

2017 Flexible Flow Management Program Salinity Study Statement

In response to the historic drought of the 1960s, the Parties to the 1954 U.S. Supreme Court Decree (Delaware, New Jersey, New York City, New York State, and Pennsylvania; the Parties), *New Jersey v. New York*, 347 U.S. 995 (1954) replaced the water management program established by the Decree with a new reservoir operating plan for the overall management of the Delaware River basin. This program was established through an agreement titled *The Interstate Water Management Recommendations of the Parties to the U. S. Supreme Court Decree of 1954 to the Delaware River Basin Commission Pursuant to Commission Resolution 78-20*, also known as the 1982 Good Faith Agreement or GFA.

The GFA contained 14 recommendations, including adopting a more stringent salinity standard, a conservation release program, and a reservoir management program. In addition, the GFA recommended construction or modification of new and existing storage facilities, the establishment of water conservation measures, and the reduction of consumptive water use. Although the Decree specifically dealt with the New York City Reservoirs and upper-basin flows, the Good Faith Agreement included additional lower-basin flow-management concerns, particularly those related to preserving and managing fresh water inflows into the estuary.

The recommendations were implemented through a series of Delaware River Basin Commission (DRBC) Dockets and modifications to the Delaware River Basin Water Code. Since adoption, the GFA has been periodically modified, including the addition of enhanced conservation releases and the establishment of a program to reduce reservoir spills. The package of GFA recommendations and subsequent modifications represented fundamental changes in how the water resources of the Delaware River were managed from the program established by the Decree.

The central features of the GFA were recommendations for the management of basin resources during normal and drought conditions and the conservation release program. The drought management plan included drought-response stages (rule curves) based upon the combined storage in the Cannonsville, Pepacton and Neversink reservoirs and associated phased reductions in compensating and conservation releases, out-of-basin diversions by New York City and New Jersey, and the flow objective at Montague. These features were accompanied by a linkage between the flow objective at Montague and the location of the salt front. A similar flow objective program was established for the Delaware River at Trenton. In addition, a complementary drought management program was established for times when combined

storage in the New York City reservoirs are normal, but the lower basin is experiencing drought conditions. The basin-wide and lower-basin drought operating plans were incorporated in the Delaware River Basin Water Code. The GFA contained a suite of actions designed to address a repeat of the 1960s drought and modifications to any one feature of the water management program should consider its relationship to the others.

Objective

The management of the flow of the Delaware River has evolved over time to address changing environmental values and management priorities over the last 35 years. The most recent flexible flow management program agreement, 2017 Flexible Flow Management Program Agreement (FFMP2017), includes the requirement to undertake several studies (Section 3.a.i-iii). One of these studies is the evaluation of impacts and conditions resulting from the “detachment of releases from the New York City Delaware Reservoirs from the position of the salt front during drought emergency and replacing the benefit that New York City releases have with respect to the salt front with an alternative methodology or methodologies that will provide comparable protection for existing resources within the Basin” (Section IV.3.a.i, FFMP2017). This study will specifically include:

- an evaluation of the salt front (its location and variability),
- impacts to the aquatic and fishery resources,
- the effect of projections of sea level rise on salinity under various conditions,
- and additional considerations as identified in Section IV.2 of the FFMP2017.

The study is intended to identify and analyze potential alternative reservoir operations that may provide comparable current and future protection for existing resources within the basin according to section IV.2 of the FFMP2017. Alternatives may include, but are not limited to 1) new flow objectives, 2) new storage, 3) reallocation or optimization of current storage, and 4) augmentation releases from the upper and lower basin reservoirs. These alternatives would be analyzed in conjunction with detachment of New York City releases from the position of the salt front during drought emergency. The resulting analyses and conclusions will be used to inform Decree Party negotiations for Phase II of the FFMP2017 agreement.