Draft Finding of No Significant Impact
Cowanesque Lake Water Supply Releases to Cowanesque, Tioga, Chemung, and Susquehanna Rivers, Pennsylvania and New York

The U.S. Army Corps of Engineers (USACE), at the request of the Susquehanna River Basin Commission (SRBC), proposes to modify the water control plan for Cowanesque Lake in Tioga County, PA, to change the trigger for water supply releases from SRBC-owned water supply storage from Cowanesque Lake. USACE makes infrequent water supply releases from the manmade lake to address downstream low flow conditions. USACE operates the 1,050-acre lake as a multi-purpose project to provide flood risk reduction for downstream communities; provide dedicated storage for water supply; manage water quality in receiving rivers; and provide recreational opportunities. USACE manages Cowanesque Lake water levels such that they typically vary by less than a foot through most of the year, except during high flow and low flow events. In the past, the lake level has been drawn down occasionally from 1 to 10 feet for maintenance activities and/or water supply releases. Such infrequent water supply releases are triggered when Q7-10[1] low flow water levels are observed on the Susquehanna River at the Wilkes-Barre and/or Harrisburg, PA, stream flow gages.

USACE has prepared this Environmental Assessment (EA) to compare impacts of four alternative water supply release triggers to a no action alternative that would continue current practices. The proposed alternative plan (WBH95) is founded on a new trigger flow of monthly P95[2] at the Wilkes-Barre and/or Harrisburg, PA stream gages, for low flow releases from SRBC water supply storage at Cowanesque Lake. Of the alternatives evaluated, WBH95 is the plan that best offsets downstream consumptive use and satisfies basinwide low flow management policies, while minimizing effects to the environment and recreational opportunities at Cowanesque Lake. WBH95 would have no effect on Cowanesque Lake's flood risk reduction or water quality management purposes. Modified water supply releases could occur during the months of July through November when low flow events in the Susquehanna River typically occur. The water supply releases would be made through existing gates, and no physical construction would occur. Other USACE water releases from Cowanesque Lake would not be modified from current practices. Alternative plan WBH95 is consistent with both the critical low flow recommendations of The Nature Conservancy (TNC) for mainstem rivers and the passby flow/conservation release values specified as the standard thresholds for low flow protection in large rivers in SRBC's Low Flow Protection Policy. The new low flow triggers would also be consistent with recommendations in SRBC's 2008 Consumptive Use Mitigation Plan.

USACE utilized the results of hydrologic modeling completed by SRBC in 2012 to determine impacts at Cowanesque Lake. USACE had participated in setting model scenarios and evaluating results. Lake levels simulated between 1930-2007 were assumed to represent the range of potential future conditions that would likely occur. In assessing effects to downstream

[1] The Q7-10 flow is the 7-day average low flow expected to occur at a 1-in-10-year frequency and has a 10 percent chance of occurring in any year, on average.

[2] Q95 and P95 represent the flow (be it a monthly average or an annual average) that is exceeded 95% of the time. Q is engineering shorthand for "flow" and P is statistical shorthand for "probability."

receiving rivers, the EA utilized findings of TNC regarding effects of flows on aquatic life. USACE and numerous other resource agency staff and academic scientists participated in developing TNC's low flow recommendations.

Under the current operational plan, the lake has approximately a 36 percent chance each year of being drawn down by more than one foot. There is approximately a 31 percent chance each year that drawdowns greater than one foot would occur during the May through September recreation season. Under the proposed WBH95 alternative, there would be approximately a 44 percent chance each year that drawdowns greater than 1 foot would occur. There would be approximately a 35 percent chance each year that these drawdowns would occur during the recreation season. In comparing the current operational plan with the WBH95 alternative, there is an eight percent increase in chance each year of Cowanesque Lake being drawn down by more than one foot and a four percent increase in chance each year of drawdowns greater than one foot occur during the May through September recreation season.

Consequences of the increased chance of drawdown for alternative WBH95 would produce effects ranging from negligible to minor. No adverse in-lake water quality effects would be produced. During most drawdown events, minor and temporary adverse impacts to lake submerged aquatic vegetation (SAV) would occur, but there would be no difference in long-term impact as SAV would recolonize the following spring. During severe drought events, there may be moderate impacts to SAV because prolonged exposure may reduce SAV bed size and SAV would be expected to take several years to recover. During the increased future drawdown years, there would be minor adverse effects on in-lake wetlands. These drawdowns could favor conversion of emergent wetland vegetation on the landward margin to shrub plant species that can survive in somewhat drier conditions, and disfavor species depending on wetter conditions. During event years, there would be minor adverse effects to fish from loss of established shallow water habitat. No effects to terrestrial vegetation, wildlife, or rare species at the lake would occur. During the additional drawdown events that would occur during the recreation season, there would be reduced opportunities for lake swimming and boating. No physical impacts to recreational facilities would occur.

Water supply releases during low flow conditions would improve habitat for aquatic life downstream in the Cowanesque, Tioga, Chemung, and Susquehanna Rivers during low flow periods. These water supply releases would reduce detrimental impacts from consumptive uses during dry periods to instream habitat, floodplain soil and stream substrate wetness, and water temperature and dissolved oxygen. The proposed water supply releases would benefit a wide range of downstream plant, invertebrate, fish, and wildlife species, particularly drought sensitive aquatic life and aquatic life inhabiting riffle habitats. Two state rare species would likely benefit: brook and green floater mussels. Additionally, the state-rare hellbender could also potentially be present in receiving streams and benefit. Depending on which gage (Wilkes-Barre or Harrisburg) triggers a water supply release, support for ecosystem flow needs in 155 to 274 miles of the Cowanesque, Tioga, Chemung, and Susquehanna Rivers would be produced. While the proposed Cowanesque Lake water supply releases would help downstream flow conditions, they would not maintain flows during a prolonged low flow event but merely offset consumptive uses. It is expected that coordination with resource agencies and environmental organizations undertaken during 30 day public review of this draft will validate these determinations.

It will be incumbent upon SRBC to be vigilant in continuing to implement instream flow protection policies and plans, such as the Low Flow Protection Policy and Consumptive Use Mitigation Plan, to ensure that the revised Cowanesque Lake water supply releases meet their intended purpose over time. The revised water supply release plan, in combination with other instream flow protection requirements and measures, represent an integrated approach to protecting the aquatic ecosystems of the Cowanesque, Tioga, Chemung, and Susquehanna Rivers.

In compliance with the National Environmental Policy Act of 1969, as amended, USACE has prepared this EA to evaluate potential effects on the natural and human environment. Upon reviewing the EA, I find that there will be no significant adverse impacts to the natural or human environment. Because no significant impacts are expected, an Environmental Impact Statement is not required for the proposed action. The proposed action is consistent with USACE's Environmental Operating Principles.

J. Richard Jordan, III
Colonel, Corps of Engineers
District Engineer
Date:_____

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