

A RESOLUTION authorizing the Executive Director to enter into an agreement for an analysis of water quality data collected by the University of Delaware on the Cape May – Lewes Ferry for use in refining water quality models of the Delaware Estuary and Bay.

WHEREAS, in accordance with the work plans approved for DRBC's Clean Water Act Section 106 grant administered by Region III of the U.S. Environmental Protection Agency (EPA), DRBC staff continues to work on key elements of the Nutrient Criteria Plan dated May 2013; and

WHEREAS, in accordance with the Nutrient Criteria Plan, DRBC is developing an updated hydrodynamic and eutrophication model for the Delaware Estuary and Bay to assess the impact of nutrients on aquatic life in Water Quality Zones 2 through 5 of the Delaware River Estuary, which would include a 3-dimensional hydrodynamic model; and

WHEREAS, a recently completed joint project of DRBC and the U.S. Army Corps of Engineers (USACE) to compare the USACE's 3-dimensional model of the Delaware Estuary and Bay (CH3D-Z model) with the DRBC's 1-dimensional model (DYNHYD/TOXI5 model), demonstrated that both models were very sensitive to salinity concentrations at the mouth of Delaware Bay and the western end of the Chesapeake and Delaware Canals; and

WHEREAS, a University of Delaware water quality monitoring system installed on the Cape May – Lewis Ferry has collected salinity data across the mouth of Delaware Bay continuously since 2013; and

WHEREAS, because the ferry schedule is not coordinated with the tides or river inflows into the Delaware Estuary and Bay, analyzing the data is a complex task; and

WHEREAS, Dr. Dana Veron of the University of Delaware recently received funds from Delaware Sea Grant to continue and augment the ferry monitoring system and to place the data gathered to date in a database called the Delaware Environmental Observation System (DEOS), which is maintained by the University; and

WHEREAS, Dr. Veron, as principal investigator, has submitted to DRBC a proposal describing the tasks involved in characterizing spatial and temporal trends in salinity, including an evaluation of the relationship between the salinity data collected on ferry crossings, data collected at a fixed monitor at the Brandywine Shoals Station, and salt flux into and out of Delaware Bay under varying tidal elevations and ambient velocity; and

WHEREAS, Dr. Veron is uniquely qualified to complete this proposal due to her familiarity with the ferry monitoring system and her close association with University of Delaware scientists involved in studying the Delaware Estuary and Bay; and

WHEREAS, in accordance with a practice whereby EPA Region III has allocated discretionary funds under Section 106 of the Clean Water Act to projects that will support the tasks in the Nutrient Criteria Plan, including the development of a new eutrophication model, EPA

Region III has allocated \$50,000 of DRBC's 106 grant award for this work, of which \$24,375 may be allocated for this project; now therefore,

BE IT RESOLVED by the Delaware River Basin Commission that:

1. The Executive Director is hereby authorized to enter into an agreement with the University of Delaware for an analysis of water quality data collected by the University of Delaware on the Cape May – Lewes Ferry for use in refining water quality models of the Delaware Estuary and Bay in accordance with the tasks specified in the proposal dated September 24, 2015, submitted by the principal investigator, Dr. Dana Veron.
2. The value of the initial agreement with the University of Delaware shall not exceed a total of \$24,375.00 or the sum of this amount and any additional funds expressly awarded to the Commission or allocated by it for this purpose.
3. In accordance with Section 14.9(5) of the Compact, the competitive bidding provisions of the Compact are hereby waived in view of the specialized and professional nature of the services to be procured.
4. This Resolution shall take effect immediately.

/s/ Kara S. Coats

Kara S. Coats, Chairwoman *pro tem*

/s/ Pamela M. Bush

Pamela M. Bush, Commission Secretary

ADOPTED: December 9, 2015