

New York State Department of Environmental Conservation

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Mr. Walter E. Mugdan
Director
Division of Environmental Planning and Protection
United States Environmental Protection Agency
290 Broadway
New York, New York 10007-1866

Re: Clean Water Act Section 401 Certifications for
Recreational Vessel General Permit and
Commercial Vessel and Large Recreational Vessel General Permit

Dear Mr. Mugdan:

DRAFT

These certifications are issued under Section 401(1) of the Federal Clean Water Act (CWA) in response to your letter of July 9, 2008 to Mr. James G. DeZolt, P.E., Director, Division of Water, and are based on the information and materials included in Docket ID Nos. EPA-HQ-OW-2008-0055 and EPA-HQ-OW-2008-0056, available at <http://www.regulations.gov>.

The New York State Department of Environmental Conservation (DEC) certifies that discharges from vessels covered by the United States Environmental Protection Agency General Permit for discharges incidental to the normal operation of recreational vessels (RGP) will not contravene New York's effluent limitations or standards as provided for under CWA Sections 301, 302, 303, 306, 307 and 401.

DEC certifies that discharges from vessels covered by the United States Environmental Protection Agency General Permit for discharges incidental to the normal operation of commercial vessels and large recreational vessels (VGP) will not contravene New York's effluent limitations or standards as provided for under CWA Sections 301, 302, 303, 306, 307, and 401, provided the following conditions set forth in the Certification are met.

These certifications shall expire five years after the date of issuance for the EPA's VGP and RGP.

Certification Conditions for the VGP

Section 17-0301 of the New York State Environmental Conservation Law (ECL) requires the Department to develop water quality standards for the waters of New York State.

Section 17-0809 of the ECL requires the Department to develop effluent limits for discharges from point sources to the waters of New York State. Section 17-0501 of the ECL requires no discharge to the waters of New York State may violate water quality standards. The discharge limitations, and other conditions set forth in this certification, are required to comply with New York's regulations, set forth at 6 NYCRR § 703.2, which state no toxic or other deleterious substances may be discharged that impair the waters for their best usages. The Clean Water Act defines "biological material" such as invasive species as a "pollutant." In this case, the best use of New York's waters are for fish, shellfish, and wildlife propagation and survival. Conditions #1-9 of this Certification are needed to comply with the more stringent New York State statutes and regulations set forth in this paragraph. In accordance with 40 CFR 124.53 (e)(3), these conditions cannot be made less stringent and still comply with State water quality standards.

1. Until a vessel covered under the VGP that operates in New York waters is required to conduct ballast water treatment in accordance with Condition #3, the operator of a vessel entering New York waters from outside the exclusive economic zone with ballast on board must conduct ballast water exchange at least 200 nautical miles from land, or use ballast water treatment technology that meets the performance standards of Condition #2, and vessels that carry only residual amounts of ballast water and/or sediments shall conduct saltwater flushing of their ballast water tanks.

The operator of a vessel originating from within the exclusive economic zone and entering New York waters with ballast on board, shall conduct ballast water exchange, and vessels that carry only residual amounts of ballast water and/or sediments shall conduct saltwater flushing of their ballast water tanks, at least 50 nautical miles from shore and in water at least 200 meters in depth.

Ballast water exchange is defined as at least 1 empty and refill cycle, in water at least 200 meters in depth, of each ballast tank that contains ballast water, resulting in a salinity level of at least 30 ppt.

If the master of a vessel determines that ballast water exchange is impracticable, a sufficient number of flow-through exchanges of ballast water, outside the exclusive economic zone, may be conducted to achieve replacement of least 95 percent of ballast water in ballast tanks of the vessel, resulting in a salinity level of at least 30 ppt.

Saltwater flushing is defined as the addition of mid-ocean water to ballast water tanks, the mixing of the flushwater with residual water and sediment through the motion of the vessel, and the discharge of the mixed water, such that the resulting residual water has a salinity level of at least 30 ppt.

All vessels entering New York waters must maintain the ability to measure salinity levels in each tank onboard the vessel so that salinities of at least 30 ppt can be ensured.

This condition does not apply to a vessel that carries permanent ballast water, all of which is in sealed tanks that are not subject to discharge.

This condition does not apply to vessels of the Armed Forces.

This condition does not apply to any vessel of the National Defense Reserve Fleet that is scheduled to be disposed of through scrapping or sinking.

This condition does not apply to the discharge of ballast water if the master of the vessel determines that compliance with this condition would threaten the safety or stability of the vessel, its crew, or its passengers because of adverse weather, equipment failure, or any other relevant condition.

2. Beginning on the date of the first drydocking of the vessel after June 30, 2009, each vessel covered under the VGP that operates in New York waters, as defined at ECL 17-0105(2), shall have a ballast water treatment system that meets the standards listed below provided under Regulation D-2 of the International Convention for the Control and Management of Ships' Ballast Water and Sediments as signed on February 13, 2004. These standards are:

(A) *Standard for organisms 50 or more micrometers in minimum dimension:* Any ballast water discharged shall contain less than 10 living organisms per cubic meter.

(B) *Standard for organisms less than 50 micrometers in minimum dimension and more than 10 micrometers in minimum dimension:* Any ballast water discharged shall contain less than 10 living organisms per milliliter.

(C) *Standards for indicator microbes:*

(i) Any ballast water discharged shall contain less than 1 colony-forming unit of toxicogenic *Vibrio cholera* (serotypes O1 and O139) per 100 milliliters or less than 1 colony-forming unit of that microbe per gram of wet weight of zoological samples;

(ii) Any ballast water discharged shall contain less than 250 colony-forming units of *escherichia coli* per 100 milliliters; and

(iii) Any ballast water discharged shall contain less than 100 colony-forming units of intestinal enterococci per 100 milliliters.

This condition does not apply to a vessel that carries permanent ballast water, all of which is in sealed tanks that are not subject to discharge.

This condition does not apply to vessels of the Armed Forces.

This condition does not apply to any vessel of the National Defense Reserve Fleet that is scheduled to be disposed of through scrapping or sinking.

3. Beginning on the date of the first drydocking of the vessel after December 31, 2011, but not later than December 31, 2013, each vessel covered under the VGP that operates in New York waters shall have a ballast water treatment system that meets the following standards, subject to the exception listed below.

(A) *Standard for organisms 50 or more micrometers in minimum dimension:* Any ballast water discharged shall contain less than 1 living organism per 10 cubic meters.

(B) *Standard for organisms less than 50 micrometers in minimum dimension and more than 10 micrometers in minimum dimension:* Any ballast water discharged shall contain less than 1 living organism per 10 milliliters.

(C) *Standards for indicator microbes:*

(i) Any ballast water discharged shall contain less than 1 colony-forming unit of toxicogenic *Vibrio cholera* (serotypes O1 and O139) per 100 milliliters or less than 1 colony-forming unit of that microbe per gram of wet weight of zoological samples;

(ii) Any ballast water discharged shall contain less than 126 colony-forming units of *escherichia coli* per 100 milliliters; and

(iii) Any ballast water discharged shall contain less than 33 colony-forming units of intestinal enterococci per 100 milliliters.

This condition does not apply to a vessel that carries permanent ballast water, all of which is in sealed tanks that are not subject to discharge.

This condition does not apply to vessels of the Armed Forces.

This condition does not apply to any vessel of the National Defense Reserve Fleet that is scheduled to be disposed of through scrapping or sinking.

4. Exception: A vessel covered under the VGP that operates in New York waters equipped with a system installed pursuant to the requirements set forth in Condition #2 may continue to use that system for the entire period during which this certification is effective. During such period, the vessel will be considered in compliance with Condition #3 if the treatment system meets the requirements of Condition #2. DEC will consider requests to allow a vessel with a treatment system installed under Condition #2 to continue using such system beyond the term of this certification, up to a maximum of 10 years after the date on which the system was first placed in service on the vessel.
5. Any vessel covered under the VGP permit that operates in New York waters may NOT discharge treated or untreated graywater into Waters of New York State within 3 nautical miles of shoreline, or within Long Island Sound, New York City Harbor, Lake Ontario, Lake Erie or the Hudson River Estuary. This limit is in effect regardless of speed vessel is traveling.
6. Any vessel covered under the VGP operating in New York waters may not discharge bilge water into embayments as designated in the VGP, or into Long Island Sound, New York Harbor, Lake Ontario, Lake Erie or the Hudson River Estuary.
7. As required by 6 NYCRR Sections 703.2 and 703.5, any vessel covered under the VGP that operates in New York waters must meet the following limitation after first dry-docking as needed to comply with Condition #2 or Condition #3 above:
Copper anti-foulant coatings no discharge

8. As required by 6 NYCRR Sections 703.2 and 703.5, any vessel covered under the VGP that operates in New York waters must meet the following limitations upon issuance of the VGP for any discharge:
Tetrachloroethylene 10 mg/l
9. Pursuant to the Clean Water Act, the inclusion of a state water quality certification requirement in the draft VGP appropriately preserves the lawful authority of the individual States to implement more protective ballast water pollution controls as part of the EPA general permit within their respective waters. Pursuant to the Clean Water Act, the States also have the authority to adopt more stringent ballast water requirements than currently proposed under the draft VGP.

As part of New York's certification of the draft VGP, DEC finds that the additional discharge standards set forth as conditions in this certification letter are necessary to reduce the unintentional discharge of invasive species and disease organisms that have already impacted, and have the potential to further disrupt, the ecological balance of New York's waters and negatively impact the fish and wildlife resources of the State, as well as other states.

The additional discharge standards set forth as conditions in this certification letter are necessary for the following reasons. First, there is overwhelming evidence that water quality, including fish, shellfish, and wildlife propagation and survival, has been impaired in recent decades in New York's waters, especially New York's Great Lakes waters, by invasive species. Second, there is overwhelming evidence that direct discharge of invasive species into New York waters is not a necessary condition for impairment by invasive species; discharges into adjacent, connected waters have severely impaired New York waters for their best usage such as fish, shellfish, and wildlife propagation and survival. Third, the above points provide a reasonable basis for inferring that water quality will be further impaired by additional, future introductions of invasive species and that impairments to New York's water quality will be caused by discharges of such species to adjacent, connected waters.

The ability of various invasive species to spread into adjacent, connected waters is well known. The zebra mussel is a prime example. This mussel, introduced in or near Lake St. Clair where it was discovered in 1988,¹ quickly spread into New York waters and throughout the Great Lakes and beyond. The rapid spread of the zebra mussel during the past twenty years can be seen, for example, on a series of maps available on the website of Sea Grant's National Aquatic Nuisance Species Clearinghouse.² As another example, the round goby was introduced into the St. Clair River in 1990, "probably via contaminated

¹NOAA, National Center for Research on Aquatic Invasive Species, Great Lakes Aquatic Nonindigenous Species List (www.glerl.noaa.gov/res/Programs/ncrais/great_lakes_list.html).

²New York Sea Grant, National Aquatic Nuisance Species Clearinghouse (www.aquaticinvaders.org).

ballast water of transoceanic ships.”³ Following this discharge in adjacent, connected waters, the round goby has moved into New York waters and contributed to the impairment of these waters for their best usage such as fish, shellfish, and wildlife propagation and survival. Round gobies “have shown a rapid range of expansion through the Great Lakes”⁴ and have been found in the upper St. Lawrence River and the lower Genesee River, among other New York waters.⁵ Yet another example is the spiny water flea, “first found in Lake Huron in 1984 – probably imported in the ballast water of a transoceanic freighter. Since then, populations have exploded and the animal can now be found throughout the Great Lakes and in some inland lakes,”⁶ including New York waters.

As recognized by EPA,⁷ the predominant pathway for aquatic invasive species entry into the Great Lakes is the ballast water of oceangoing ships.⁸ Invasive species introduced into the Great Lakes from vessels’ untreated ballast water discharges have created serious, damaging impacts that threaten the resource’s ecological and economic health.⁹ Because the Great Lakes contain fresh water, some of the most damaging ballast water-induced species are native to other fresh or brackish waters, particularly those in the Ponto-Caspian region (the Black, Caspian and Azov Seas).¹⁰ These Ponto-Caspian invaders are now abundant in European waters used extensively by ships destined for the Great Lakes, and their continued invasion into the Lakes is considered highly probable.¹¹

Such invasive species have competed with, preyed upon and otherwise altered the Lakes’ environment, resulting in population declines and compromised species viability of the region’s native plants, fish and wildlife.¹² They have harmed the region’s commercial and

³Great Lakes Information Network, “Goby in the Great Lakes Region” (www.great-lakes.net/envt/flora-fauna/invasive/goby.html).

⁴Id.

⁵U.S. Geological Survey, Nonindigenous Aquatic Species (NAS) Program (<http://nas.er.usgs.gov/AlertSystem/default.asp>), NAS Alert System results for New York.

⁶Great Lakes Information Network, “Spiny Water Flea in the Great Lakes Region” (www.great-lakes.net/envt/flora-fauna/invasive/spinyflea.html).

⁷EPA, Aquatic Nuisance Species in Ballast Water Discharges: Issues and Options, 4, 6 (September 10, 2001), identified at 66 Fed. Reg. 49381 (September 27, 2001).

⁸E. Mills, et al., Exotic Species in the Great Lakes: A History of Biotic Crises and Anthropogenic Introductions, 19 J. of Great Lakes Research 1 (1993).

⁹16 U.S.C. §4701(a)

¹⁰A. Ricciardi and H. MacIsaac, Recent Mass Invasion of the North American Great Lakes by Ponto-Caspian Species, 15 Trends in Ecology and Evolution 62 (2000).

¹¹Id.

¹²16 U.S.C. §4701(a).

recreational fishing industries and damaged its public water and energy generating infrastructure.¹³ The insidious effects of these species have been costly to deal with and show no signs of dissipating. The harm caused by exotic nuisance species such as the zebra mussel, river ruffe, round goby, spiny water flea, and sea lamprey in the Great Lakes is widespread. For example, large zebra mussel populations reduce food and oxygen for native fauna, and have been observed completely covering native mussels and snails, threatening their survival.¹⁴ The zebra mussel readily attaches to submerged hard surfaces including rocky shoals, water intake pipes and docks, forming dense layered colonies that have approached one million mussels per square meter.¹⁵ Power companies and others must repeatedly remove mats of these mussels from their infrastructure. In addition, selective feeding by zebra mussels has been implicated in recurring nuisance algae blooms in the Great Lakes, causing taste and odor problems and increased treatment costs for municipal water supplies.¹⁶ Congress estimates that the economic disruption to communities, just from the zebra mussel, has already cost billions of dollars.¹⁷ The ruffe, a small Eurasian fish having spiny dorsal fins that discourage predation by other fish, feeds on fish eggs and competes for habitat in the Great Lakes with yellow perch and walleye, two favored sport and commercial fish.¹⁸ The round goby, an invader from the Black and Caspian Seas, feeds on mollusks, crustaceans, and lake trout eggs and fry, injuring Great Lakes native species through competition for food and predation.¹⁹ Another exotic invader from the Black and Caspian Seas, the spiny water flea, rarely more than a centimeter in length, competes with newly hatched Great Lakes native fish populations by feeding on zooplankton. The sharp spines characteristic of the spiny water flea prevent most small fish from swallowing it, thereby allowing this invader to reach a disproportionate population abundance.²⁰

¹³Id.

¹⁴U.S. Dept. of the Interior, National Biological Survey, A. Benson, et al., “Invasion of the Zebra Mussel into the United States,” *Our Living Resources: A Report to the Nation on the Distribution, Abundance, and Health of U.S. Plants, Animals and Ecosystems*, 445-46 (1995) (available at <http://biology.usgs.gov/s+t/noframe/x274.htm>).

¹⁵Id.; D. Pimentel, et al., *Environmental and Economic Costs of Non-Indigenous Species in the United States*, 50 *Bioscience* 53, 58 (2000).

¹⁶National Oceanic and Atmospheric Administration, Great Lakes Environmental Research Laboratory, *Aquatic Invasive Species (AIS) and the Great Lakes: Simple Questions, Complex Answers*, (September 2002) (available at www.glerl.noaa.gov/pubs/brochures/invasive/AIS.pdf).

¹⁷16 U.S.C. §4701(a)(4).

¹⁸Cambridge Scientific Abstracts, *Environmental Policy Issues, Harmful Non-Native Species: Issues for Congress VII*, (April 8, 1999) (available at www.csa.com/hottopics/ern/99nov/biodv-26f.html); Michigan Dept. of Natural Resources, *Annual Report, State of the Great Lakes*, 32 (1993).

¹⁹Cambridge Scientific Abstracts, *op. cit.*; Michigan Dept. of Natural Resources, *op. cit.*

²⁰Cambridge Scientific Abstracts, *op. cit.*; Michigan Dept. of Natural Resources, *op. cit.*

Since 2000, significant mortality of lake sturgeon, Common Loon, Red-breasted Merganser, and other fish and waterbirds have been documented on Lake Erie. More recently, since 2002, similar mortality events have been noted with increasing regularity, distribution and magnitude on Lake Ontario. Over the last three years, Caspian Tern and several other waterbird species have been impacted. Nonnative invasive species, the quagga mussel and round goby, appear to be the biological transport mechanism bringing deadly Type E botulism toxin from the benthic environment to within foraging range of nesting and migrating waterbirds.²¹

Less stringent conditions than those set forth in this certification letter are not sufficient to prevent the impairment of New York's waters for their best usage such as fish, shellfish, and wildlife propagation and survival for the following reasons. As stated in a recent California report on ballast water standards, "Reports submitted as part of the IMO Convention suggest that the standards adopted by IMO would only be a marginal improvement on current management practices of ballast water exchange for the largest organisms (>50 µm) and may be similar to unmanaged ballast water for the smaller organisms (<50 µm) (Table V-1, MEPC 49/2/12003) (Section VII 'Scientific Considerations')." ²² These concentration-based IMO standards – considered to be either similar to, or a marginal improvement over, the practice of ballast water exchange – are the same IMO standards set forth above as Condition #2 of this certification. New York finds that these concentration-based IMO standards are necessary interim requirements that will reduce the ongoing impairment of the State's waters due to aquatic invasive species.

In general, concentration-based numerical discharge standards are needed as a replacement for ballast water exchange because the results of ballast water exchange are so highly variable²³ and, therefore, unprotective as an ongoing permit condition. As stated in the California report, "Concentration based standards...would specify a specific concentration of organisms that could be discharged following treatment, regardless of source port concentrations.... Concentration based standards allow for the consideration of both a protection level to reduce risk as well as technical consistency, such as detection limits."²⁴ Both New York and California routinely use concentration-based standards for protection of water and air quality.

For these reasons, the concentration-based IMO discharge standards set forth as Condition #2 are necessary interim standards to reduce the ongoing impairment of the State's waters due to aquatic invasive species. Less stringent concentration-based standards would be

²¹K. Roblee, W. Stone and D. Adams, "Waterbird Mortality as a Result of Type E Botulism in Lake Erie and Lake Ontario," Northeast Natural History Conference IX, New York State Museum, Albany, NY (2006).

²²M. Falkner et al., California State Lands Commission Report on Performance Standards for Ballast Water Discharges in California Waters," California State Lands Commission, Marine Facilities Division, January 2006, at 34.

²³Id., esp. Fig. VII-1 at 18.

²⁴Id. at 16.

unacceptable because they would fall below the protection typically afforded by ballast water exchange, as indicated above. Thus, Condition #2 of this Certification is needed to comply with the more stringent New York State statutes and regulations set forth above. In accordance with 40 CFR 124.53 (e)(3), the condition cannot be made less stringent and still comply with State water quality standards.

Given the approximate similarity in protection between IMO discharge standards and typical ballast water exchange, New York finds that more stringent discharge standards must be phased in to protect water quality during the term of this Certification. The concentration-based standards in Condition #3 are 100 times more stringent than the IMO standards for the main size classes of organisms, and New York finds that these standards in Condition #3 are needed to prevent the impairment of waters for their best usage. Thus, Condition #3 of this Certification is needed to comply with the more stringent New York State statutes and regulations set forth above. In accordance with 40 CFR 124.53 (e)(3), this condition cannot be made less stringent and still comply with State water quality standards.

10. The contact point for consultation, submittals and approvals as referred to in this Certification is:

Francis G. Zagorski
NYS DEC
Division of Water, 4th Floor
625 Broadway
Albany, New York 12233-3505

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The DEC reserves the right to challenge the EPA's VGP.

Should you require further information regarding this Certification, please contact Mr. Zagorski at 518-402-8168.

Sincerely,

William R. Adriance
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