

**UPPER MONTGOMERY JOINT AUTHORITY
MONTGOMERY COUNTY, PENNSYLVANIA**

RESOLUTION NO. 2019-07

**OF THE UPPER MONTGOMERY JOINT AUTHORITY,
MONTGOMERY COUNTY, PENNSYLVANIA,
APPROVING MEMORANDUM OF UNDERSTANDING FOR GREEN LANE
FRESHWATER MUSSEL REARING CENTER**

WHEREAS, the Upper Montgomery Joint Authority ("UMJA") is a duly incorporated municipal authority under the Municipality Authorities Act and was organized as a joint authority to erect and maintain facilities and provide sanitary sewer service to the boroughs of Red Hill, East Greenville and Pennsburg and certain areas within Upper Hanover Township.

WHEREAS, UMJA is the owner of a certain tract of ground located in Upper Hanover Township, Montgomery County, Pennsylvania, also fronting on Montgomery Avenue, more particularly identified as Montgomery County Tax Parcel No. 57-00-02517-40-5 (hereinafter, the "UMJA Property"); and

WHEREAS, UMJA has been requested to enter into a Memorandum of Understanding for Green Lane Freshwater Mussel Rearing Program ("MOU-GLMRP") for the purpose of establishing basic guidelines for collaboration between parties to participate in the development of a freshwater mussel rearing center to be partially located on the UMJA Property, a copy of which is attached hereto as Exhibit "A"; and

WHEREAS, the proposed parties to the MOU-GLMRP are The Academy of Natural Sciences of Drexel University and Drexel University, for its College of Arts and Sciences, Partnership for Delaware Estuary and the Upper Montgomery Joint Authority; and

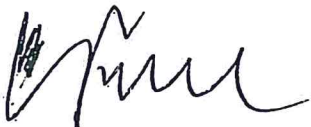
WHEREAS, the board of UMJA believes that it is in the best interests of UMJA, its customers and the health of the Green Lane Reservoir to enter into the Agreement.

NOW, THEREFORE, BE IT RESOLVED, by the Board of the Upper Montgomery Joint Authority, Montgomery County, Pennsylvania, and IT IS HEREBY RESOLVED by authority of same, that the Agreement is hereby approved and that the Chairman or Vice Chairman of the Authority be authorized and directed to sign the attached MOU-GLMRP on behalf of UMJA.

DULY ADOPTED AND RESOLVED, this 9th day of July, 2019.

UPPER MONTGOMERY JOINT AUTHORITY

BY: 
(Vice) Chairperson


ATTEST: _____
(Assistant) Secretary

**Green Lane Freshwater Mussel Rearing Center
Memorandum of Understanding (MOU)**

**Memorandum of Understanding
Among
The Academy of Natural Sciences of Drexel University
and
Partnership for the Delaware Estuary
and
Upper Montgomery Joint Authority
and
Aqua Pennsylvania, Inc.**

for development of the
Green Lane Freshwater Mussel Rearing Center

This Memorandum of Understanding (MOU) is entered into this 6th day of February, 2020, by and among the Academy of Natural Sciences of Drexel University (ANS), the Partnership for the Delaware Estuary (PDE), Upper Montgomery Joint Authority (UMJA) and Aqua Pennsylvania, Inc. (Aqua), hereinafter collectively known as the "Parties."

I. Purpose

The purpose of this MOU is to establish basic guidelines for collaboration among the Parties and to outline the roles and responsibilities of the Parties with respect to the development of the Green Lane Freshwater Mussel Rearing Center (GLFMRC).

II. Background

Freshwater mussels were once common to the Delaware Estuary and its tributaries, providing a range of natural benefits to people and waterways. Once plentiful in both numbers and species, freshwater mussels today face an uncertain future in local streams and rivers. Approximately 12-14 native species once lived in streams that drain to the tidal Delaware River. Today, only a few freshwater mussel species are easily found in these waters, and they are not usually found in large numbers. Most streams that were once home to giant beds of mussels now have none at all. Polluted water, toxic spills, overharvesting for bait, loss of forests along streams, loss of fish hosts needed for reproduction, and dams that block fish passage have all played a role in the loss of freshwater mussel species and populations.

Streams without mussels are at a serious disadvantage when it comes to ecological health. Mussel beds provide valuable ecosystem services – natural benefits such as strengthening

Green Lane Freshwater Mussel Rearing Center Memorandum of Understanding (MOU)

streambeds by keeping soils in place and providing food and habitat needed by other animals and plants. Most importantly, mussels are filter-feeders that help clean the water in which they live by removing solids such as dirt, algae and pollutants attached to fine particulates. They suck water in, trap the solids and then release filtered water back into the environment. Most adult mussels filter 10-20 gallons of water per day from spring to fall.

Today, populations of freshwater mussels are greatly reduced, and are the subject of restoration efforts across the United States, including within the Delaware Estuary and its watershed. The Freshwater Mussel Recovery Program (FMRP) was designed in 2007 by the Partnership for the Delaware Estuary to address mussel conservation and restoration needs for the Delaware River Basin and vicinity. Implementation of this multi-faceted program has been coordinated among many partners, including the Academy of Natural Sciences of Drexel University. The FMRP includes a diverse array of focal activities, such as surveys, reintroductions, bioassessments, habitat improvements, outreach, and propagation.

A new facet of the FMRP was launched in 2016 to expand propagation, rearing and restoration of mussel beds for the main goal of enhancing water quality in appropriate areas of the Delaware Estuary watershed and vicinity. This new effort is referred to as the Mussels for Clean Water Initiative (MuCWI). Funding for the construction phase of MuCWI is being furnished by the Pennsylvania Infrastructure Investment Authority (PENNVEST), which includes a new mussel hatchery facility that is expected to be situated at Bartram's Garden in Philadelphia. The MuCWI vision will be to produce large numbers of juvenile mussels at this facility, rear them up at satellite MuCWI facilities in the region, and then relocate the larger-sized mussels to restoration sites in streams and rivers. This effort is needed because successful large-scale restoration efforts of freshwater mussels are currently constrained by the lack of hatchery propagation and rearing capacity within the region.

The proposed GLFMRC could serve as one of the principal satellite mussel rearing locations for the MuCWI. Additional fundraising will be needed to operate the central hatchery and satellite facilities. Selection of which species and streams to restore will depend on available funding and interest. However, most aquatic systems in the vicinity of Green Lane Reservoir lack historic mussel assemblages, and we anticipate that high interest in the area will lead to successful resources for implementation. Once operational, we expect that the GLFMRC will provide diverse new opportunities for restoring many freshwater mussel species to the Delaware Estuary, as well as ancillary research and educational programming.

Founded in 1812, the Academy of Natural Sciences is a world-class natural history museum dedicated to advancing research, education, and public engagement in biodiversity and environmental science. Drexel University, founded in 1891, is a renowned educational and research institution dedicated to providing experiential learning programs in bioscience and environmental science. In September 2011, these two institutions formed an affiliation. As a result, Drexel created the Department of Biodiversity, Earth and Environmental Science (BEES) within the College of Arts and Sciences, which draws on the traditional strengths of Drexel and the Academy in the fields of environmental sciences, earth sciences, ecology and conservation and biodiversity and evolution. Creation of the GLFMRC will help the Academy and Drexel to

Green Lane Freshwater Mussel Rearing Center Memorandum of Understanding (MOU)

meet their respective and shared missions by advancing the science and practice of mussel propagation and restoration, with opportunities for education and public engagement, and resulting in improved biodiversity and environmental quality throughout the lower Delaware River and its tributaries.

The Partnership for the Delaware Estuary coordinates the Delaware Estuary Program, which is one of 28 congressionally-designated National Estuary Programs throughout the United States. The mission of PDE is to lead science-based and collaborative efforts to improve the tidal Delaware River and Bay, which spans Delaware, New Jersey, and Pennsylvania. PDE is a nonprofit organization established in 1996, and strives to implement a Comprehensive Conservation Management Plan. PDE collaborates with hundreds of partners on diverse outreach, scientific, monitoring and research needs that range from specific on-the-ground restoration and protection measures to strategic, watershed-wide priority-setting. Creation of the GLFMRC will help PDE to meet its goals for continuous improvement of the health of the Delaware Estuary, fulfill specific objectives for restoring shellfish to improve water quality and habitat (e.g. FMRP and MuCWD), advance scientific knowledge and its use for improved management of the Delaware Estuary's natural resources, and increase public engagement in the process.

The Upper Montgomery Joint Authority, based in Pennsburg, PA, has extensive experience developing environmental outreach activities for students and interested stakeholders throughout the region, including tree plantings and a yearly trout release day for students within the Upper Perkiomen School District. The UMJA also offers free educational tours of their treatment plant.

Aqua, with over 130 years' experience protecting and providing water service in countless communities throughout the US, leads the industry in developing state-of-the-art techniques to ensure the long-term availability of this essential resource.

ANS and PDE have already worked closely to survey freshwater mussel populations in the Delaware River and various tributaries and to develop techniques for restoring mussels to streams through transplantation and for propagating mussels in the laboratory.

ANS, PDE, UMJA and Aqua have a history of collaboration on freshwater mussel propagation and outreach programs to engage residents, teachers, and students in activities that raise awareness about the importance of propagating and restoring freshwater mussel populations throughout southeast Pennsylvania.

**Green Lane Freshwater Mussel Rearing Center
Memorandum of Understanding (MOU)**

The Parties set forth the following elements of their understanding for future collaborations:

III. Roles and Responsibilities

A. All Parties

The Parties agree to collaborate on efforts to develop and implement the GLFMRC, which will have the objectives of:

- Raising freshwater mussels for restoration to area streams for improving water quality, habitat, and biodiversity, and for use as native “indicators” for measuring stream health and pollution;
- Providing experiential learning and laboratory research for elementary school, high school, college, graduate and post-graduate level studies that could potentially lead to careers in the sciences and engineering for students in underserved communities;
- Continuing to develop much-needed satellite facilities that will advance the goals of the regional Mussels for Clean Water Initiative; and
- Collaborating with other partners of the Aquatic Research and Restoration Center (ARRC), a working partnership of organizations in the Philadelphia area, to develop innovative science and solutions for improving the health of urban waterways.

B. Individual Parties

The Parties understand and acknowledge that the successful implementation of the activities described in this MOU are contingent on funding and capacity, and that this MOU may require revisions and/or additional written agreements to delineate specific roles and responsibilities of individual parties.

IV. Further Provisions

A. To accomplish these objectives, the Parties will meet at least two times a year either in person or via conference call/(e.g., SKYPE) for the purposes of:

- Developing a more detailed physical plan for the GLFMRC
- Developing and working to implement a financial plan for securing resources necessary to create and operate the GLFMRC
- Exploring and developing other initiatives that may provide added value to the GLFMRC, and
- Strategizing, determining, and adaptively managing roles, responsibilities and actions for each Party to carry out between meetings

B. During meetings, the Parties will share information on other related activities that they engage in for the purpose of advancing development of the GLFMRC, including, but not limited to, the roles/responsibilities identified by each for carrying out elements of the financial and operational action plans.

**Green Lane Freshwater Mussel Rearing Center
Memorandum of Understanding (MOU)**

C. Between meetings, the Parties will keep each other apprised by email of any new activities or developments related to advancing development of the GLFMRC.

D. To the extent authorized by law and consistent with federal, state and local laws, ordinances and policies on procurement and limits on governmental participation in private fundraising, the Parties will work together to pursue funding to support further development of the GLFMRC. As a courtesy, any/all funding proposals submitted pertaining to the aforementioned networked elements will be shared among all Parties for comment prior to submission, and any named Party must be afforded ample time to review and approve of their role, including any naming opportunities for philanthropic commitments. All funding applications and products that are associated with the GLFMRC should reference and credit the involvement of all Parties. Whenever possible and appropriate, each of the Parties should provide the opportunity for the others to be included for funding in proposals they submit.

E. The Parties understand and acknowledge that the successful implementation of the activities described in this MOU may require one or more written agreements with other parties and entities concerning the formation and operation of the GLFMRC, including all the details that have come from the meetings and plans described in this MOU. All Parties will be copied on any such agreements in advance of their execution, as a courtesy.

V. Limitations

A. This MOU is neither a legally binding agreement, nor a formal expression of a legally binding agreement. Rather, it is merely an expression of purpose and intent of the Parties hereto.

B. This MOU does not create any rights or benefits, substantive or procedural, enforceable by law or equity against any of the signatories, their agencies, or their officials, officers or employees. Nothing herein shall be construed to require any of the aforementioned entities to obligate or expend funds on behalf of the goals, objectives, or roles or responsibilities set forth in this MOU, or give rise to a claim for compensation for services performed to further the goals of this MOU, or convey any intellectual property rights for any products relating to the work outlined in this MOU. This MOU, in and of itself, does not exempt any Party from federal, state or local law, rules or policies for procurement contracts, financial assistance, or permit obligations for any activities planned for the GLFMRC. Any obligations and expenditures of funds by any entity will be accomplished in accordance with all applicable law and will be subject to the availability of appropriations and such entity's discretion in making budgetary determination. This MOU does not alter the terms of any procurement contract or financial assistance agreement and any conflict between this MOU and the terms of such instruments will be resolved by applying the terms of the procurement contract or financial assistance agreement.

C. Nothing in this MOU is intended to confer any rights or privileges as to any third parties.

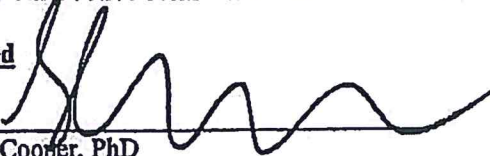
Green Lane Freshwater Mussel Rearing Center
Memorandum of Understanding (MOU)

VI. Duration

A. This MOU may be modified with the mutual written consent of all of the authorized individuals of ANS, PDE, UMJA or Aqua. Once signed by the authorized officials of the above-identified parties, this MOU will begin and remain in effect for five (5 years) from the date of the final signature below.

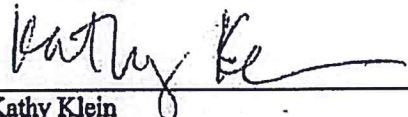
B. Any Party may terminate its participation in this MOU upon sixty (60) days advance written notice to the others. In the case of termination by any party, all parties agree to honor the terms of any other active contracts for collaborative work.

Signed




Scott Cooper, PhD
President and CEO
The Academy of Natural Sciences of Drexel University

6 February 2020
Date



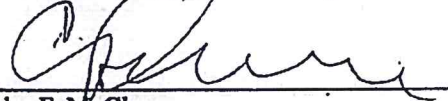
Kathy Klein
Executive Director
Partnership for the Delaware Estuary

2/10/2020
Date



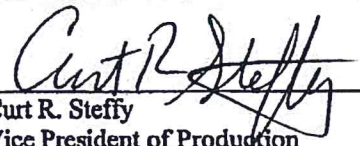
Leon F. Ritchey
Vice Chairman
Upper Montgomery Joint Authority

2/11/2020
Date



Charles F. McCleary
Secretary
Upper Montgomery Joint Authority

2-11-2020
Date



Curt R. Steffy
Vice President of Production
Aqua Pennsylvania, Inc.

2-17-2020
Date