

MAR 28 1995



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DNR INFORMATION  
(612) 296-6157

March 23, 1995

Ms. Maryanne V. Hruby,  
Executive Director  
Legislative Commission to  
Review Administrative Rules  
55 State Office Building  
St. Paul, MN 55155

RE: Proposed Permanent Rules Relating to Quarantine Facilities for Fertilized Fish Eggs

Dear Ms. Hruby:

The Minnesota Department of Natural Resources intends to adopt permanent rules relating to quarantine facilities for fertilized fish eggs. We plan to publish a Dual Notice of Intent to Adopt Rules in the April 10, 1995 issue of the State Register.

As required by Minnesota Statutes, sections 14.131 and 14.23, the Department has prepared a Statement of Need and Reasonableness, which is now available to the public. Also as required, a copy of this Statement is enclosed.

For your information, we are also enclosing a copy of the Dual Notice of Intent to Adopt Rules and a copy of the proposed rules.

If you have any questions on these rules, please contact Steve Hirsch (6-0791) or me (6-9564).

Sincerely,

Kathy A. Lewis, Attorney  
Mineral Leasing Manager

cc: S. Hirsch

STATE OF MINNESOTA  
DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF FISH AND WILDLIFE

IN THE MATTER OF THE PROPOSED ADOPTION OF RULES  
PRESCRIBING CONSTRUCTION AND OPERATION OF  
QUARANTINE FACILITIES FOR FISH EGGS

STATEMENT OF NEED AND REASONABLENESS

March 3, 1995

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## INTRODUCTION

In response to requests by the private aquaculture industry, the 1991 legislature mandated the Commissioner of Natural Resources to adopt rules, in consultation with the Commissioner of Agriculture and the aquaculture advisory committee, for the construction and operation of a quarantine facility for fish eggs. As directed, The Department of Natural Resources (DNR) obtained input from the Department of Agriculture and a representative of the aquaculture advisory committee, resulting in the guidelines that the DNR now proposes to adopt as rule.

The proposed rule was first published in the State Register on November 9, 1992. Comments were received from several private hatcheries in the state of Washington which stated that the proposed rules were unnecessarily restrictive with regard to importation of fish eggs from other states. The provision which caused the most concern stated that importation of fertilized fish eggs would not be allowed if sources existed within Minnesota. Minnesota's Attorney General's Office was concerned that the importation restriction may violate the interstate commerce clause and advised that the provision be removed from the proposed rule. The Attorney General's Office also advised that the provision requiring that certified fish health inspectors not have a conflict of interest be removed, since it was already in statute. Removing these provisions constituted a substantive change, which required that the DNR once again perform the public notification process. As a result, a new notice of solicitation of outside information or opinions was published in the October 17, 1994 edition of the State

Register.

Quarantine facilities are generally used to raise fish with uncertain disease histories. Currently, there are no licensed quarantine facilities in Minnesota. Under the proposed rule, commercial aquaculture businesses could choose to operate a quarantine facility, where they would contract with other private aquaculturists or government agencies to handle eggs and rear fish for a price. The purchasers of quarantine facility services would be "clients" of the quarantine facility operator.

### **GENERAL PROVISIONS**

#### 6287.0100 Definitions

Definitions are provided to explain technical terms for quarantine facility design and operation. "Effluent" is defined to include those waters for which the rule requires treatment before leaving a quarantine facility. A "heat stress test" is defined in detail to ensure that such tests are statistically and biologically valid. "Quarantine unit" is defined to clarify that a unit must be completely isolated from other quarantine units to minimize the spread of disease. "Sentinel fish" are defined to clarify how they are used to determine if a quarantine facility is free of disease. The rule directs the reader to other definitions for aquatic farms and private aquatic life provided in Minn. Stat., section 17.4982.

6287.0200 Authority, Scope, Purpose

Minn. Stat. section 17.496 authorize the Commissioner of Natural Resources to adopt rules, in consultation with the Commissioner of Agriculture and the aquaculture advisory committee, for the construction and operation of a quarantine facility for fish eggs.

The proposed quarantine rules provide requirements for fish egg quarantine facilities, which includes importation of fish eggs, construction, licensing, operation, record keeping and reporting, inspection, and release of fish. The intent of the proposed rules is to minimize the risk to Minnesota fish stocks from imported fish eggs that may harbor emergency or other certifiable diseases of concern.

The primary purpose of quarantine facility rules is to prevent the introduction and spread of certifiable fish diseases into Minnesota while at the same time providing the aquaculture industry with an opportunity to import fish eggs with uncertain disease histories. If quarantine space is available, secondary uses for the facility may include raising fish for research and maintaining genetically manipulated fish stocks. Fish from quarantine facilities cannot be released into the wild and, as a result, must be processed for human consumption or remain in captivity at aquaculture facilities. If the intended use is for stocking into waters of the state, a quarantine facility can be used to establish captive disease free brood stock. This process allows sufficient disease screening of the imported stock at all life stages to certify that the stock does not harbor emergency or other certifiable diseases.

#### 6287.0300 Importation Requirements

This rule part states that only fertilized fish eggs, as opposed to live fish, may be imported into a quarantine facility. This provision is necessary because fish eggs can be surface disinfected with iodophores to kill many kinds of bacterial, viral, and parasitic pathogens found on the outside of eggs.<sup>1,2</sup> Live fish have a greater risk of harboring pathogens that cause disease because they may harbor pathogens which are in a carrier state and, as a result, are not easily detectable. This provision is reasonable because fish are commonly transported long distances in the stage of fertilized egg stage rather than the live fish stage.

#### 6287.0400 Construction Requirements of Quarantine Facility

Subpart 1. Siting. This subpart requires that a quarantine facility be located outside of a 100-year flood plain as defined in Minn. Stat. section 103F.111. This is necessary because any accidental release of fish eggs, fish, contaminated equipment, or discharge water from a quarantine facility would have a high risk of introducing emergency disease to Minnesota fish stocks. Siting away from a 100-year flood plain eliminates not only the threat from flooding, but also unreliable

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<sup>1</sup> Nelson, R.C. et al, 1989, Introduction to Fish Health, U.S. Fish & Wildlife Service, LaCrosse, WI, p 91.0

<sup>2</sup> Meyer, F.P., Warren, J.W. and Carey, T.G., eds., A Guide to Integrated Fish Health Management in the Great Lakes Basin, Great Lakes Fishery Commission, Ann Arbor, MI, 1983, 262 pp.

remedial attempts at creating diking systems, effluent handling systems, and backup systems that potentially could succumb to flooding events or mechanical failure.

The quarantine facility must be physically separated from other fish raising facilities in the same watershed by not less than 5 miles in order to allow for a sufficient buffer zone. This provision is necessary because, in the event of an accidental release of emergency disease from the quarantine facility, the 5 mile buffer would allow for an adequate separation of quarantine facility effluent and water supplies. This decreases the chances of other fish-raising facilities in the watershed contracting the disease and being subject to mandatory depopulation. Nevertheless, the commissioner is given the discretion to vary the buffer distance in individual cases based on criteria such as flow rates, construction, water source, the siting of potentially affected fish culture facilities, and disease susceptibility of the species being raised by the other facilities. This allows the commissioner to consider each potential quarantine facility site to make a determination if the 5 mile buffer requirement is overly restrictive under the conditions particular to the proposed site.

Fish culture facilities have been found to be primarily responsible for disseminating fish diseases to other fish culture facilities in the watershed and to natural fish populations.<sup>3</sup> Communicable fish disease

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<sup>3</sup> Meyer, F.P., Warren, J.W. and Carey, T.G., eds., A Guide to Integrated Fish Health Management in the Great Lakes Basin, Great Lakes Fishery Commission, Ann Arbor, MI, 1983, 262 pp.



can spread by fish to fish contact as well as by pathogens released into flowing or connected waters of the same watersheds. Therefore, a quarantine facility must be considered a high risk site for disseminating fish diseases to nearby culture facilities within the same watershed. Thus, regulating the distance between facility sites is a reasonable means to attempt to reduce the risk of disease spread.

Effluent from a quarantine facility must not be discharged into or upstream of waters containing salmonids because such fish species are susceptible to most of the emergency and other certifiable diseases of concern. This prohibition is reasonable because Minnesota trout and salmon resources are fairly limited, and a large number of alternative sites which would not discharge into trout and salmon waters are available for proposed quarantine facilities. In addition, Minnesota's trout and salmon resources should not be put at risk by quarantine facility siting because they are a unique resource and provide significant recreational and economic benefits to the state.

Subpart 2. Water supply. This subpart states that only enclosed ground water sources (spring or well) that are free of fish and fish pathogens are acceptable water supplies for a quarantine facility. This is necessary because surface waters usually contain fish which can harbor fish pathogens, therefore jeopardizing the disease free environment that must be maintained at a quarantine facility. This subpart also requires that water supply systems be constructed in a manner that prevents the transmission of pathogens between quarantine units to further minimize the risk of disease. The water supply must remain in a closed system to

each quarantine unit, and valves must be strategically located within this system to prevent potential pathogen transfer among quarantine units through common water source plumbing.

Subpart 3. Egg receiving area. This subpart requires that a quarantine facility have an egg receiving area that is isolated from the quarantine units with respect to equipment, supplies, and clothing. This is necessary to prevent contamination of the quarantine units during egg receiving operations. Procedures for receiving eggs are further described in part 6287.0600, subp. 1.

Subpart 4. Quarantine facility size. This provision requires that a quarantine facility consist of not more than six quarantine units and an egg receiving area. It is necessary to limit facility size to promote efficient design, direct and secure access among quarantine units and the egg receiving area, and to avoid overburdening water supplies, core equipment, and effluent handling with widely fluctuating demand. A quarantine facility must maintain sufficient control of each quarantine unit to insure that the aquatic life in the facility is not subject to cross-contamination. As the scale of operation or number of quarantine units increases, there is an increased chance of human error and diminished attention allocated to each unit.

This six-unit limitation is reasonable because there are few groundwater sources in Minnesota capable of supporting more than six quarantine units. For example, operating six quarantine units at full capacity could result in holding up to 200,000 pounds of fish, requiring up to

12,000 gallons of water per minute (gpm). By comparison, the largest spring source utilized by a state hatchery, which is also one of the largest springs in Minnesota, provides half this volume of water. Use of independent recirculation systems in each quarantine unit could reduce the quantity of water needed; however, recirculation systems have not been tested in quarantine facilities to date. As a result, this is not a viable option at this time.

Subpart 5. Quarantine units. This provision requires that each quarantine unit have its own fish tanks, supplies, feed, water supply lines, drainage lines, and laboratory clothing. This is necessary to prevent contamination of other quarantine units and their fish.

A quarantine unit may not be designed to incubate and rear more than 100,000 eggs. This limitation is reasonable because there are very few sources of groundwater within Minnesota capable of supporting quarantine units sized to rear over 100,000 fish for up to the necessary sixteen months. If all eggs survived to sixteen months, the resulting fish could be as large as 0.3 lb, requiring more than 2,000 gpm of source water for a single quarantine unit. This demand would overtax most groundwater sources in Minnesota. A primary goal of a quarantine facility is to provide a controlled environment for rearing fish. As quarantine unit size (and the quarantine facility size) increase, there will be diminished control and more chance of cross-contamination because of the increased scale of the operation. Smaller quarantine units have a greater probability of providing a disease-free product. In addition, the statistical reliability of disease testing is higher for smaller

quarantine units because a greater percentage of fish are sampled, therefore reducing the chance of releasing diseased fish.

Subpart 6. On-site laboratory space. This subpart requires that each quarantine unit have a minimum of 16 square feet and at least 8 linear feet of counter space for pathological examination of fish. The work area must be equipped with a sink, running water, adequate lighting, and electrical outlets. These requirements are necessary to accommodate extensive, ongoing pathological examination of fish within each quarantine unit. Adequate work space which can be disinfected after use is mandatory to prevent possible cross-contamination of quarantine units.

Subpart 7. Disinfection stations. This subpart requires that each quarantine unit and egg receiving area have separate disinfection stations which must include disinfectant supplies, hand washes, foot baths, an emergency shower, and a locker room. This is necessary to facilitate personnel movement and disinfection protocols required in part 6287.0600, subp. 8. Disinfection stations are necessary to prevent cross-contamination of quarantine units.

Subpart 8. Effluent treatment. This subpart requires that effluent from all quarantine units and egg receiving areas enter a common collector. Use of a common collector is reasonable because then only one effluent sterilizing system has to be constructed, maintained, and monitored. All drain pipes leading into this collector must incorporate devices that prevent water from back-flowing into quarantine units or egg receiving areas because, without such devices, back-flow could

potentially contaminate these areas. The effluent pipe leading out from the collector must incorporate devices that prevent water from outside the quarantine facility from back-flowing into the collector to avoid interference with the disinfection system. The collector must incorporate a primary disinfection/sterilization system and an automatic backup system to insure uninterrupted treatment of effluent. These provisions are reasonable because they help to ensure that effluent does not serve as a potential source of cross-contamination in the quarantine facility.

Subpart 9. Back-up systems. This provision requires installation of an emergency generator, flow alarm on the water supply to each quarantine unit, and backups for all vital systems necessary to control disease within the facility. Vital systems components include water pumps, compressors, automatic valves, filtration equipment, sterilizing or disinfection equipment, aeration or degassing equipment, and any equipment used to artificially maintain a specific aquatic environment. This is necessary and reasonable because it assures reliability of the facility, provides necessary safeguards to limit the possibility of release of diseases outside of the quarantine unit, and prevents the loss of eggs and fish due to system failure.

Subpart 10. Contingency plan. This subpart describes procedures to deal with disease outbreak and accidental escapement of fish. This is necessary to ensure that appropriate action will be taken in an organized, preplanned fashion if a quarantine facility fails and remedial actions have to be implemented. Remedial measures will normally include

identifying a zone in the watershed where disinfection will need to occur; therefore, maps of the watershed are necessary for planning this "disinfection zone". Flow rates of feeder streams and the main branches are also necessary to plan the disinfection zone, because these rates help to determine how far downstream potentially infected water has traveled since the disease outbreak. Locations of sentinel fish must be documented to ensure they are available to verify the effectiveness of disinfection of a quarantine facility following disease outbreak, as provided by part 6287.0600, subp. 7. Other items to be included in the plan would be amount of disinfectant to be kept on hand, key personnel to execute the plan, and financial resources to mitigate damage.

Subpart 11. Security. This subpart requires that security be maintained in all quarantine facilities to prevent unauthorized personnel from entering. Minimum security measures must include fencing surrounding the grounds and locking devices at all gates and building entrances. Security procedures are necessary to avoid cross-contamination of quarantine units, prevent vandalism which could cause the release of pathogens, and to protect the investment of the quarantine facility clients.

#### 6287.0500 Quarantine Facility Licensing

Subpart 1. Quarantine facility licensing and inspection. This provision mandates that no facility be licensed as a quarantine facility unless the commissioner determines that all standards for construction, personnel, and operations have been met as outlined in parts 6287.0400,

6287.0500, and 6287.0600. Inspections and licensing are necessary so that the DNR can be assured that a quarantine facility is properly constructed and operated to minimize the risk to Minnesota's fishery resources.

Subpart 2. Personnel qualifications. This provision requires that at least one full-time employee have two or more years of fish culture experience and, in addition, fish health training from an accredited academic or U.S. Fish and Wildlife Service program. Adequate training and experience are necessary because it is essential that employees be able to recognize the onset of disease which could potentially decimate the fish in a quarantine unit. In addition to being subjected to strict fish health protocols, the facility's fish must be subject to good fish husbandry practices and good facility management which relate directly to having well-trained employees.

#### 6287.0600 Operation of Quarantine Facility

Subpart 1. Egg receiving. This subpart requires that egg receiving areas undergo a complete disinfection before and after each egg delivery. This subpart is necessary to ensure that eggs are not contaminated from previous egg deliveries and that the egg receiving area will not contaminate future deliveries of eggs. All eggs must be surface disinfected before transfer into a quarantine unit and the transfer must be done by someone who was not in contact with the eggs before disinfection. This is necessary to prevent disease pathogens from entering the quarantine units. All packing materials, excess fluids, and

other shipping materials (ice, sponges, etc.) must be incinerated or chlorinated to prevent the potential spread of pathogens.<sup>4</sup> All egg deliveries must be accompanied by a health inspection certificate for the parental stock. This inspection certificate is necessary because it serves as proof of past fish health history.

Subpart 2. Transfer into quarantine. This subpart allows eggs from the same lot to be transferred into more than one quarantine unit as long as the units remain isolated thereafter. Units must remain isolated so that the aquatic life in each unit is subject to independent inspection and reporting. This is necessary to prevent departure from normal protocol which can lead to procedural mistakes and potential cross-contamination.

Subpart 3. Quarantine period. This subpart requires that all fish resulting from eggs received at a quarantine facility remain quarantined for a minimum of 12 months, unless they are sold directly to an outlet for food processing or unless the fish develop a certifiable disease and, as a result, are removed as provided by subpart 6. This provision is necessary to allow sufficient time for screening diseases that manifest themselves in fish stocks from the fry through juvenile stages. The exception for allowing fish to be sold for food processing is reasonable because it allows facility operators or their clients to sell the fish where no risk exists of introducing disease to wild fish stocks. The

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<sup>4</sup> Horner, R.W. and Eshenroder, R.L.; 1991; Protocols to Minimize the Risk of Introducing Salmonid Disease Agents with Importation of Salmonid Fishes; Great Lakes Fishery Commission. p.33.



exception for allowing removal if disease develops is reasonable because it allows operators to remove and properly dispose of the diseased fish to prevent spread of disease within a quarantine facility.

Subp. 4 Facility disinfection. This subpart describes protocols for facility disinfection that are accepted by fish health officials of the Great Lakes Fish Health Committee.<sup>5</sup> This provision is necessary and reasonable to ensure that disinfections are done according to procedures which are proven to be effective. It is reasonable to require approval from the commissioner for any other method or procedure for disinfection to assure that standards are maintained while allowing for modification to current protocol where circumstances permit.

Subpart 5. Effluent disinfection. This provision requires that effluent treatment methods be approved by the commissioner and adhere to Minnesota Rules chapter 7050, and that disinfectant concentration be monitored by a recording-sensing device. If chlorine disinfectant is used for effluent treatment, a measurable residual level of 1.0 ppm active chlorine must be maintained for a 1 hour retention time. Research indicates that all emergency disease agents should be inactivated at the 1.0 ppm active chlorine concentration.<sup>5</sup> These provisions are necessary to ensure that effluent disinfection is done in a manner proven to be effective. These procedures are reasonable because they help to ensure that disease will not spread to wild fish stocks or other hatcheries

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<sup>5</sup> Meyer, F.P., Warren, J.W. and Carey, T.G., eds., A Guide to Integrated Fish Health Management in the Great Lakes Basin, Great Lakes Fishery Commission, Ann Arbor, MI, 1983, 262 pp.

through ineffectively treated effluent. This provision also requires that a back-up effluent treatment system be incorporated into the facility design. This is necessary to guarantee uninterrupted treatment of effluent in the event of power outages or other mechanical difficulties. This is reasonable because the release of untreated effluent from a quarantine facility poses a high risk of introducing emergency disease to Minnesota fish stocks.

Subpart 6. Inspection and disposal of diseased fish. This subpart allows the commissioner to inspect daily fish mortalities and requires that fish not needed for inspection be placed in disinfectant until they are properly disposed. This is necessary to confirm findings of certifiable diseases and prevent fish mortalities from spreading disease. Upon confirmation of a disease, the commissioner may order that all fish in the affected quarantine unit be destroyed, sold for human consumption, or otherwise disposed as authorized by Minn. Stat. section 17.4991 to ensure that diseased fish are disposed of in a manner that does not permit the spread of disease. Allowing the diseased fish to be sold for human consumption is reasonable because Minn. Stat. section 17.4991, subd. 4 specifies that the commissioner shall make every effort to allow disposed aquatic life to be sold for market if there is no danger of the pathogen escaping to public waters or impacting natural fish populations. It is necessary to grant the commissioner the authority to order disposal of diseased fish in one manner or the other because timely, decisive action is imperative to minimize the chance of infecting other fish in adjacent quarantine units or spreading the disease to wild fish populations. This includes the authority to order the destruction of the

fish. This authority is consistent with that granted to the commissioner by Minn. Stat. section 17.4991, subd. 4.

The disposal method for fish mortalities and other supplies must be approved by the commissioner because dead fish and other materials from a quarantine facility can harbor and spread fish pathogens if they are not disposed of properly. A gas- or oil-fired incinerator is specifically referenced in the proposed rule for disposal of fish mortalities because experience in the field has shown that this is one of the best ways to ensure the safe disposal of the contaminated materials. For potentially contaminated solid waste materials, chlorination is the preferred treatment alternative because incineration of solid waste would violate Minn. Rules Chapter 7011.

Subpart 7. Disinfection required. This subpart requires a complete disinfection of the quarantine unit, as described in subpart 5 of this rule, after fish are released from quarantine or if the quarantine unit is depopulated. This is necessary to prepare the quarantine unit to receive the next lot of eggs into a pathogen-free environment.

If certifiable disease is detected and a quarantine unit is depopulated and disinfected, sentinel fish must be kept in the quarantine unit for a 120 day exposure period and be subjected to a heat stress test to verify the effectiveness of the disinfection.<sup>6</sup> By using susceptible fish

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<sup>6</sup> Horner, R.W. and Eshenroder, R.L.; Protocols to Minimize the Risk of Introducing Salmonid Disease Agents with Importation of Salmonid Fishes; 1991; Great Lakes Fishery Commission. p.33.

species and subjecting them to stress and immunosuppression, the reliability of the disinfection process is assured and, as a result, the potential for the disease to reoccur is minimized.

Subpart 8. Personnel movement. This subpart requires that access to quarantine facilities be limited to designated personnel only and that persons entering or exiting an egg receiving area or quarantine unit use a disinfection station. All used outer clothing must be kept in a solution of disinfectant until laundered. Disinfection procedures described in the rule are consistent with established guidelines for operation of quarantine facilities.<sup>7,8</sup> These provisions are necessary to prevent workers from becoming a source of contamination and to prevent compromising the disease-free environment of the quarantine units.

#### 6287.0700 Record Keeping and Reporting

This rule part requires that a daily log be kept on mortality, transfers, feeding, approved chemical use, treatments, disinfectant levels in effluent, and personnel movement. All required reports must be routinely submitted to the commissioner and any signs of disease must be reported to the commissioner within 24 hours. The daily log of mortalities must be submitted to the commissioner weekly. The log will be reviewed by qualified DNR personnel to determine if there are mortality patterns and

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<sup>7</sup> Operating Procedures for the Alma Quarantine Facility, 1989, Ministry of Natural Resources, Ontario, Canada.

<sup>8</sup> Guidelines for Normandale F.C.S. Quarantine Unit, 1991, Ministry of Natural Resources, Simcoe District, Ontario, Canada.

if diagnostic evaluation is warranted. Close monitoring of quarantine facility operations is necessary to ensure that established procedures are being followed and to allow for rapid detection of disease so immediate remedial action can be taken. The commissioner must confirm any diagnosed fish health problem prior to any chemical treatment at a quarantine facility. This is necessary because chemical treatment of fish before inspection can inhibit the ability to detect emergency disease agents.

#### 6287.0800 Inspection Requirements

This rule part requires that there be monthly inspections of quarantine facilities for disease by a fish health inspector. Monthly inspections are necessary because eggs brought into quarantine are at high risk for carrying pathogens which can spread to other fish populations in the quarantine units. Less frequent inspections could result in the spread of disease to other units before the disease is discovered. The commissioner will provide health inspection services for a fee as provided by Minn. Stat. 17.4988, subd. 3.

#### 6287.0900 Release from Quarantine

Subpart 1. Final testing. This subpart requires that a final inspection include the use of a heat stress test as described in part 6287.0100, subp. 10. This inspection must occur after the fish have been in quarantine for 12-16 months, the time necessary to allow for screening diseases that manifest themselves from fry through juvenile stages of

growth. The results of the inspection must be reviewed and approved by the commissioner to ensure that fish are disease-free before leaving a quarantine facility.

Subp. 2. Quarantine report. This subpart requires that a completed quarantine report (on forms provided by the commissioner) accompany each lot of fish to be released from quarantine. This is necessary to document that the quarantine process has been completed for that lot, and provides protection for the purchaser of the lot in the event a question arises later as to whether the lot had been subject to quarantine.

Subpart 3. Release of fish. This subpart requires that fish released from quarantine facilities be treated as follows: processed for use as food; kept in facilities licensed as aquatic farms or private fish hatcheries as provided by Minn. Stat. section 17.4984, subd. 1 and Minn. Rule part 6250.0300, subp. 1; or kept in facilities permitted under the authority of Minn. Stat. section 97A.401, subd. 3 for scientific, educational, or exhibition purposes. This is necessary so that fish are available for health inspections or otherwise processed for use as food. Keeping fish available for health inspections allows sufficient disease screening of the imported stock at all life stages to certify that the stock does not harbor emergency disease.

Although part 6287.0600, subp. 3 requires fish to remain in quarantine for a minimum of 12 months, preventing the release of such fish into the wild is necessary because 12 months may not be enough time to diagnose diseases that manifest themselves at the adult stage.

Therefore, allowing fish from a quarantine facility to be stocked in public waters would be an unacceptable risk to wild fish populations. It is not an undue burden to require that fish released from a quarantine facility remain available in captivity for fish health inspections (unless processed for use as food) because the fish can still be used to establish disease free captive brood stock whose progeny are not subject to this subpart and may be stocked into public waters.

#### **OTHER CONSIDERATIONS**

##### Fiscal note

The proposed rule will not require the expenditure of public money by local public bodies; and therefore Minnesota Statutes, section 14.11, subd. 1 does not apply.

##### Agriculture land impacts

The rule governing quarantine facilities will not affect agricultural land; therefore, Minnesota Statutes, section 14.11, subd. 2 does not apply.

##### Small business considerations

When an agency proposes a new rule which may affect small business as defined by Minn. Stat. section 14.115, subd. 1, the agency is required to consider several methods for reducing the potential impact. The proposed rule could impact private fish hatchery or aquatic farm operators if they want to become licensed as a quarantine facility for fish eggs. Currently

there are no licensed fish egg quarantine facilities in Minnesota, so the proposed rule will only affect facilities which may be licensed in the future.

Minn. Stat. section 14.115, subd. 2 provides that the commissioner consider the establishment of less stringent compliance or reporting requirements for small businesses, less stringent schedules or deadlines for compliance or reporting requirements for small businesses, the consolidation or simplification of compliance or reporting requirements for small businesses, the establishment of performance standards to replace design or operational standards in the rule, and the exemption of small businesses from any or all requirements of the rule.

The requirements for design and operation of a quarantine facility are necessarily restrictive because the disease certification requirements for fish imported into a quarantine facility are very lenient. Allowing fish with high risk of disease to be imported into Minnesota may provide additional opportunities for small businesses involved with aquaculture; however, the risk of introducing pathogens into wild fish populations must be managed by ensuring that proper protocols are followed by quarantine facilities. If a serious disease escaped from a quarantine unit or facility, depopulation of fish stocks in that and other affected facilities and public waters would be mandated at great public and private expense to prevent spread of the disease. Negative economic impacts could be far reaching, extending to businesses associated with the state's fishing and tourist industries. The risks posed by importing fish with certifiable disease are high, and are just as great for small businesses as for large



businesses. Therefore, it would defeat the purpose of the rule to provide small businesses with less stringent compliance or reporting requirements, less stringent schedules or deadlines for compliance or reporting, consolidation or simplification of compliance or reporting requirements, or exemption from any or all requirements of the rule.

The nature of necessary protocols for fish egg quarantine facilities is such that performance standards are not a feasible way to prevent the risk of introducing disease to wild fish populations or other facilities. Currently, this rule provides the only reliable management method available to the department and quarantine facility operators to ensure that the risk of disease escapement is minimized.

It is anticipated that the proposed rule will have minimal impact on existing small businesses involved in private aquaculture because a fish egg quarantine facility has a highly specialized purpose which may not provide the extensive commercial applications which would be attractive to private business. Quarantine facilities may provide some advantages to private operators by increasing trout, salmon, and catfish importation options. However, this advantage would generally be outweighed by the complexity and increased cost associated with operating a quarantine facility, particularly when suitable disease-free sources of fish are generally available for production and marketing purposes. Clients for quarantine facilities more likely would be universities and government agencies which are seeking to develop a disease-free line of brood stock from a unique strain of trout, salmon, or catfish which has a high risk of carrying emergency disease. It would be anticipated that university and

government agencies would have less interest in the commercial applications of a quarantine facility.

Most small businesses in private aquaculture that are interested in increasing options for importing trout, salmon, or catfish would likely pursue licensing a containment facility as provided by Minnesota Statutes, sections 17.4982 and 17.991 rather than for a quarantine facility. Containment facilities have less strict construction and operation criteria than quarantine facilities, and are eligible to receive trout, salmon, and catfish with less disease history than would be required for standard facilities.

If an existing hatchery facility were located at an acceptable site, estimates for converting it to an approved quarantine facility would range from \$100,000 to \$1 million, depending upon the complexity of the facility. Estimates for new construction of a quarantine facility at an acceptable site would range from \$600,000 to \$2,000,000. Estimates to annually operate a quarantine facility could range from \$40,000 for a small facility to \$400,000 for a large, complex facility.

#### Review of Documents

Sources cited in this document may be reviewed on work days between 8:00 a.m. and 4:30 p.m. in the Section of Fisheries office of the DNR headquarters, 500 Lafayette Road, St. Paul, Minnesota.

Witnesses

If these rules go to a public hearing, the witnesses listed below may testify on behalf of the Department 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:

Steve Hirsch, Fisheries Program Manager  
500 Lafayette Road  
St. Paul, MN 55155-4012  
(612) 296-0791

Darryl Bathel, Coldwater Production Supervisor  
5357 North Shore Drive  
Duluth, MN 55155-4012  
(218) 723-4881

Roy Johannes, Fisheries Program Coordinator  
500 Lafayette Road  
St. Paul, MN 55155-4012  
(612) 296-2308

Joseph Marcino, Fish and Wildlife Pathologist  
500 Lafayette Road  
St. Paul, MN 55155-4025  
(612) 296-3043

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

Rodney W. Sando, Commissioner  
Department of Natural Resources  
Dated: Gail Jewellan  
by Gail Jewellan, Assistant Commissioner  
March 7, 1995