify that birds were lawfully taken and that previously permitted birds are no longer alive, and to allow the DNR to use specimens for scientific studies or educational programs.

Subp. 2. Nonresident falconry requirements

The proposed changes in this subpart primarily improve and clarify existing language. The existing language allows nonresidents to possess and use raptors for falconry in Minnesota

for up to 30 consecutive days without obtaining written permission from the DNR, if they have a valid permit to practice falconry from their state or country of residence. Current language also allows non-residents to acquire captive-bred raptors to use for falconry in Minnesota.

There are three main problems with the language as its currently written:

1) The 30-day limit on the practice of falconry without permission from the DNR is unenforceable, because there is no provision for a non-resident to notify the DNR when the person begins to practice falconry. In addition, there is no compelling biological or management reason to limit this activity to 30 days.

2) Current language does not make it clear that a person who is practicing falconry under this subpart has to be in possession of the required falconry permit from the person's state or country of residence.

3) Current language allows a nonresident to acquire only captive-bred raptors, even though a person with a falconry permit is allowed to transfer or sell raptors that may not be captive-bred.

The proposed language clarifies that a non-resident who is conducting activities under this subpart must be in possession of the permit or other documentation that authorizes the person to practice falconry in their state or country of residence. The proposed language also eliminates the 30-day limit on activities conducted under this subpart and allows a nonresident to acquire raptors from a person with a propagation or falconry permit.

The proposed changes are necessary and reasonable to make it clear that a person must be in possession of the permit they are conducting activities under so that conservation officers can verify compliance with the requirements of this subpart. The proposed changes are also necessary and reasonable to eliminate unenforceable language that has no biological or management purpose.

The proposed language also allows a nonresident to acquire both wild and captive-bred raptors and clarifies that the birds have to be obtained from someone with a falconry or propagation permit. The proposed changes are necessary and reasonable, because a falconry permit allows a person to sell or transfer a raptor taken from the wild, so the current language restricting nonresident acquisition of raptors to captive-bred birds does not make sense. The proposed change to clarify that the birds must be obtained from a person with a falconry or propagation permit is reasonable, because a person needs one of those permits in order to be able to legally sell or transfer a raptor, as provided by subparts 1 and 1b.

The proposed change also clarifies that a person in possession of a raptor that was obtained from a person with a falconry or propagation permit does not need a nonresident raptor permit to possess or transport the raptor. This clarification is reasonable because the raptor permit is intended to be a regulatory tool for nonresident take of wild raptors. As such, it is not necessary for the DNR to require this permit for a nonresident who is legally obtaining a raptor from a person with a falconry or propagation permit.

Subp. 3. Permit application

The proposed changes are technical improvements to existing language, which specifies that falconry permit applications must be submitted to the DNR. The changes include specifying that the requirement to submit applications refers to falconry, propagation, and raptor permits and that application forms will be provided by the commissioner. It is necessary and reasonable to identify application requirements for all three permits, because they are separate entities under the proposed rule changes. It is necessary and reasonable to clarify that application forms will be provided by the DNR to ensure that applications contain the information necessary to decide if a permit should be issued.

Subp. 4. Examination for falconry permit

The proposed changes in this subpart are non-substantive technical improvements to existing language. The proposed changes are necessary and reasonable to clarify existing language and make it consistent with the style and format of other proposed changes.

Subp. 4a. Qualifying for propagation permits

The proposed language provides criteria necessary to qualify for raptor propagation permits. Under the proposed language people who would qualify for propagation permits include: 1) a person who meets the requirements for a class II falconry permit in part 6238.0300 (at least 18 years old and has at least two years experience in the practice of falconry); 2) a person conducting research for an educational or government institution; 3) a person who has had a permit to propagate raptors or its equivalent in another state or country; or 4) a person who can document at least two years of experience propagating raptors.

It is necessary and reasonable to require a person to have adequate experience and knowledge to qualify for a raptor propagation permit to ensure that birds are properly cared for and contained. The proposed requirements are reasonable, because they require experience that would enable a person to successfully propagate raptors or, in the case of the research requirement, help ensure that a person will have the institutional resources needed to successfully propagate raptors.

Subp. 5. Inspection

The current language in this subpart requires a person's raptor housing facilities and falconry equipment to be inspected and approved by the DNR before a falconry permit is issued. The proposed changes clarify that this requirement is for an initial permit and would also allow the DNR to require an inspection or other documentation such as photographs prior to permit renewal or if facilities are moved or changed. The proposed changes are necessary and reasonable because the DNR needs to verify that new or modified facilities meet standards in subp. 6 and also needs to have the option of inspecting facilities prior to permit renewal to make sure that facilities are being maintained to meet standards in subp. 6.

Subp. 6. Facility standards

The proposed changes modify existing requirements for facilities under a falconry permit so the requirements can also be applied to facilities under a propagation permit. It is necessary and reasonable to have standards for propagation facilities to ensure that captive-bred birds are held under adequate conditions.

The current language specifies conditions for indoor and outdoor raptor facilities and requires holders of falconry permits to have facilities that meet the requirements of both. The proposed changes reflect some differences in the requirements for propagation facilities versus facilities that are used to hold raptors under a falconry permit including: 1) raptors housed for propagation do not need to be separated by a partition; and 2) propagation facilities do not need to have requirements for outdoor facilities.

It is necessary and reasonable to exempt propagation facilities from the requirement to separate birds with partitions, because the birds need to be together in order to propagate. It is necessary and reasonable to exempt propagation facilities from the requirements for outdoor facilities, because captive-bred birds do not require this type of facility for their wellbeing, though propagators may provide outdoor facilities at their discretion.

The proposed changes also require that raptor facilities be designed so that domesticated livestock or fowl cannot gain access to the same area as the raptors. The proposed change is necessary and reasonable to prevent raptors from being housed with incompatible species, to prevent substandard conditions in raptor facilities, and to reduce the chance of introducing poultry or livestock diseases to raptors.

The proposed language also includes a technical change that clarifies that tethers must be long enough to allow birds to reach the floor or ground, or a platform. The proposed change is necessary and reasonable to allow facilities the option of having a platform for birds rather than requiring that birds be able to reach the ground or floor.

Subp. 7. Equipment standards

The proposed changes in this subpart are technical and include replacing the word department with commissioner and clarifying that the equipment standards apply to holders of falconry and propagation permits. The proposed changes are necessary and reasonable to improve the style and format of the rules and to make sure that equipment standards apply to propagation permittees.

Subp. 8. Maintenance

The proposed change is to repeal this subpart, which states that [raptor] facilities must meet the standards provided in part 6238.0200. This language is redundant, because subpart 6 adequately states facility requirements. In addition, part 6238.1100 provides for permit revocation and confiscation of raptors for a person who violates any provisions of Chapter 6238. It is necessary and reasonable to repeal redundant language that is adequately covered in other parts of the rule.

6238.0300 FALCONRY PERMIT CLASSES

The proposed change in this part is to allow Class II falconers to take, transport, and possess owls. The proposed change is reasonable because use of owls for falconry is limited and the number of owls likely to be taken is low. In addition, the species most likely to be utilized, such as the great horned owl, are very common.

6238.0400 RESTRICTIONS ON TAKING RAPTORS

Subpart 1. Eyases

Current language requires a person to be a class I or II falconer to be able to take eyases. Since the classes of falconers apply to falconry permits (see part 6238.0300), which are only for residents, current language does not provide for nonresident take of eyases. The proposed changes add language that allows a nonresident to take an eyas, if the person has a falconry classification in their home state or county that is equivalent to Minnesota's class I or II classification.

The proposed changes are necessary and reasonable, since the rule changes are allowing nonresident take of raptors. The proposed changes are reasonable, because nonresident take of eyases would be subject to the same qualifications and restrictions as residents.

It is necessary and reasonable to require a falconry classification of I or II or its equivalent for a person to take eyases, because caring for these young birds requires more experience and maturity than caring for passage raptors. In particular, nutrition is extremely important for young birds; therefore, falconers who handle eyases need a greater understanding of proper feeding than those who handle adult birds.

Subp. 4. American Kestrels and great horned owls

The proposed changes in this subpart are non-substantive technical improvements to existing language. The proposed changes are necessary and reasonable to clarify the language and make it consistent with the style and format of other proposed changes.

Subp. 5. Raptors taken in Minnesota

The proposed changes clarify what is required to register raptors taken in Minnesota and eliminates the requirements that title to raptors remains in Minnesota and the commissioner authorizes transfer of raptors out of state. The proposed changes also clarify that raptors can be transferred as gifts between holders of falconry, propagation, and raptor permits (existing language refers to holders of Minnesota permits).

Existing language requires that raptors must be registered, but does not specify what a person needs to do to register a raptor. The proposed language clarifies that raptor registration is accomplished by submitting a completed Federal Form 3-186A to the commissioner within five days of taking the bird. The proposed changes are necessary and reasonable because the public needs to know how to comply with the rule. The requirement to submit the federal form is necessary and reasonable so that the DNR can verify that the raptors have been legally taken and possessed, and keep track of how many raptors are taken from the wild.

It is necessary and reasonable to eliminate the requirement that title to raptors taken in Minnesota remains in Minnesota, because the rule changes provide for nonresident take of raptors and it would not make sense for the title for birds taken by nonresidents to remain in Minnesota.

It is necessary and reasonable to allow transfer of raptors as gifts between falconry, propagation, and raptor permit holders, because rules allow both types of permit holders to legally possess these birds.

Subp. 6. Raptors taken outside Minnesota

The proposed changes in this subpart are non-substantive technical improvements to existing language. The primary change is to clarify that residents provide proof of lawful possession for raptors taken outside of Minnesota by submitting a Federal Form 3-186A. The proposed changes are necessary and reasonable to clarify the language and make it consistent with the style and format of other proposed changes.

Subp. 7. Areas closed to taking raptors.

The proposed changes in this subpart are non-substantive technical improvements to existing language. The primary change is to specify the types of permits that the DNR may grant to take raptors in areas that are otherwise closed. The proposed changes are necessary and reasonable to clarify the language and make it consistent with the style and format of other proposed changes.

Subp. 9 Peregrine falcon restrictions

The proposed language in this subpart allows the DNR to restrict the taking of peregrine falcons in the event that this species is taken off the state threatened species list. The restrictions would include putting limits on the number of birds that could be taken each year and the ability to specify when and where birds may be taken.

Peregrine falcons have been recovering from very low population levels and their state status was changed from endangered to threatened in 1999 (see Minnesota Rules, part 6134.0200, subp. 2). These birds have shown considerable adaptability to a variety of nesting sites. In 2005, Minnesota had 43 nesting pairs of peregrine falcons that raised 83 young including ten pairs on tall buildings, eight on smokestacks, 16 on cliffs in northeastern and southeastern Minnesota, five on bridges, two on grain elevators, and two on water towers (midwestperegrine.umn.edu).

The DNR will propose that the status of peregrine falcon change from threatened to special concern during the next revision of Minnesota Rule, Chapter 6134. If this change is implemented, take of peregrine falcons for falconry would be allowed. It is necessary and reasonable to have adequate limits in place for take of peregrine falcons to ensure the sustained recovery of this species. A safe level for peregrine falcon take would be 5 per cent of the annual production (personal communication, Dr. Harrison B. Tordoff, University of Minnesota). In 2005, this would have been 5% of 83 chicks, which would round out to four birds.

There is a management group of peregrine falcon experts from the University of Minnesota, Raptor Center, Minnesota Zoo, and DNR who annually visit all known nesting sites, locate new nests, organize efforts to band all accessible eyases, take blood samples, identify the parent birds, and publish reports on the status of the bird's recovery. This group is in the best position to identify nest sites and times to obtain eyases for falconry purposes, because its members keep detailed records on the onset of egg laying, incubation, and hatching. Persons monitoring the nests typically know the age of the eyases to within a few days, which would help to determine the optimum time for removal. The management group could also coordinate taking of birds with other monitoring activities such as banding, which would minimize disturbance at nesting sites and help avoid negative publicity that could be generated by removing eyases from nests. It is necessary and reasonable for the DNR to be able to specify the

nesting sites and times where peregrine falcons may be taken so that the taking of peregrine falcons can be coordinated with ongoing management and monitoring activities and so that birds are removed when they have the best chance of surviving in captivity, disturbance to nesting sites is minimized, and negative public relations are avoided.

6238.0800 REPORTING AND MARKING OF RAPTORS

Subpart 1. Banding requirement

The proposed change clarifies that banding requirements apply to raptors taken for propagation as well as for falconry. The proposed change is necessary and reasonable so that the language for banding requirements is consistent with the rule amendments creating propagation permits and because the DNR needs to be able to keep track of raptors taken from the wild, regardless of whether they are used for falconry or propagation.

6238.0900 REPORTING REQUIREMENTS

Subpart 1. Required reporting for each bird

The proposed changes in this subpart are non-substantive technical improvements to existing language. The proposed changes are necessary and reasonable to clarify the language and make it consistent with the style and format of other proposed changes.

Subp. 2. Change of address

The proposed changes in this subpart include non-substantive technical improvements to existing language, such as clarifying that notification of change of address applies to holders of propagation permits as well as falconry permits, and also eliminate a requirement for raptor facilities to be certified during a 30-day temporary holding period following a move to a new facility. The requirement to certify within 30 days a facility that has moved is redundant, given the proposed language in part 6238.0200, subp. 5, which gives the DNR the ability to require an inspection or other documentation if raptor facilities are moved or changed. The proposed changes are necessary and reasonable to eliminate redundant language, clarify language, and to make language consistent with the style and format of other proposed changes. The proposed changes are necessary and reasonable so that notification requirements for change of address are consistent with the rule amendments creating propagation permits.

Subp. 3. Reports by permit holders

The proposed changes in this subpart include non-substantive technical improvements to existing language, including clarification that reports are required for holders of propagation permits as well as falconry permits. The proposed changes are necessary and reasonable to clarify the language and make it consistent with the style and format of other proposed changes. The proposed changes are necessary and reasonable so that language for permit holder reports is consistent with the rule amendments creating propagation permits.

6238.1000 PERMIT DURATION AND RENEWAL

Subpart 1. Duration of permits

The proposed changes in this subpart clarify that permit duration time frames apply to propagation permits as well as falconry permits. Proposed language also defines a duration period for nonresident raptor permits of one year with a December 31 expiration date. The proposed changes are necessary and reasonable so that language for permit duration is consistent

with and addresses rule amendments creating propagation and raptor permits and so that permit duration provisions apply to the new types of permits created by the rule amendments. The proposed one-year duration period for nonresident raptor permits is shorter than the existing duration period of three years for resident falconry permits. This difference is necessary and reasonable, because there is more uncertainty regarding how many nonresident permit requests the DNR will receive and what species nonresidents will want to take. Having a shorter time frame for nonresident permits will allow the DNR to make adjustments in permit conditions more quickly, if necessary to manage the take of wild raptors.

Subp. 2. Renewal of permits

The proposed changes in this subpart clarify that permit renewal time frames apply to propagation and raptor permits as well as falconry permits. The proposed changes are necessary and reasonable so that language for permit renewal is consistent with rule amendments creating propagation and raptor permits and so that permit renewal provisions apply to the new types of permits created by the rule amendments.

CHAPTER 6280 AQUATIC PLANTS AND NUISANCES

6280.1300 STANDARDS FOR BLACK FLY CONTROL PERMITS

The proposed language in this part provides conditions for black fly control permits. Some local units of government apply for these permits to reduce the nuisance caused by these biting insects in the spring and summer. Minn. Stat., sec. 103G.615, subds. 1 and 3 authorize the DNR to issue permits to destroy harmful or undesirable organisms and to prescribe standards for issuing and denying such permits. The DNR has issued a small number of permits to control black flies, but has never adopted rules covering the conditions for these permits. It is necessary and reasonable to develop conditions for black fly control permits in rule to comply with statutory intent.

The proposed language requires the permit applicant to collect adult and larval black fly specimens from the treatment area so that the species can be identified and gives the DNR the option of requiring that the specimens be sent to a qualified person for identification. It is necessary and reasonable to require species identification so that the DNR can determine that the adults causing the nuisance are the same species that are in the stream where the treatment would occur.

The proposed language requires that only Bacillus thuringiensis var israelensis (Bti) may be approved for black fly control. Bti is a species of bacteria that produces a spore, which is ingested by black fly larvae and subsequently causes death. It is the only agent approved by the Minnesota Department of Agriculture for black fly control in aquatic systems (personal communication, John Sierk, Minnesota Department of Agriculture) and is also the only known agent that has minimal impact on non-target organisms. The proposed language is necessary and reasonable to comply with state regulations and to minimize impact on non-target organisms.

The proposed language also requires the permit applicant to monitor the treated area before and after treatment and gives the DNR the ability to include conditions on how the monitoring is done, including the type and number of samplers used, the timing of placement and

removal of the samplers, and the data that needs to be recorded. It is necessary and reasonable to require monitoring to determine if the treatment was effective and if additional treatments are needed. It is necessary and reasonable for the DNR to have conditions on how the monitoring is done to make sure that the data collected is sufficient to evaluate the success of the treatment.

The proposed language prohibits the control of black fly larvae on trout streams, and on other waters if there could be detrimental impacts to non-target organisms. Although Bti has minimal direct impact on non-target organisms, black fly larvae can be an important part of the food web in streams and it is necessary and reasonable to prohibit black fly control in trout streams to prevent impacts to trout populations. Similarly, black fly larvae may be an important part of the food web in streams that have rare species of fish or other aquatic life and it is necessary and reasonable to prohibit control in these waters.

The proposed language requires the permittee to submit a report no later than January 31 of the year following the treatment. It is necessary and reasonable to require a report so the DNR can determine if there are any issues or problems that need to be addressed for future permitting decisions. The January 31 date is reasonable, because treatment and monitoring occurs in the spring and summer; therefore, the permittee has ample time to submit the report and the DNR has ample time to review it prior to the next season's permit application.

The proposed language gives the DNR the ability to include conditions that minimize impacts to non-target species, including specifying location of treatment sites and timing of treatments. It is necessary and reasonable to have these conditions, to prevent impacts to the food web that would impact other species.

The proposed language gives the DNR the ability to deny future permit applications if a permittee fails to comply with permit requirements. It is necessary and reasonable to have this provision to provide enforceability for permit conditions.

IV. OTHER CONSIDERATIONS

Review of Documents

Sources cited in this document may be reviewed on workdays between 8:00 a.m. and 4:30 p.m. at the DNR central office, Division of Ecological Services, 500 Lafayette Road, St. Paul, Minnesota, 55155.

Alternate Format

Upon request, this Statement of Need and Reasonableness can be made available in an alternative format, such as large print, Braille, or cassette tape. To make a request contact Steve Hirsch, Division of Ecological Services, Department of Natural Resources, 500 Lafayette Road, Saint Paul, Minnesota 55155-4025, telephone: 651-259-5106, facsimile number: 651-296-1811, e-mail: steve.hirsch@dnr.state.mn.us. TTY users may call the Department of Natural Resources at 651-296-5484 or 800-657-3929.

Witnesses

If these rules go to public hearing, the witnesses below may testify on behalf of the DNR in support of the need and reasonableness of the rules. The witnesses will be available to answer questions about the development and content of the rules. The witnesses for the Department of Natural Resources include:

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Based on the foregoing, the DNR's proposed rules are both necessary and reasonable.

By: _____ Dated: _____
Mark Holsten, Commissioner
Department of Natural Resources

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Appendix 1: 6216.0250 PROHIBITED INVASIVE SPECIES, Subp. 2, Aquatic plants and Subp. 2a, Federal noxious weed list

COMMON NAME: (brittle naiad)
SCIENTIFIC NAME: ***Najas minor* All.**
FAMILY: Najadaceae /Water-nymph Family

SPECIES DESCRIPTION, NATIVE AND CURRENT RANGE:
Brittle naiad (*Najas minor)* resembles the rare Minnesota native species spiny naiad *(Najas marina)*, but is not native to Minnesota. Brittle naiad is native to Europe and was first reported in the United States in the Hudson River in 1934 (McFarland et al. 1998, U.S. Department of Agriculture no date).

Brittle naiad grows to about eight feet in height, and has stems that are profusely branched toward the top of the plant. It is found as far north as Vermont and as far west as Oklahoma. Like other naiads, brittle naiad is an annual, reproducing primarily by seed (McFarland et al 1998).

Brittle naiad has been found in Iowa where it has been confirmed in Crawford and Ida counties and also one location in Minnesota (Lac Levon in Dakota County). The Iowa DNR treated four small (≤ 40 acre), shallow lakes with herbicides to control the plant in 20040 and did subsequent treatments on two lakes in 2005 (personal communication, Kim Bogenschutz, Aquatic Nuisance Species Program Coordinator, Iowa DNR).

PRESENT CLASSIFICATION: **unlisted nonnative species**
PROPOSED CLASSIFICATION: **prohibited invasive species**

BASIS FOR PROPOSED CLASSIFICATION:

		Ranking
A. Likelihood of release or escape if allowed in the state:		**moderate**
B. Likelihood of naturalization if released or escaped:		**high**
C. Magnitude of potential adverse impacts if it naturalized:		**moderate**
D. Ability to:	a) eradicate	**low**
	b) manage naturalized populations:	**moderate**
	c) control its spread to new locations:	**low**

A. Likelihood of release or escape if allowed in the state:
The likelihood that brittle naiad will be released or escape if allowed in the state is moderate. It is unlikely that this species would be spread by the water-gardening industry, since it was not found for sale in a survey of 23 water-gardening catalogs surveyed in 2002 (Galatowitsch and Maki 2002). Nevertheless, this species has been documented in Minnesota in Lac Levon, Dakota County and in Iowa, indicating that it is being released and that more introductions are likely. The primary means of reproduction and spread of brittle naiad is by seed and it is highly fertile (McFarland et al 1998). Reservoirs in the Tennessee River system have shown seed banks of brittle naiad to be tens of millions of seed per hectare at productive sites.

B. Likelihood of naturalization

Brittle naiad has established a reproducing population in Lac Levon and would likely tolerate conditions that occur in many Minnesota waters. Brittle naiad has been found in waters with low to moderate alkalinity and low to moderate water clarity (Kadono 1982, Florida Lake Watch, Downing 2004, MN DNR 2000). Brittle naiad can be found in ponds, lakes, reservoirs, and slow moving streams and can tolerate eutrophic conditions (McFarland et al 1998). Brittle naiad will likely be able to colonize Minnesota lakes in areas of the state with low to moderate alkalinity, which is roughly the eastern half of the state (Moyle 1956) and will probably be able to tolerate waters with low water clarity in Minnesota.

C. Magnitude of potential adverse impacts if naturalized

The magnitude of potential adverse impacts if brittle naiad naturalizes is moderate. In shallow water brittle naiad can cause recreational nuisances that require money and effort to manage (personal communication, Kim Bogenschutz, Aquatic Nuisance Species Program Coordinator, Iowa DNR). Brittle naiad can form dense stands in shallow water and hinder swimming, fishing, boating, and other forms of water recreation, and compete with native aquatic plants (US Army Corps of Engineers 2002; Vermont Agency of Natural Resources and The Nature Conservancy of Vermont, 1998). In Lac Lavon, brittle naiad formed dense stands near the bottom of the lake, but because of the water depth did not cause a recreational nuisance (personal communication, Nick Proulx, Minnesota Department of Natural Resources).

D. Ability to eradicate, manage, or prevent the spread to new locations

The probability that naturalized populations of brittle naiad could be eradicated is low, because a new population can grow from seeds. Lac Lavon, which has brittle naiad, was subjected to a whole lake treatment of fluridone, for the control of Eurasian watermilfoil. This treatment did not eradicate brittle naiad.

The ability to manage naturalized populations of brittle naiad is moderate. Pesticides and physical methods can control it, but these methods typically have to be used on an ongoing basis. Two commonly used contact aquatic herbicides, diquat and endothall, can provide control of brittle naiad (Westerdahl and Getsinger 1998). Commonly used mechanical methods, such as raking or harvesting, could also be used to control this species. Nevertheless, brittle naiad is an annual, so while control in the year of treatment is possible, there will be seeds in the bottom sediment if the population has existed for any length of time making long-term population reduction unlikely.

The ability to control this species' spread to new locations is low, because there are several vectors that can move it. It is possible that trailered watercraft could spread brittle naiad if movement occurs when seeds are present. During the late summer or early fall, the stems of brittle naiad become brittle and the profusely branched apical portions of the stem break into small fragments. Seeds remain attached in the leaf axils and the fragments are dispersed by wind and water currents (US Army Corps of Engineers 2002). It has also been suggested that waterfowl contribute to the dispersal of brittle naiad seeds (McFarland et al 1998).

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COMMON NAME: (Chinese water spinach, Ong Choy)
SCIENTIFIC NAME: *Ipomoea aquatica* Forsskal
FAMILY: Convolvulaceae/Morning-Glory Family

SPECIES DESCRIPTION, NATIVE AND CURRENT RANGE:
Water-spinach is a trailing, herbaceous vine that is cultivated in some cultures as a food crop (World Crops 2004). It has broadly funnel-shaped flowers and is recognizable as a member of the "morning-glory" family (Florida Department of Environmental Protection 2004). There are two main cultivars, one with white flowers and green stems used in dry land culture and one with pink flowers with purple centers and white stems, which are planted in flooded lands (Yamaguchi 1990). The leaves are generally arrowhead shaped and grow as long as seven inches. Water spinach is an aquatic or semi-aquatic perennial plant of the tropics and subtropics and is native to India and southeast Asia (McCann et al 1996; World Crops 2004). It dwells in

muddy stream banks, freshwater ponds and lakes, and marshes. In lakes, ponds, and rivers the vines can float on the water surface (Florida Department of Environmental Protection 2004).

PRESENT CLASSIFICATION: **prohibited invasive species**
PROPOSED CLASSIFICATION: **regulated invasive species**

BASIS FOR PROPOSED CLASSIFICATION:

		Ranking
A. Likelihood of release or escape if allowed in the state:		**moderate**
B. Likelihood of naturalization if released or escaped:		**low**
C. Magnitude of potential adverse impacts if it naturalized:		**moderate**
D. Ability to:	a) eradicate	**high**
	b) manage naturalized populations:	**high**
	c) control its spread to new locations:	**high**

A. Likelihood of release or escape if allowed in the state
The likelihood that Chinese water spinach will be released or escape if allowed in the state is moderate. There are some Minnesotans interested in cultivating, buying and selling this species as a food plant (Vang Yang, University of Minnesota Extension Service, letter of Nov 8, 2004).

B. Likelihood of naturalization
The likelihood that Chinese water spinach will naturalize in the state is low. It is confined to the tropic and subtropic zones because it is susceptible to frosts, does not grow well when temperatures are below 75 degrees Fahrenheit, and can experience chilling injury below 50 degrees Fahrenheit (McCann et al 1996; World Crops 2004). Because of its susceptibility to frosts it is extremely unlikely that this species can survive in Minnesota during the winter.

C. Magnitude of adverse impacts on native species, natural resources , and their use
Chinese water spinach can form dense floating mats of intertwined stems over water surfaces, shading out native submersed plants and competing with native emergent plants (Global Invasive Species Database 2004). The magnitude of these potential adverse impacts is considered to be moderate but short-term in Minnesota.

D. Ability to eradicate, manage, and prevent the spread of naturalized populations
The ability to eradicate, manage, and prevent the spread of naturalized populations of Chinese water spinach is high, because it is susceptible to cold weather and control can probably be obtained with herbicides or mechanical methods.

E. Other considerations
Chinese water spinach is currently listed as a prohibited invasive species in Minnesota Rule because it listed on the federal noxious weed list. Nevertheless it is grown legally in other states such as Florida and California, where it would be expected to naturalize (Vang Yang, University of Minnesota Extension Service, letter of Nov 8, 2004). Because it can be grown as a cash crop, allowing it to be cultivated as a regulated non-native species may benefit Minnesota's economy and society.

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Appendix 2: 6216.0250 PROHIBITED INVASIVE SPECIES, Subp. 3, Fish

COMMON NAME: Northern Snakehead
SCIENTIFIC NAME: *Channa argus* (Cantor)
FAMILIES: Channidae (snakeheads)

SPECIES DESCRIPTION, NATIVE AND CURRENT RANGE:
The northern snakehead is also known as amur, eastern, spotted, eyed, or argus snakehead. Snakehead fishes are so named because they have long tube-like bodies and flattened heads. All species of snakeheads are voracious predators and have large jaws with canine-like teeth. Adult northern snakeheads have been reported to grow up to five feet long (Courtenay and Williams 2004).

The northern snakehead is native to China, Russia, and Korea. It has been established in Japan, Czechoslovakia, Kazakhstan, Turkmenistan, and Uzbekistan. A reproducing population was found in Maryland and an attempt was made to eradicate it in 2002 (Courtenay and Williams 2004). To date these fish have been reported in the wild from ten states, including the Maryland population Maryland. Until 2002, when prohibitive state and federal rules were enacted, the northern snakehead was grown commercially on a fish farm in Arkansas (Courtenay and Williams 2004).

The preferred habitats of the northern snakehead are both lotic and lentic environments including lakes, rivers, ponds, rice paddies, and swamps. They can survive hypoxic conditions from late juvenile stages because they are an obligate air-breathing fish (Courtenay and Williams 2004).

PRESENT CLASSIFICATION: **unlisted nonnative species**
PROPOSED CLASSIFICATION: **prohibited invasive species**

BASIS FOR PROPOSED CLASSIFICATION:

		Ranking
A. Likelihood of release or escape if allowed in the state:		**high**
B. Likelihood of naturalization if released or escaped:		**high**
C. Magnitude of potential adverse impacts if it naturalized:		**high**
D. Ability to:	a) eradicate	**low**
	b) manage naturalized populations:	**low**
	c) control spread to new locations:	**moderate**

A. Likelihood of release or escape
The likelihood of accidental or intentional introduction of northern snakeheads into Minnesota waters is high because they are widely available at live fish markets and through the aquarium industry. As a result of their colorful appearance and desirable eating characteristics several species of snakeheads have been re-distributed throughout the world and are cultured for the aquarium and food industries. Snakeheads have also been sold through aquarium fish retailers via the Internet. Because snakeheads are air breathers, they can be easily shipped via airfreight, making them readily available to the public. Northern snakeheads that were found in the wild in

Massachusetts and Florida likely escaped from the live-food fish market (Courtenay and Williams 2004).

B. Likelihood of naturalization

The likelihood that northern snakeheads might establish a self-sustaining population in the wild in Minnesota is high because they survive in similar climates in their native Eastern Asia. They can survive temperature ranges of 32 to > 82 F, and can tolerate the formation of ice cover (Courtenay and Williams 2004). Once introduced, the northern snakehead can spread to other waters, even those containing low oxygen (U.S. Fish and Wildlife Service 2003).

C. Magnitude of adverse impacts on native species, natural resources, and their use

The magnitude of potential adverse impacts of northern snakehead is high. Northern snakeheads are aggressive predators, consuming fishes and other forms of aquatic life (Courtenay and Williams 2004). Because of their feeding habits, physiology, and behavior it is likely that if introduced into Minnesota waters the northern snakehead would feed on or compete with Minnesota's native fish, amphibians, crustaceans, birds, small reptiles, and small mammals.

D. Ability to manage naturalized populations and control their spread

Overall, the ability to eradicate or manage naturalized populations is low. Control would require the use of a piscicide throughout the entire volume of an infected water body. The ability of snakeheads to survive low oxygen levels allows them to escape a piscicide by moving to marshy areas where the chemical is less effective. Additionally, snakeheads can burrow into the bottom to escape harsh environmental conditions. An example of how snakeheads are difficult to eradicate is illustrated by a project from a pond in Czechoslovakia. The project involved removing all of the vegetation from the pond in an attempt to remove hiding areas for snakeheads and facilitate their removal. Upon removal of the plants, however, the snakeheads burrowed into the mud making their capture difficult (Courtenay and Williams 2004).

The ability to prevent the spread of northern snakehead is moderate. Other states have had limited success controlling the spread of northern snakeheads. The lake-wide application of the piscicide rotenone was believed to have eradicated northern snakehead from a pond in Maryland in 2002 (Courtenay and Williams 2004). The species has since been found in two locations in Maryland (Maryland Dept. of Natural Resources 2004).

E: Other Considerations

Effective October 4, 2002 the U.S. Fish and Wildlife Service classified all species of snakehead fish in the family Channidae as injurious wild animals. This action prohibits these fish species from being imported to or transported between the continental United States, the District of Columbia, Hawaii, the Commonwealth of Puerto Rico, or any territory or possession of the United States (Federal Register Vol 67 no. 193, p. 62193). Fifteen other states currently prohibit the possession of snakeheads. Unfortunately, there is continuing evidence of illegal activity involving these fish even in states where they are prohibited (Courtenay and Williams 2004).

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COMMON NAME: Tubenose goby
SCIENTIFIC NAME: *Proterorhinus marmoratus* Pallas
FAMILY: Gobiidae (Gobies)

SPECIES DESCRIPTION, NATIVE AND CURRENT RANGE:
The tubenose goby is a member of the family Gobiidae, which has approximately 1,900 species, most of which can be found in warm marine environments (Bond 1996). Nevertheless, there are about 200 freshwater species including the tubenose goby (Nelson 1994). In general, members of Gobiidae are small benthic fishes with reduced swim bladders, no lateral line, and, in most cases, fused pelvic fins that form a suction cup-like structure (Bond 1996). The recent introductions of round and tubenose gobies have increased the number of freshwater Gobiidae in North America to 16. All but two of the 16 species reside near or on the Atlantic or Pacific coasts (Lee et. al 1980).

The tubenose goby is a variable species within its native range and is identified by its long tubular nostrils that extend beyond its mouth and broad dark bars across the yellowish-green body (Miller 1990; Miller et. al 1997).

The tubenose goby is native to the estuaries of the Caspian and Black seas, the Sea of Azov, and the rivers of the Aegean and Aral seas (Miller 1986; Miller 1990; Froese and Pauly 2004). The species is associated with shallow water (<1 – 7 m) and submersed vegetation, which is used for cover by both adults and young (Jude et al. 1992; Jude et al. 1995; French and Jude 2001). It can also utilize rocky substrates including riprap (Jude and DeBoe 1996). The current known distribution of tubenose gobies in Minnesota includes the St. Louis River estuary and Lake Superior.

PRESENT CLASSIFICATION: **unlisted nonnative species**
PROPOSED CLASSIFICATION: **prohibited invasive species**

BASIS FOR PROPOSED CLASSIFICATION:

		Ranking
A. Likelihood of release or escape if allowed in the state:		**moderate**
B. Likelihood of naturalization if released or escaped:		**high**
C. Magnitude of potential adverse impacts if it naturalized:		**moderate**
D. Ability to:	a) eradicate	**low**
	b) manage naturalized populations:	**low**
	c) control its spread to new locations:	**high**

A. Likelihood of release or escape if allowed in the state:
The likelihood that tubenose gobies will be released or escape if allowed in the state is moderate. Possible pathways for introduction of tubenose gobies into inland lakes include connected waterways, minnow harvest for use as live bait, and collection and transport of rocks, shells, logs or other similar objects during the spring. Given that populations of this species are currently limited to the St. Louis River and Lake Superior and that bait harvest is prohibited in these waters, the risk of spread from these waters to inland lakes is low.

B. Likelihood of naturalization
This species has already shown that it can naturalize in Minnesota (USGS 2005; Jude et al 1992).

C. Magnitude of adverse impacts
The magnitude of potential adverse impacts if the tubenose goby naturalizes is moderate. The tubenose goby could compete with native fishes that share the same habitat and feeding requirements, especially small benthic fishes and young-of-the-year fishes of various species that utilize shallow, vegetated areas.

After the introduction of round and tubenose gobies within the St. Clair River, there has been a decline in two previously common species, the mottled sculpin (*Cottus bairdi*) and logperch (*Percina caprodes;* Jude et al. 1995; Janssen and Jude 2001). The round goby is believed to be the primary cause of this decline and in some instances extirpation of mottled sculpin (Jude 1997; Janssen and Jude 2001). Additional research is necessary to determine impacts on other benthic fish species that utilize similar habitats and to what extent tubenose gobies compete with native fishes. Of particular concern would be a fish such as the least darter (*Etheostoma microperca*), which is the smallest fish in Minnesota and prefers heavily vegetated lakes and slow-moving streams. Competition from the tubenose goby could greatly impact the least darter population because of its size, habitat preference, and its rare status in Minnesota (listed as special concern).

D. Ability to manage naturalized populations and control their spread
Overall, the ability to eradicate or manage this species is low because of the difficulty in eliminating specific species of fish, especially in large bodies of water. There are several different piscicides available for removing fish, but their ability to be used selectively for tubenose goby has not been determined. A piscicide could be used to remove this species in lakes where it was considered acceptable to remove all fish species.

The ability to control the spread of tubenose goby is high. Restrictions against bait harvest in waters infested with invasive fish help to prevent the spread of this species (Minn. Stat., sec. 84D.03, subd. 3). In some cases, physical barriers could be installed to keep the tubenose goby from increasing its range.

E. Other considerations
A related species, the round goby (*Neogobius melanostomus*), is classified as a prohibited species. The round goby distribution in Minnesota overlaps with the tubenose goby distribution.

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Appendix 3: 6216.0250 PROHIBITED INVASIVE SPECIES, Subp. 4, Invertebrates

COMMON NAME: New Zealand mudsnail
SCIENTIFIC NAME: *Potamopyrgus antipodarum* (Gray, 1843)
FAMILIES: Hydrobiidae (hydrobiids)

SPECIES DESCRIPTION, NATIVE AND CURRENT RANGE:
New Zealand mudsnails are very small snails native to New Zealand. Their average size is 5 mm and their maximum size is approximately 12 mm. Shell colors vary from gray and dark brown to light brown (U.S.G.S. 2002).

They were first reported in the United States in the Snake River Basin in Idaho in the mid 1980's. They are now firmly established in several large river systems and mountain drainages in the West and appear to be spreading quickly (Richards et al 2004). Since its discovery the species has spread from the Columbia River in Oregon, across the Continental Divide into the Missouri River watershed (Zaranko et al 1997), and has established itself in Yellowstone National Park in both Wyoming and Montana (Richards et al 2001). Infestations have also been located along the northwest shore of the Thousand Islands region of Lake Ontario (Zaranko et al 1997) and in Utah (Vinson 2004). They were discovered in Minnesota in September 2005 in the St. Louis River Estuary and have also been found in Ontario waters of Lake Superior.

PRESENT CLASSIFICATION: **unlisted nonnative species**
PROPOSED CLASSIFICATION: **prohibited invasive species**

BASIS FOR PROPOSED CLASSIFICATION:

		Ranking
A. Likelihood of release or escape if allowed in the state:		**high**
B. Likelihood of naturalization if released or escaped:		**high**
C. Magnitude of potential adverse impacts if it naturalized:		**high**
D. Ability to:	a) eradicate	**low**
	b) manage naturalized populations:	**low**
	c) control its spread to new locations:	**low**

A. Likelihood of release or escape if allowed in the state:
The likelihood of the New Zealand mudsnail being released or escaping if allowed into the state is high because there are many ways in which it could be accidentally released. Researchers believe that the interstate spread of the New Zealand mudsnail throughout the western states is through accidental transfer via scientific research equipment and recreational fishing gear, and natural transfer by waterfowl (Richards et al 2004, Vinson 2004). Additionally, research on the species indicates that it exhibits many natural dispersal methods such as by birds (Boycott 1936), through fish guts (Hayes et al 1985), and by floating on the surface of lakes and streams (Ribi and Arter 1986).

The movement of The New Zealand mudsnail into Minnesota from western states could occur through contaminated fishing gear such as waders, because adults can survive out of water in moist conditions for short periods (Vinson 2004). Transfer of the species via fishing boats is possible but less likely because many of the streams where it is currently found are high-altitude,

non-navigable waterways. Nevertheless, large rivers such as the Snake River in Idaho are navigable and have fish populations that attract fishermen from other states. Therefore fishing boats and trailers are a viable pathway of introduction to Minnesota waterways.

B. Likelihood of naturalization if released or escaped:
The likelihood that the New Zealand mudsnail could naturalize in Minnesota is high because it has established itself in lotic and lentic environments similar to those found in Minnesota and requires no specialized food or habitat. According to Zaranko et al (1997), the New Zealand mudsnail can survive in both fresh and brackish water environments and has been found in waters with up to 26% salinity. The organism is tolerant of eutrophic conditions and is able to withstand temperatures to 0°C. Research from Richards et al (2001) suggests that the New Zealand mudsnail prefers slow moving rivers where recent disturbance has occurred. Additionally, they report that few populations exist where swift river currents persist. The New Zealand mudsnail is a voracious consumer of plants and detritus (Calow and Calow 1975) and diatoms and green algae species (Haynes and Taylor 1984).

C. Magnitude of potential adverse impacts if naturalized:
The likelihood of adverse impacts from the New Zealand mudsnail is high because of its potential to compete with Minnesota's native aquatic species for space, reproductive habitat, and food. Recent research in Montana showed that native mayfly populations are negatively effected by large populations of the New Zealand mudsnail (Cada 2004). Additionally, once established, populations of the New Zealand mudsnail may cause changes in nutrient cycling in aquatic systems (Hall et al 2003).

The species' potential adverse impacts are also likely to be high because of the its large reproductive capacity. The New Zealand mudsnail is a live-bearing species that is capable of asexual, parthenogenic reproduction and can quickly build large populations from a single female (Lassen 1979). Local population densities from western North America have been reported from 10,000/m^2 to as high as 300,000/m^2 and unpublished reports of local populations over 500,000 snails/m^2 exist (Richards et al 2004).

D. Ability to eradicate, manage naturalized populations, or control its spread to new locations:
The ability to eradicate, manage, or control the spread of naturalized populations of New Zealand mudsnail is low because it has the ability to survive adverse conditions (Vinson 2004). The New Zealand mudsnail belongs to the group of gastropods called prosobranchs that have an operculum, a trapdoor-like device that allows the snail to close itself off from its surroundings and survive short periods of undesirable environmental conditions (Vinson 2004).

Richard et al (2004) indicate that this species is able to survive out of water in cool, wet conditions, but dies quickly upon exposure to dry, warm conditions. They suggest that heat-drying or freezing equipment is the most effective way to kill New Zealand mud snails and prevent their spread to unwanted locations.

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Appendix 4: 6216.0250 REGULATED INVASIVE SPECIES, Subp. 2, Aquatic Plants

COMMON NAME: (Brazilian waterweed, Brazilian elodea, giant elodea.)
SCIENTIFIC NAME: *Egeria densa* Planch.
FAMILY: Hydrocharitaceae, Frogbit family

SPECIES DESCRIPTION, NATIVE AND CURRENT RANGE:
Brazilian waterweed is a submersed, freshwater perennial aquatic plant native to Brazil, Argentina, and Uruguay (University of Florida 2004). It is an aquarium plant, commonly sold in pet stores throughout Minnesota and neighboring states. This plant has been found growing in lakes, ponds, and streams of 31 states including New York, Illinois, Kansas, and Washington (McFarland et al. 1998). Only male Brazilian waterweed plants are present in the United States therefore reproduction occurs by fragmentation (Kay & Hoyle 1999).

Brazilian waterweed grows in lakes, ponds, ditches, and quiet streams in water depths up to 20 feet (Western Aquatic Plant Management Society 2004). When the plant reaches the surface, it branches and can form surface mats. Branches sprout from double nodes that are located at about 8-inch intervals on the stem. A Brazilian waterweed fragment must have a double node in order to grow into a new plant (Washington State Department of Ecology 2003). Brazilian waterweed senesces in the fall and over winters in an evergreen state near the lake bottom. It begins growth in the spring when water temperatures reach 10 degrees centigrade (Western Aquatic Plant Management Society 2004).

PRESENT CLASSIFICATION: **Unlisted nonnative species**
PROPOSED CLASSIFICATION: **Regulated invasive species**

BASIS FOR PROPOSED CLASSIFICATION:

		Ranking
A. Likelihood of release or escape if allowed in the state:		**high**
B. Likelihood of naturalization if released or escaped:		**low**
C. Magnitude of potential adverse impacts if it naturalized:		**high**
D. Ability to:	a) eradicate	**low**
	b) manage naturalized populations:	**moderate**
	c) control its spread to new locations:	**moderate**

A. Likelihood of release or escape if allowed in the state:
There is a high probability that Brazilian waterweed will be released into the state, since it is commonly sold in pet stores and occurs in Illinois. Watercraft that are trailered between states, especially from Illinois, could introduce Brazilian waterweed to Minnesota waters. Watercraft, water birds, aquariums, or water gardens can disperse vegetative fragments (Invasive Plant Atlas of New England 2005). In addition, the dispersal of Brazilian waterweed likely has happened at numerous locations by the dumping of aquariums into natural aquatic systems (The Nature Conservancy 2002). There is a known risk that horticulture trade can transport this species and that it may be released into natural waters (Galatowitsch & Maki 2002).

B. Likelihood of naturalization

The likelihood that Brazilian waterweed will naturalize in the state if it is released or escapes is low. The U.S. Army Corps of Engineers used the simulation model, CLIMEX, to evaluate the likelihood of Brazilian waterweed establishing in Minnesota. According to this model, Minnesota is marginal for growth of the plant.

C. Magnitude of adverse impacts on native species, natural resources, and their use

The magnitude of potential adverse impacts if the species does naturalize is high. Monotypic stands of Brazilian waterweed can restrict recreational uses of surface water for fishing, swimming, and water skiing (Western Aquatic Plant Management Society 2004). Brazilian waterweed can reduce the diversity of native plants and retard water flow, which may interfere with irrigation projects and urban water supplies (The Nature Conservancy 2002). Electric generating plants can be affected if intake structures are restricted by dense aquatic plant growths. Brazilian waterweed is considered a noxious weed in some states (Invasive Plant Atlas of New England 2005).

D. Ability to eradicate or manage naturalized populations or prevent their spread

The ability to eradicate naturalized populations of Brazilian waterweed is low. The DNR's experience is that eradication of invasive aquatic plants is not 100% successful. This is likely to be particularly true for Brazilian waterweed, because a new population can grow from one individual plant. The ability to manage naturalized populations of Brazilian waterweed is moderate. Pesticides and physical methods can control it, but these methods typically have to be used on an ongoing basis.

Pesticides: Brazilian waterweed is typically controlled by chemical means using diquat and copper compounds (University of Florida 2004).

Physical: Mechanical harvesting is a control option that should be limited to sites where Brazilian waterweed is a dominant species, since plant fragments with double nodes can spread the plant (Western Aquatic Plant Management Society 2002). Mechanical harvesting may be the only control option available in flowing water (University of Florida 2004). Draw downs have had limited success in Washington and Oregon, but only lakes with water control structures can use this method of control (Western Aquatic Plant Management Society 2004). Lakebed sediments need to freeze down 8 to 12 inches in order to control Brazilian waterweed.

The ability to prevent the spread of Brazilian waterweed to new locations is moderate because the species is unlikely to survive Minnesota's climate (McFarland. et. al. 1998).

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