Exhibit 34

GOMEZ AND SULLIVAN ENGINEERS

Memo

August 14, 2023

From:
Tom Sullivan, Gomez and Sullivan Engineers

Ian Kiraly, Gomez and Sullivan Engineers

Re: Upstream Eel Passage Review

This document summarizes upstream American eel passage counts at the first impediment in major river systems during recent years. Though the data are plotted for each dam together, it is important to note that a direct comparison of the counts at each location is confounded by many factors, including:

- Unknown size of migratory population within any river system – This panmictic species' range extends from southern Greenland and Labrador and extends all the way to eastern Venezuela and the island of Trinidad (Benchetrit and McCleave 2015). Though some information is available on the general life history and dispersal mechanisms of eels (e.g., spawning in the Sargasso Sea, leptocephali drift on oceanic currents, develop into glass eels, and some portion of the population enters freshwater river systems to grow and mature), there is no information available on dispersal mechanisms that could be used to accurately predict the number of eels entering a given watershed during any given year. There are likely to be many factors that influence why some basins could receive higher number of eels relative to other basins and/or among years.
- Watershed characteristics – Each location is within a different watershed, at a different location upstream within the watershed, and within watersheds of differing sizes and underlying hydrology (Table 1). These factors could be substantial drivers of eel movements at a given location (Mack and Cheatwood 2022). It is important to note that, though Conowingo Dam is located close to tidal waters and on the largest river system evaluated, eels must also pass through Chesapeake Bay, which has over 150 major rivers and streams that flow into the bay, plus substantial area in the bay, that eels may take up residence. The Chesapeake Bay is known to support high growth rates of male and female eels and is likely a substantial contributor to the spawning stock of eels (Fenske et al., 2010). Given its location at the upstream end of the Bay, eels that reach the Susquehanna River would have passed through or beyond all of those other potential available habitats available in and along the Bay.
- Historic eel passage – None of the facilities implemented eel passage measures at the same time, and often there were modifications to eel passage measures over time. Modifications to eel passage facilities (e.g., new or additional facilities, shifts in facility location, changes in facility structure/operation) can impact the number of eels passed in a given year.

Given those confounding factors, the information provided here is analyzed for broad patterns and consistencies rather than direct comparison of abundance or indications of eel passage efficiency. The eel count data included in this analysis are provided in Table 2. The dams chosen for evaluation were the first barrier to eels along a river system and contained complete records of upstream eel passage over a similar period of record.

Over the period of record evaluated (2010-2022), eel passage at most of the dams included a major peak year followed by years with consistently lower numbers of eels passed (Figure 1). The highest numbers

passed occurred at Roanoke Rapids Dam (n=819,300) in 2013, followed by Conowingo/Octoraro (n=668,325) in 2021. Benton Falls, despite its position in the watershed on a relatively small tributary, passed peak numbers of eels (n=206,040) in 2012. Beauharnois Dam eel passage peaked at approximately 89,000 eels in 2008. After the year when peak annual passage was recorded, the numbers of eels passed in subsequent years declined at each of those dams and did not increase back to peak levels (Figure 2). The pattern at Holyoke Dam was less pronounced, reaching a peak passage of only 50,319 eels in 2014, and a generally declining but up/down pattern in later years (Figure 2).

The first dams in river systems that present a passage barrier to eels result in high densities of eels downstream of those dams relative to areas upstream (Schmidt et al., 2011; Camhi et al., 2021). This high density of eels has been alleviated by allowing passage to areas further upstream (Schmidt et al., 2011; Watson et al., 2018). Initially high passage rates soon after new or updated eel passage measures, followed by a decline, could be indicative of an initial backlog of upstream migrating eels attempting passage at the barriers annually, that was then relieved by providing passage (Mack and Cheatwood 2022; Schmidt et al., 2011). The sharp declines in passage observed at Roanoke Rapids and Benton Falls could indicate a rapid relief of that backlog by passing a high percentage of eels attempting passage, and the slowly declining passage numbers at Beauharnois and Holyoke could indicate more gradual relief through moderate passage efficiency. More years of passage data would be needed for a complete evaluation of passage patterns at Conowingo Dam given that substantially improved passage measures began operation in 2017 and peak passage occurred recently. If the backlog of eels downstream of Conowingo Dam was relieved during the boom year in 2021, it is possible that annual passage numbers will remain low and cumulative passage over time will begin to stabilize as it has at other facilities (Figure 3). Another reason for increases and decreases in passage abundance includes interannual variability in the population of migrating eels reaching the facilities, or conditions that increase or decrease passage efficiency. The general decline in eel abundance at several locations was noted by Mack and Cheatwood (2022).

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Table 1: Characteristics of Dams Evaluated

Dam	State or Province	River Basin	Drainage Area (mi^2)	Location in Basin	Downstream Tidal and Estuarine Areas	Published Eel Passage Source Data
Conowingo	Maryland, USA	Susquehanna River	27,100	Located on the main stem Susquehanna River less than 4 miles from the head of tide	Tidal Susquehanna River spanning 6 miles from the head of tide to Chesapeake Bay, plus over 180 miles of the 4,479 square mile Chesapeake Bay	USFWS (2023)
Roanoke Rapids	North Carolina, USA	Roanoke River	8,400	Located on the main stem Roanoke River, approximately 77 miles upstream of the head of tide	Tidal Roanoke river spanning 60 miles from the head of tide to the river mouth, plus 76 miles or more of the 450 square mile Albemarle Sound	Dominion (2023)
Holyoke	Massachusetts, USA	Connecticut River	8,309	Located on the main stem Connecticut River, approximately 24 miles upstream of the head of tide	Tidal Connecticut River spanning 58 miles from the head of tide to the 1,300 square mile Long Island Sound	Mack and Cheatwood (2022) HG&E (2023)
Beauharnois	Quebec, Canada	St. Lawrence	>519,000	Located on a side channel of the St. Lawrence River, approximately 193 miles upstream of the head of tide	Tidal St. Lawrence River spanning 367 miles from the head of tide near Quebec City to the Gulf of St. Lawrence	EPRI (2018) – passage numbers estimated based on Figure 2-6 from that document
Benton Falls	Maine, USA	Sebasticook River	862	Located on a tributary to the Kennebec River, approximately 28 miles upstream of the head of tide	Tidal Kennebec River and Merrymeeting Bay, spanning 43 miles from the head of tide to the Gulf of Maine	Benton Falls Associates (2023)

Table 2: Annual Passage Counts of American Eel, 2010-2022

Year	Conowingo and Octoraro*	Holyoke	Roanoke Rapids	Beauharnois	Benton Falls
2010	23,856	4,253	402,629	78,000	11,828
2011	84,961	9,734	322,109	65,000	34,980
2012	135,748	39,423	367,113	35,000	**206,040**
2013	293,141	13,584	**819,300**	22,500	97,481
2014	185,628	**50,319**	35,042	36,000	33,554
2015	65,623	20,038	43,600	16,000	13,263
2016	23,778	38,449	51,386	11,000	5,271
2017	133,647	19,438	54,191	17,000	7,282
2018	72,152	8,562	80,912	-	578
2019	140,351	27,505	38,868	-	3,037
2020	258,248	17,689	60,387	-	1,304
2021	**668,325**	12,495	14,680	-	34,067
2022	146,957	8,254	14,732	-	10,350

**Note: Octoraro eel trapping and passage began in 2015 and are combined with the catch at Conowingo, and Conowingo's eel passage facility was substantially upgraded beginning in 2017. Bold counts indicate the highest peak passage year.*

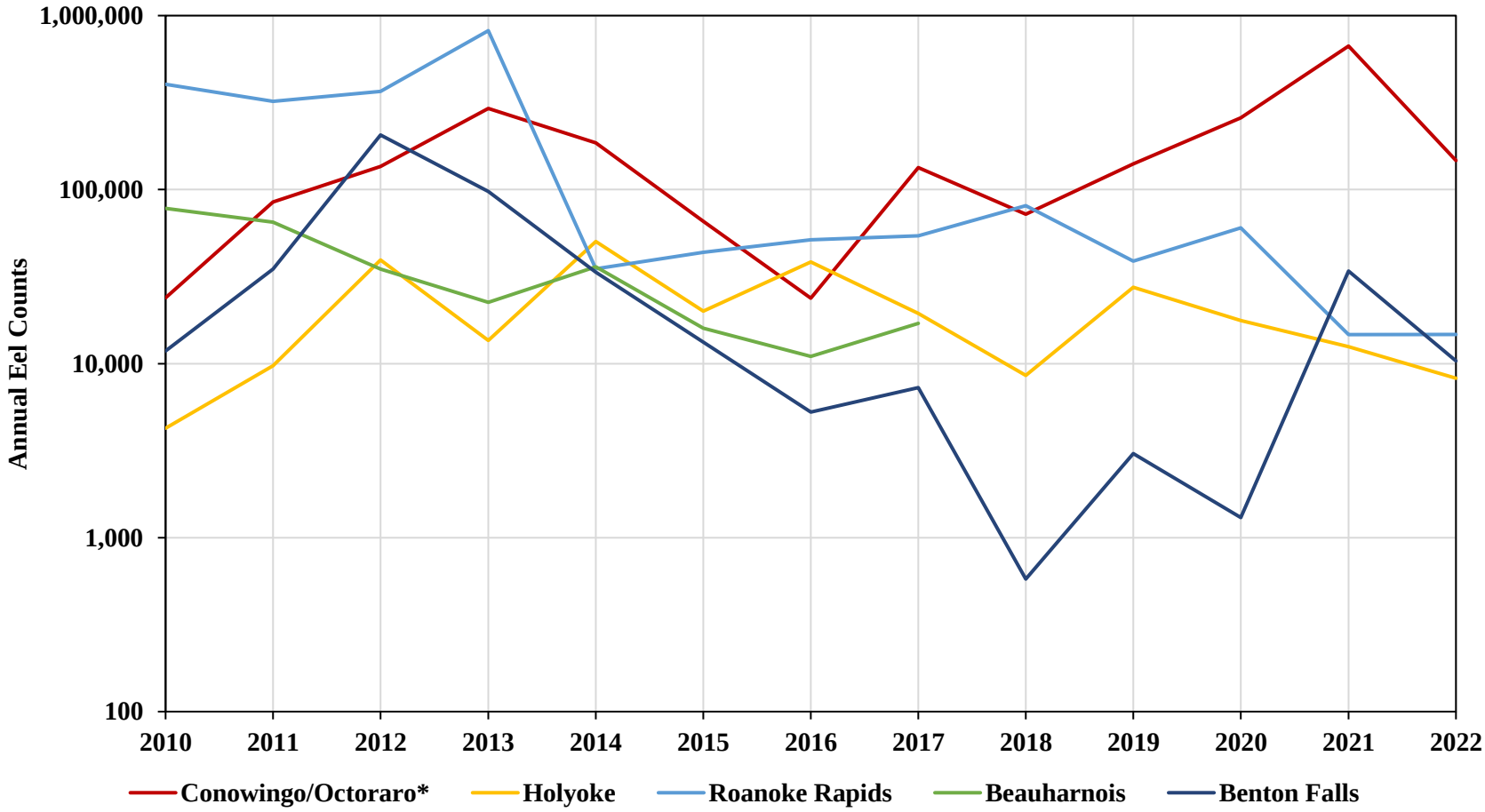

Figure 1: Annual Eel Passage Counts, 2010-2022

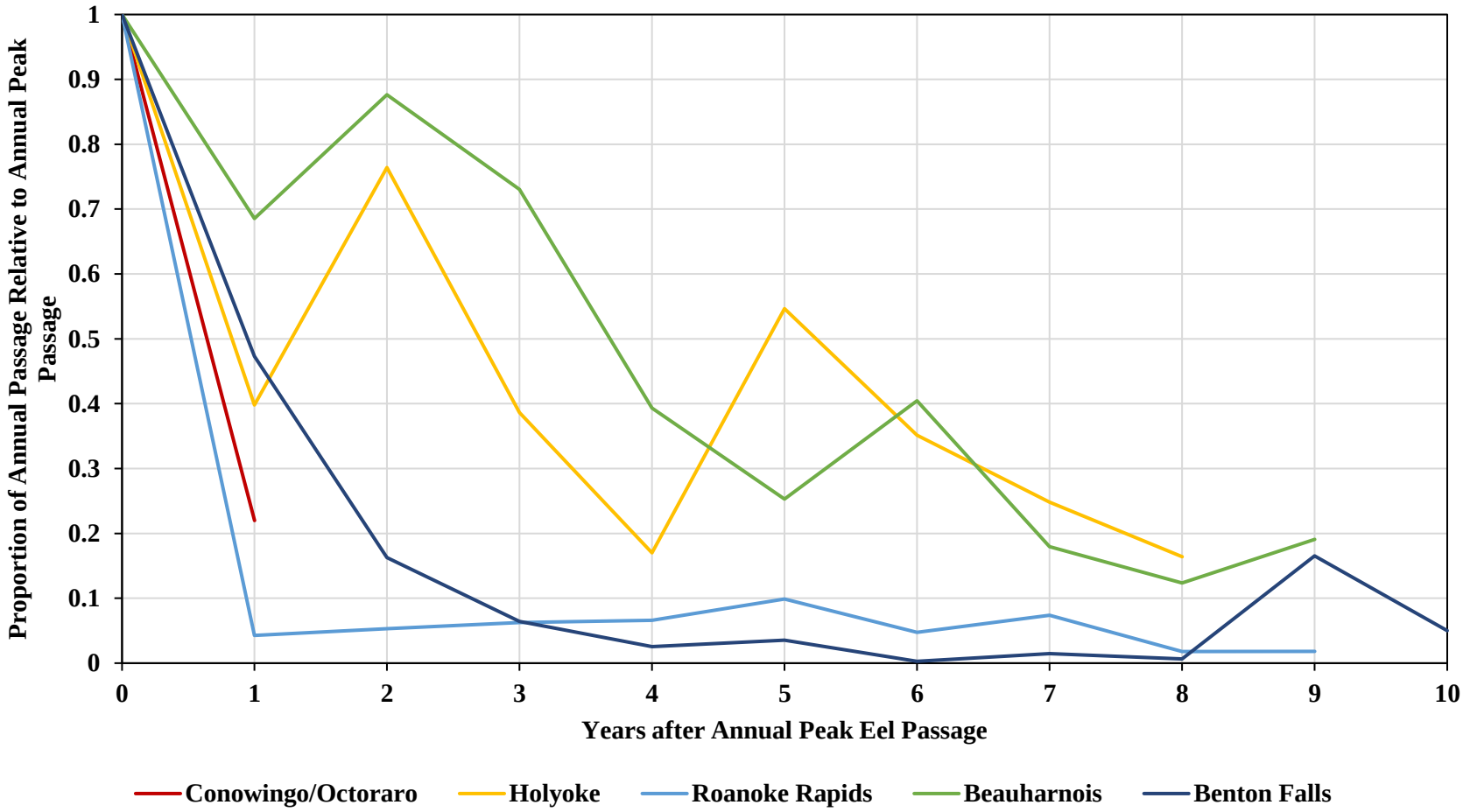

Figure 2: Patterns in Subsequent Annual Passage Relative to the Peak Passage Year

**Note: Eel passage at Beauharnois peaked in 2008, and this plot includes data from 2008-2017 for that facility.*

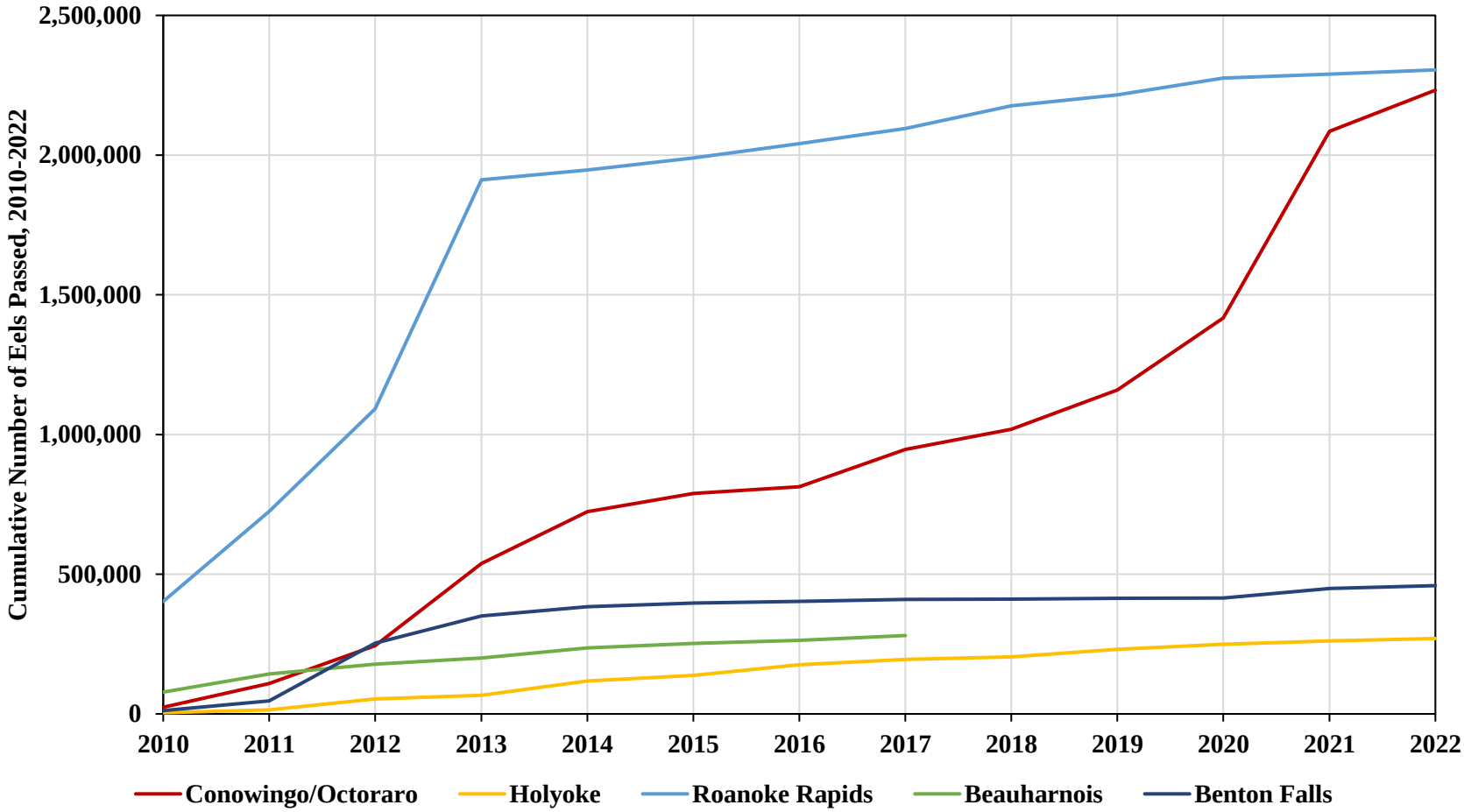

Figure 3: Cumulative Number of Eels Passed, 2010-2022