Senate Fiscal Agency
P. O. Box 30036
Lansing, Michigan 48909-7536

SFA BILL ANALYSIS

Telephone: (517) 373-5383
Fax: (517) 373-1986
TDD: (517) 373-0543

Senate Bill 152 (as enrolled) **PUBLIC ACT 114 of 2001**
Sponsor: Senator Ken Sikkema
Senate Committee: Natural Resources and Environmental Affairs
House Committee: Land Use and Environment

Date Completed: 8-9-01

## RATIONALE

According to the Nonindigenous Aquatic Nuisance Species State Management Plan developed by the Department of Environmental Quality (DEQ), at least 139 nonindigenous aquatic species, including harmful nuisance species such as the sea lamprey, Eurasian ruffe, and zebra mussel, have become established in the Great Lakes ecosystem.

Aquatic nuisance species are waterborne, non-native organisms that can threaten the diversity or abundance of native species; damage the ecological stability of affected waters; and jeopardize commercial, agricultural, aquacultural, and recreational activity. These species have the potential to cause significant environmental, economic, and public health impacts because they have been introduced to a habitat in which there are no natural controls, such as predators, parasites, pathogens, and competitors. They can crowd out native species, alter habitats, change predator/prey relationships, and transmit foreign disease or parasites. They also can cause such problems as food chain disruption, reduced biodiversity, clogging of water intakes, and increased weed growth, and measures to eliminate them from a system sometimes cause more harm. (Please see **BACKGROUND** for more information on aquatic nuisance species.)

Ballast water discharge by ships is the most significant source of unintentional introduction of aquatic nuisance species to the Great Lakes. The opening of the St. Lawrence Seaway in 1959 permitted more and larger vessels to pass between the Great Lakes and ports throughout the world, which in turn has greatly increased the risk of new aquatic nuisance species in the Great Lakes region. Ships take on ballast water for stability when they are not filled with cargo. When drawing in ballast water in one port, ships may pick up live organisms. As the ships are loaded with cargo in the Great Lakes ports, ballast water is discharged, releasing the live organisms into the Great Lakes.

Several projects have been undertaken to explore various methods of treating ballast water, including heat, filtration, and biocides, in an effort to prevent the transportation of aquatic nuisance species into the waters of the Great Lakes. In addition, management authorities and research organizations are investigating the biology and ecology of these organisms and searching for effective management tools that will have minimal detrimental effect on the lakes. Potential controls include the installation of physical barriers, the introduction of predator species and naturally occurring pathogens, and the use of biocides.

In 1990, the Federal government enacted the Nonindigenous Aquatic Nuisance Prevention and Control Act to promote research, develop prevention technologies, and establish national priorities to limit the introduction of aquatic nuisance species through transoceanic shipping. The Act's ballast water regulations require that vessels bound for the Great Lakes replace their ballast water before entering the Great Lakes. The regulations, however, do not apply to vessels operating exclusively among the Great Lakes ports. These vessels' tanks might contain residual fresh water and mud, and may spread nuisance species when ballast tanks are alternately filled and emptied as the ships unload and reload at various

Great Lakes ports. In addition, the oceangoing vessels' tanks also may contain foreign species even after the water is exchanged.

Some people believe that the current Federal regulations and enforcement measures are inadequate to regulate ballast water and stop the introduction of aquatic nuisance species. They have suggested that the State take a market-based approach to encourage the use of water management practices and ballast water treatment methods.

**CONTENT**

**The bill amended Part 31 (Water Resources Protection) of the Natural Resources and Environmental Protection Act to require the Department of Environmental Quality (DEQ) to do the following:**

**-- Determine whether vessels operating on the Great Lakes and the St. Lawrence Waterway are complying with ballast water management practices proposed by the Shipping Federation of Canada (for oceangoing vessels) and by the Lake Carriers' Association and the Canadian Shipowners' Association (for nonoceangoing vessels).**
**-- Determine whether either or both of the management practices have been made a condition of passage on the St. Lawrence Seaway.**
**-- Make certain determinations regarding ballast water treatment methods.**
**-- Determine whether oceangoing vessels operating on the Great Lakes are using a ballast water treatment method to prevent the introduction of aquatic nuisance species into the Great Lakes.**
**-- Compile and maintain lists of vessels that comply with the management practices or treatment methods; maintain the lists on the DEQ website; and provide the lists to the Governor, certain legislative committees, and people who use vessels for shipping.**

**The bill specifies that owners of vessels that are not on the compliance list are not eligible for a grant, loan, or award administered by the Department.**

(The bill defines "aquatic nuisance species" as a nonindigenous species that threatens the diversity or abundance of native species or the ecological stability of infested waters, or commercial, agricultural, aquacultural, or recreational activities dependent on such waters. "Ballast water" means water and associated solids taken on board a vessel to control or maintain trim, draft, stability, or stresses on the vessel, without regard to the manner in which it is carried.)

Legislative Finding

The bill states the following legislative findings: "It is a goal of this state to prevent the introduction of and minimize the spread of aquatic nuisance species within the Great Lakes", and, "that, to achieve the goal..., this state shall cooperate with the United States and Canadian authorities, other states and provinces, and the maritime industry."

Management Practices

The bill requires the DEQ to perform the activities described below by March 1, 2002.

The DEQ must determine whether the ballast water management practices that were proposed to the DEQ on June 7, 2000, by the Shipping Federation of Canada are being complied with by all oceangoing vessels operating on the Great Lakes and the St. Lawrence Waterway. Upon request by the DEQ, the owner or operator of a vessel must provide confirmation of whether the vessel is complying with the proposed ballast water management practices.

The DEQ also must determine whether the ballast water management practices that were proposed jointly to the DEQ on January 26, 2001, by the Lake Carriers' Association and the Canadian Shipowners' Association are being complied with by all nonoceangoing vessels operating on the Great Lakes and the St. Lawrence Waterway. Upon request by the DEQ, the owner or operator of a vessel must provide confirmation of whether the vessel is complying with the proposed ballast water management practices. (For a nonoceangoing vessel that is a ferry used to transport motor vehicles across Lake Michigan, if the configuration of the vessel would prohibit compliance with one or more of these ballast water management practices, the DEQ must

establish alternative ballast water management practices for the vessel and must determine whether it is complying with those practices.)

Further, the DEQ is required to determine whether either or both of the ballast water management practices described above have been made conditions of passage on the St. Lawrence Waterway by the St. Lawrence Seaway Management Corporation and the St. Lawrence Seaway Development Corporation.

In addition, the DEQ must determine whether one or more ballast water treatment methods, which protect the safety of the vessel, its crew, and its passengers, could be used by oceangoing vessels to prevent the introduction of aquatic nuisance species into the Great Lakes. The DEQ also must determine a time period after which one or more of those ballast water treatment methods could be used by all oceangoing vessels operating on the Great Lakes. If the DEQ determines that such a ballast water treatment method is not available, it must determine the actions needed to be taken for one or more ballast water treatment methods that would meet the safety requirements, to be developed, tested, and made available to vessel owners and operators, and a time period after which the ballast water treatment method or methods could be used by all oceangoing vessels operating on the Great Lakes. Subsequently, if at any time the DEQ determines that one or more ballast water treatment methods that meet the safety requirements could be used by oceangoing vessels operating on the Great Lakes, the DEQ must determine a date after which all such vessels could use the ballast water treatment method or methods.

The bill also requires the DEQ to submit a letter outlining these determinations to the Governor and the legislative standing committees with jurisdiction primarily over natural resources and environmental issues.

(The bill defines "oceangoing vessel" as a vessel that operates on the Great Lakes or the St. Lawrence Waterway (the St. Lawrence Seaway, the St. Lawrence River, and the Gulf of St. Lawrence) after operating in waters outside of the Great Lakes or the St. Lawrence Waterway.)

Treatment

By March 1, 2003, the DEQ must determine whether all oceangoing vessels operating on the Great Lakes are using a ballast water treatment method, as identified by the DEQ under the bill, to prevent the introduction of aquatic nuisance species in the Great Lakes. Upon request by the DEQ, the owner or operator of an oceangoing vessel must provide confirmation of whether the vessel is using a ballast water management treatment method. If the DEQ determines that all oceangoing vessels operating on the Great Lakes are not using a ballast water treatment method by the specified dates, the DEQ must determine the reasons for not doing so. The Department also must determine whether the use of a ballast water treatment method has been made a condition of passage on the St. Lawrence Waterway by the St. Lawrence Seaway Management Corporation and the St. Lawrence Seaway Development Corporation.

In addition, by March 1, 2003, the DEQ must submit a letter outlining these determinations to the Governor and the legislative standing committees with jurisdiction primarily over natural resources and environmental issues.

Compliance Lists

The bill requires the DEQ, by March 1, 2002, to compile and maintain lists of all oceangoing and nonoceangoing vessels that it determines have complied with the ballast water management practices during the previous 12 months.

By March 1, 2003, if the DEQ has determined, or if it subsequently determines, that one or more ballast water treatment methods could be used by oceangoing vessels to prevent the introduction of aquatic nuisance species into the Great Lakes, the Department must compile and maintain a list of all oceangoing vessels that, after the date determined by the DEQ for using the methods, have been using them during the previous 12 months.

Both lists must be continually updated and maintained on the DEQ website. The lists also must be distributed annually to persons in the State who have contracts with vessel operators for the transportation of cargo. In addition, the DEQ must provide the lists to the Governor and legislative committees with

jurisdiction over issues pertaining to natural resources and the environment.

The bill also specifies that the owner or operator of an oceangoing or nonoceangoing vessel that is not on the compliance list and any persons in the State who have contracts for the transportation of cargo with a vessel operator not on the compliance list are not eligible for a new grant, loan, or award administered by the Department.

MCL 324.3101 & 324.3101a

**BACKGROUND**

According to a number of sources, exotic species have threatened the Great Lakes ever since Europeans settled in the region. Since the 1800s at least 139 exotic aquatic organisms of all types, including plants, fish, algae, and mollusks, have become established in the Great Lakes. More than one-third of the organisms has been introduced in the past 30 years, a surge coinciding with the opening of the St. Lawrence Seaway.

Some exotic species have caused significant economic and environmental damage to the Great Lakes region, according to various reports. For example, each sea lamprey kills up to 40 pounds of Great Lakes fish in its 12- to 20-month adult parasitic life, which has had a devastating effect on Great Lakes trout, salmon, steelhead, and whitefish fisheries. According to an article in the *Detroit News* (7-22-00), the annual cost of sea lamprey control is estimated at $13 million.

Another example is the Eurasian ruffe, which apparently was introduced to the Great Lakes from the St. Louis River as the result of a ballast discharge. In Lake Superior, the ruffe feeds on yellow perch, and perch populations evidently have declined an estimated 75% in water bodies where ruffe have become established.

In addition, zebra mussels have caused substantial damage to water intake systems throughout the Great Lakes basin and have substantially altered the aquatic ecosystem in portions of Lake Erie, Lake St. Clair, and the Saginaw Bay. According to the DEQ, the U.S. Fish and Wildlife Service estimates the potential economic impact at $5 billion over the next 10 years to U.S. and Canadian factories, water suppliers, power plants, ships, and fisheries within the Great Lakes region. In particular, one severe biological impact since the introduction of zebra mussel into the Great Lakes is the near extinction of native clams and mussels in Lake St. Clair and in the western basin of Lake Erie.

**ARGUMENTS**

*(Please note: The arguments contained in this analysis originate from sources outside the Senate Fiscal Agency. The Senate Fiscal Agency neither supports nor opposes legislation.)*

**Supporting Argument**

The negative impact of aquatic nuisance species on the health and economy of the Great Lakes is considered by many experts to be the most serious threat to the integrity of the Great Lakes ecosystem. The bill takes a market-based approach, emphasizing research and treatment methods, voluntary compliance with currently accepted ballast water management practices, and the use of incentives and public pressure to create a demand for vessels and shipping companies to solve the problem of aquatic nuisance species.

The bill recognizes that the shipping industry is vital to the global commerce of the Great Lakes and acknowledges that ships cannot operate without taking on or discharging ballast water. Therefore, the bill requires the DEQ to continue to investigate methods for treating ballast water before it is discharged. If the Department determines that there is one or more acceptable ballast water treatment methods that could be used on all vessels, the DEQ then must compile a list of vessels that have made use of the method or methods, and distribute that list to potential shippers. The compliance list represents an effort to encourage shippers to use vessels that practice acceptable ballast water treatment methods.

**Supporting Argument**

The bill does not impose unrealistic regulations or stiff penalties on the shipping industry. The bill, however, denies grants, loans, awards, and any other financial assistance from the DEQ to vessel owners and operators who are not on a compliance list and to shipping businesses that use noncompliant vessels.

**Response:** Withholding Department funds will have no impact since the DEQ has not distributed money to shippers in the past.

**Opposing Argument**

This State alone does not have the jurisdiction to solve the problem of aquatic nuisance species' being introduced through ballast water discharges. While the bill attempts to provide useful approaches in the treatment of ballast water, more uniform cooperation and effort through a multistate agreement or an effective Federal law are necessary to address this problem.

**Response:** Although the issue requires the cooperation of many governmental jurisdictions, once Michigan has acted to identify a treatment method or methods that vessels should be using, other governmental entities should recognize the State's aggressive approach, which in turn may provide an incentive or urgency for Federal action regarding the issue.

Legislative Analyst: N. Nagata

**FISCAL IMPACT**

The bill will result in an indeterminate increase in Department of Environmental Quality administrative costs related to data management, website maintenance, and printing and postage.

Fiscal Analyst: P. Graham

A0102\s152ea