

PUBLIC NOTICE

Notice is hereby given that MassDEP, under authority granted by the Massachusetts Clean Waters Act, M.G.L. c. 21, §§ 26 – 53, is proposing to: (1) issue a federal Clean Water Act (CWA) section 401 certification for the U.S. Environmental Protection Agency's (EPA) proposed 2022 Draft NPDES Permit (Federal Permit) (MA Permit No. MA0003123) to the New England Aquarium in Boston for their facility's pollutant discharges to Boston Inner Harbor (MA70-02); and (2) issue the 2022 Draft Massachusetts Permit to Discharge Pollutants to Surface Waters (State Permit) for the same discharge pursuant to the Massachusetts Clean Waters Act. The New England Aquarium is located at Central Wharf, Boston MA 02110. The proposed section 401 certification, proposed State Permit, and proposed Federal Permit are all available at <https://www.mass.gov/service-details/massdep-public-hearings-comment-opportunities>. Alternatively a copy of the documents can be obtained by contacting Xiaodan Ruan, MassDEP Surface Water Discharge Program, at 857-256-4172 or xiaodan.ruan@mass.gov. Written comments on both the proposed section 401 certification and the proposed State Permit will be accepted until 5:00 p.m. on August 11, 2022. MassDEP strongly encourages written comments to be submitted by email to massdep.npdes@mass.gov; subject line: NEAq Boston. If not possible, please send by mail to Xiaodan Ruan, 1 Winter St. Boston, MA 02108.

Following the close of the comment period, MassDEP will issue a final CWA section 401 certification and final State Permit and forward copies to the applicant and each person who has submitted written comments or requested notice.

For special accommodations, please call the MassDEP Diversity Office at 617-292-5751. TTY# MassRelay Service 1-800-439-2370. This information is available in alternate format upon request.

By Order of the Department

Martin Suuberg, Commissioner

DRAFT

Section 401 Water Quality Certification
For the Proposed 2022 NPDES Permit
For the New England Aquarium in Boston
Permit No. MA0003123

The Massachusetts Department of Environmental Protection (MassDEP), having examined New England Aquarium's National Pollutant Discharge Elimination System (NPDES) permit application for the New England Aquarium, reviewed the United States Environmental Protection Agency (EPA) – Region 1's draft 2022 NPDES permit for the New England Aquarium (Permit No. MA0003123), issued July 12, 2022, ("2022 NPDES permit"), and having considered the public comments received on MassDEP's draft Section 401 Water Quality Certification for the draft NPDES Permit for the New England Aquarium, and in consideration of the relevant water quality considerations, hereby certifies:

1. that subject to the following conditions, together with the terms and conditions contained in the 2022 NPDES permit for the New England Aquarium, the proposed discharges will comply with the applicable provisions of the Federal Clean Water Act Sections 208(e), 301, 302, 303, 306, and 307 and with appropriate requirements of State law, including, without limitation, the Massachusetts Clean Waters Act, M.G.L. c. 21, §§ 26-53, and the Massachusetts Surface Water Quality Standards published at 314 CMR 4.00:
 - a. Pursuant to M.G.L. c. 21, §§ 26-53, and 314 CMR 3.00 and 4.00, including 314 CMR 3.11 (2)(a)6., and in order to ensure the maintenance of surface waters free from pollutants in concentrations or combinations that are toxic to humans, aquatic life, or wildlife, in accordance with 314 CMR 4.05(5)(e), MassDEP has determined that it is necessary that within six (6) months of the effective date of the 2022 NPDES permit, the permittee submit to MassDEP an evaluation of whether the facility uses or stores any products containing any per- and polyfluoroalkyl substances (PFAS) and whether use or storage of those products can be reduced or eliminated. The analysis shall be submitted electronically to massdep.npdes@mass.gov.
 - b. Pursuant to M.G.L. c. 21, §§ 26-53, and 314 CMR 3.00 and 4.00, including 314 CMR 3.11 (2)(a)6., and in order to ensure the maintenance of surface waters free from pollutants in concentrations or combinations that are toxic to humans, aquatic life, or wildlife, in accordance with 314 CMR 4.05(5)(e), MassDEP has determined that it is necessary that within six (6) months after the permittee has been notified by MassDEP of an EPA multi-lab validated method for wastewater, or two (2) years after the effective date of the 2022 NPDES permit, whichever is earlier, the permittee conduct monitoring of the effluent for PFAS compounds as detailed in the table below. Sampling of the intake water is optional and shall be conducted concurrently with sampling of the effluent. If any of the six (6) PFAS compounds are detected in the effluent, the permittee can decide to analyze the intake water sample for all six (6) PFAS compounds. If EPA's multi-lab validated method is not available by twenty (20) months after the effective date of the 2022 NPDES permit, the permittee shall contact MassDEP (massdep.npdes@mass.gov) for guidance on an appropriate analytical method. Notwithstanding any other provision of the 2022

NPDES permit to the contrary, monitoring results shall be reported to MassDEP electronically at massdep.npdes@mass.gov, or as otherwise specified, within 30 days after they are received. Those results do not need to be reported to EPA through NetDMR, unless EPA establishes a requirement through a future permitting action.

Effluent (Outfall 001)

Parameter	Units	Measurement Frequency	Sample Type
Perfluorohexanesulfonic acid (PFHxS)	ng/L	2/year ¹	24-hour Composite
Perfluoroheptanoic acid (PFHpA)	ng/L	2/year	24-hour Composite
Perfluorononanoic acid (PFNA)	ng/L	2/year	24-hour Composite
Perfluorooctanesulfonic acid (PFOS)	ng/L	2/year	24-hour Composite
Perfluorooctanoic acid (PFOA)	ng/L	2/year	24-hour Composite
Perfluorodecanoic acid (PFDA)	ng/L	2/year	24-hour Composite

- c. Pursuant to M.G.L. c. 21, §§ 26-53, and 314 CMR 3.00 and 4.00, including 314 CMR 3.11 (2)(a)6., and order to ensure the maintenance of surface waters free from pollutants in concentrations or combinations that are toxic to humans, aquatic life, or wildlife, in accordance with 314 CMR 4.05(5)(e), MassDEP has determined that it is necessary that after completing two (2) years of monitoring, if four (4) consecutive samples are reported as non-detect for all six (6) PFAS compounds, then the permittee may submit a request to MassDEP to discontinue PFAS monitoring. Any such request shall be made in writing and sent to massdep.npdes@mass.gov. The permittee shall continue such monitoring pending written approval from MassDEP to discontinue it.

2. that there is a reasonable assurance that the activity will be conducted in a manner which will not violate applicable state water quality standards.

To meet the requirements of Massachusetts laws, each of the conditions cited in the draft permit and this certification shall not be made less stringent unless new data or other information is presented and MassDEP determines modification of this certification is appropriate in consideration of the relevant water quality considerations.

If any condition in the draft 2022 NPDES permit for the New England Aquarium in Boston is changed during EPA's review in any manner inconsistent with this certification, the Department reserves the right to modify this certification to ensure that the discharge(s) will comply with all applicable federal and state laws and regulations. In addition, the Department reserves the right to modify this certification if there is a change in the Massachusetts laws or regulations upon which this certification is based, or if a court of competent jurisdiction or the MassDEP Office of Appeals and Dispute Resolution stays, vacates or remands this certification, as provided by 40 C.F.R. § 124.55.

¹ 2/year are defined as January to June, July to December. Samples shall be taken during the same month each period and shall be taken 6 months apart (e.g., an example sampling schedule could be March and September).

Signed this ____ day of _____, 2022

Lealdon Langley, Director
Massachusetts Department of Environmental Protection
Bureau of Water Resources
Division of Watershed Management

MASSACHUSETTS PERMIT TO DISCHARGE POLLUTANTS TO SURFACE WATERS

In compliance with the provisions of the Massachusetts Clean Waters Act, as amended (M.G.L. Chap. 21, §§ 26 - 53) and the implementing regulations at 314 CMR 3.00 and 4.00,

New England Aquarium
Central Wharf
Boston, MA 02110

is authorized to discharge from the facility located at

New England Aquarium
Central Wharf
Boston, MA 02110

to receiving water named

Boston Inner Harbor (MA70-02)
Boston Harbor Watershed

in accordance with the following effluent limitations, monitoring requirements and additional conditions:

1. This permit shall become effective on [DATE].¹
2. This permit shall expire five years after the effective date.
3. This permit supersedes the permit issued on August 1, 2013.
4. This permit incorporates by reference Part IA., Effluent Limitations and Monitoring Requirements, Part IB., Unauthorized Discharges, Part IC., Special Conditions, Part ID. Reporting Requirements, and Part II., Standard Conditions, as set forth in the 2022 draft NPDES Permit No. MA0003123, issued by the United States Environmental Protection Agency (EPA), Region 1, issued to New England Aquarium on July 12, 2022 (the 2022 Draft NPDES Permit) and attached hereto as Appendix A; provided, however:
 - a. that the notification required by Part IA.8. shall also be provided to MassDEP;
 - b. that the reporting required by Part IB.1 shall be in accordance with 314 CMR 3.19(20)(e) (24 hour reporting);
 - c. that discharges of a new chemical or additive authorized under Part IC.3. are only authorized under this permit 30 days following written notification to MassDEP electronically to massdep.npdes@mass.gov, unless otherwise notified in writing by MassDEP;
 - d. that a copy of the requests, reports, and information required by Part ID.3. to be submitted to EPA shall also be submitted to MassDEP electronically to massdep.npdes@mass.gov;

¹ If no comments objecting to the issuance or terms of the permit were received by the Department during the public comment period, then this permit shall be effective upon issuance. If comments objecting to the issuance or the terms of the permit are received by the Department during the public comment period, then this permit shall become effective 30 days after issuance.

- e. that, if there is a conflict between the definitions in 314 CMR 3.02 and/or 314 CMR 4.00 and the definitions in Part IIE, the definitions in 314 CMR 3.02 and/or 314 CMR 4.00 shall control, as applicable;
- f. that the notifications required by 4.a. and 4.c. above shall be provided as follows:

Laura Schifman, Acting NPDES Section Chief
Division of Watershed Management
Department of Environmental Protection
1 Winter Street – 5th Floor
Boston, MA 02108

- 5. This permit incorporates by reference the Standard Permit Conditions set forth in 314 CMR 3.19.
- 6. This permit includes the following additional conditions:
 - a. Within six (6) months of the effective date of the permit, the permittee shall submit to MassDEP an evaluation of whether the facility uses or stores any products containing any per- and polyfluoroalkyl substances (PFAS) and whether use or storage of those products can be reduced or eliminated. The analysis shall be submitted electronically to massdep.npdes@mass.gov.
 - b. Within six (6) months after the permittee has been notified by MassDEP of EPA's multi-lab validated method for wastewater, or two (2) years after the effective date of the 2022 Federal NPDES permit, whichever is earlier, the permittee shall conduct monitoring of the effluent for PFAS compounds as detailed in the table below. If EPA's multi-lab validated method is not available by twenty (20) months after the effective date of the 2022 Federal NPDES permit, the permittee shall contact MassDEP (massdep.npdes@mass.gov) for guidance on an appropriate analytical method. Notwithstanding any other provision of the 2022 Federal NPDES permit to the contrary, monitoring results shall be reported to MassDEP electronically at massdep.npdes@mass.gov, or as otherwise specified, within 30 days after they are received. Those results do not need to be reported to EPA through NetDMR unless EPA establishes a requirement through a future permitting action.

Effluent (Outfall 001)

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Perfluorooctanesulfonic acid (PFOS)	ng/L	2/year	24-hour Composite
Perfluorooctanoic acid (PFOA)	ng/L	2/year	24-hour Composite
Perfluorodecanoic acid (PFDA)	ng/L	2/year	24-hour Composite

- c. After completing two (2) years of monitoring, if four (4) consecutive samples are reported as non-detect for all six PFAS compounds, then the permittee may submit a request to discontinue PFAS monitoring. Any such request shall be made in writing and sent to:

² 2/year are defined as January to June, July to December. Samples shall be taken during the same month each period and shall be taken 6 months apart (e.g., an example sampling schedule could be March and September).

massdep.npdes@mass.gov. The permittee shall continue such monitoring pending written approval from MassDEP to discontinue it.

Signed this ____ day of _____, 20__

Lealdon Langley, Director
Division of Watershed Management
Department of Environmental Protection

MASSACHUSETTS DEPARTMENT OF ENVIRONMENTAL PROTECTION

FACT SHEET SUPPLEMENT

MASSACHUSETTS PERMIT TO DISCHARGE POLLUTANTS TO SURFACE WATERS

MA PERMIT NUMBER: MA0003123

NAME AND MAILING ADDRESS OF APPLICANT:

New England Aquarium
Central Wharf
Boston, MA 02110

NAME AND ADDRESS OF FACILITY WHERE DISCHARGE OCCURS:

New England Aquarium
Central Wharf
Boston, MA 02110

RECEIVING WATER AND CLASSIFICATION:

Boston Inner Harbor (MA70-02), Boston Harbor Watershed

SIC CODE:

8422 (Arboreta and Botanical or Zoological Gardens)

PER – AND POLYFLUROALKYL SUBSTANCES

MassDEP is implementing a number of actions to address the potential health effects of exposure to per- and polyfluoroalkyl substances (PFAS).¹ According to the United States Environmental Protection Agency (EPA),² PFAS are a group of man-made chemicals that includes perfluorooctanoic acid (PFOA), perfluorooctane sulfonic acid (PFOS), GenX, and many other chemicals. PFAS have been manufactured and used in a variety of industries around the globe, including in the United States since the 1940s. PFOA and PFOS have been the most extensively produced and studied of these chemicals. Both chemicals are very persistent in the environment and in the human body – meaning they do not break down and they can accumulate over time. There is evidence that exposure to PFAS can lead to adverse human health effects.

PFAS can be found in:

- **Food** packaged in PFAS-containing materials, processed with equipment that used PFAS, or grown in PFAS-contaminated soil or water.

¹ To learn more about Per- and polyfluoroalkyl substances (PFAS) in the environment and what Massachusetts is doing to address them, go to: <https://www.mass.gov/info-details/per-and-polyfluoroalkyl-substances-pfas>.

² For basic information on PFAS provided by EPA, go to: <https://www.epa.gov/pfas/basic-information-pfas>

- **Commercial household products**, including stain- and water-repellent fabrics, nonstick products, polishes, waxes, paints, cleaning products, and fire-fighting foams (a major source of groundwater contamination at airports and military bases where firefighting training occurs).
- **Workplace**, including production facilities or industries (e.g., chrome plating, electronics manufacturing or oil recovery) that use PFAS.
- **Drinking water**, typically localized and associated with a specific facility (e.g., manufacturer, landfill, wastewater treatment plant, firefighter training facility).
- **Living organisms**, including fish, animals and humans, where PFAS have the ability to build up and persist over time.

Certain PFAS chemicals are no longer manufactured in the United States as a result of phase-outs including the PFOA Stewardship Program, in which eight major chemical manufacturers agreed to eliminate the use of PFOA and PFOA-related chemicals in their products and as emissions from their facilities. Although PFOA and PFOS are no longer manufactured in the United States, they are still produced internationally and can be imported into the United States in consumer goods such as carpet, leather and apparel, textiles, paper and packaging, coatings, rubber and plastics.

Scientific information and regulatory actions on PFAS are rapidly evolving. Currently, there are no enforceable federal standards for these substances in public drinking water. However, in May 2016, EPA issued a lifetime drinking water Health Advisory (HA) of 70 nanograms per liter (70 ng/L, which equals 70 parts per trillion or ppt) for any combination of PFOA and PFOS. In June 2018, MassDEP extended this advisory to include three additional related PFAS chemicals - perfluorononanoic acid (PFNA), perfluorohexanesulfonic acid (PFHxS) and perfluoroheptanoic acid (PFHpA). This Massachusetts value, called a MassDEP Office of Research and Standards Guideline (ORSG), is a maximum recommended level for drinking water. It is set to be protective against adverse health effects for all people consuming the water for a lifetime and also applies to shorter-term exposures of weeks to months during pregnancy and breast-feeding.

In December 2019, MassDEP promulgated final regulations at 310 CMR 40.0000 establishing groundwater and soil limits at waste cleanup sites for 6 PFAS compounds - PFOS, PFOA, PFHxS, PFNA, PFHpA, and perfluorodecanoic acid (PFDA). In January 2020, MassDEP updated the ORSG, which is now 20 ng/L for the sum of the concentrations of the same six PFAS compounds included in the waste site clean-up regulations. The updated ORSG replaces the June 2018 guideline for PFAS in drinking water. See the updated ORSG and technical support document here: <https://www.mass.gov/info-details/per-and-polyfluoroalkyl-substances-pfas#health-advisories-and-downloadable-fact-sheets>

Based on the current ORSG, MassDEP recommends that:

- 1) consumers in sensitive subgroups (pregnant women, nursing mothers, and infants) not consume water when the level of the six PFAS substances, individually or in combination, is above 20 ppt; and,
- 2) public water suppliers take steps expeditiously to lower levels of the six PFAS, individually or in combination, to below 20 ppt for all consumers.

In October 2020, MassDEP promulgated revisions to the Massachusetts drinking water regulations that established a regulatory drinking water standard or Massachusetts Maximum Contaminant Level (MMCL) for PFAS. These revisions established a MMCL of 20 ng/L (or parts per trillion) for the sum of the concentrations of the same six PFAS included in the waste site clean-up regulations and the ORSG. The proposed standard is supported by recent scientific developments in understanding the health effects of PFAS and is aligned with PFAS cleanup standards promulgated by the Waste Site Cleanup Program. For information on the MMCL see: <https://www.mass.gov/regulations/310-CMR-22-the-massachusetts-drinking-water-regulations>. <https://www.mass.gov/info-details/per-and-polyfluoroalkyl-substances-pfas-health-advisories-and-downloadable-fact-sheets>

Given that PFAS are persistent in the environment and may lead to adverse human health and environmental effects, MassDEP has identified a comprehensive approach for addressing PFAS in wastewater discharges. Additionally, based on review of recent data for residuals produced from wastewater treatment and other processes, MassDEP has concerns regarding the levels of PFAS in residuals land applied in Massachusetts. All residuals products sold, distributed, and applied in Massachusetts are subject to an Approval of Suitability (AOS), which classifies residuals for different uses based on the chemical quality and treatment to reduce pathogens. Therefore, MassDEP began including a requirement for PFAS testing in all new or renewed AOSs in January 2019, and as of July 2020, MassDEP began requiring all AOS holders to test their products for PFAS on a quarterly basis.

MassDEP is also concerned about the potential impacts PFAS discharges from wastewater treatment plants may have on downstream drinking water, recreational, and aquatic life uses. The Massachusetts Surface Water Quality Standards do not include numeric criteria for PFAS. However, the narrative criterion for toxic pollutants at 314 CMR 4.05(5)(e) states:

All surface waters shall be free from pollutants in concentrations or combinations that are toxic to humans, aquatic life or wildlife.

In addition, this narrative criterion is further elaborated on at 314 CMR 4.05(5)(e)2 which states:

Human Health Risk Levels. Where EPA has not set human health risk levels for a toxic pollutant, the human health-based regulation of the toxic pollutant shall be in accordance with guidance issued by the Department of Environmental Protection's Office of Research and Standards. The Department's goal is to prevent all adverse health effects which may results from the ingestion, inhalation or dermal absorption of toxins attributable to waters during their reasonable use as designated in 314 CMR 4.00.

To assess whether PFAS discharges from the New England Aquarium Boston are occurring and whether they may be contributing to a violation of the narrative toxics criteria, MassDEP is including conditions in the Massachusetts Surface Water Discharge Permit for the permittee to monitor for PFAS and to complete an evaluation of whether the facility uses or stores PFAS-containing products.