2020 Holloway Reservoir Walleye Summary

On the night of 24 September 2020, Southern Lake Huron Management Unit staff sampled Holloway Reservoir to estimate relative abundance of age-0 Walleye. The crew used an electrofishing boat to sample eight transects along the shoreline between Mt. Morris Rd. and Holloway Dam. During this effort, all sizes of Walleye are collected however the primary objective of the survey is to determine year-class strength from age-0 Walleye relative abundance. This data helps understand future fluctuations in age-1 and adult Walleye and properly manage the fishery. Anecdotal observations during the survey include a strong year-class of gizzard shad and a good number of adult Walleye on the margins of the current field that were outside of the netting vicinity.

I have provided an updated version of a table developed by Joe Leonardi as well as some figures to present the length distribution of Walleye collected this year and the age-0 Walleye relative abundance since 2011. I was comfortable filling in some of the metrics for total Walleye catch, age-0 Walleye, and harvestable Walleye but I will wait until the age estimates are complete to update the metrics for age-1 Walleye. There were a total of 330 Walleye captured during the electrofishing survey for a total Walleye catch rate of 248 fish/hour (Table 1). This catch rate is like the 2018 survey. The fish from the 2020 survey ranged in size from 4-19 inches with most of the catch being less than 10 inches (Figure 1). It appears the age-0 fish averaged somewhere around 7 inches. Age estimates for these fish are not complete currently but breaks in the length frequency distribution suggest Walleye up to 10 inches are age-0 fish (Figure 2). There were 217 Walleye in this size range which represents a relative abundance estimate for age-0 Walleye of 163 fish/hour (Table 1). Regarding harvestable Walleye (≥ 15 inches), we collected 35 Walleye that were above the 15-inch minimum length limit and they represented about 11% of our overall catch (Table 1).

Previous survey data from the last ten years show Walleye recruitment in Holloway Reservoir goes through fluctuations up and down. This is typical of a natural Walleye population which does not rely on stocking. The relative abundance estimates of age-0 Walleye from 2017-2019 were trending downward but it appears the reservoir is at the beginning of another upward trend like 2012-2014 and 2016-2017 (Figure 2). Future sampling efforts will be needed to determine this and, given that funds remain available for this work, I expect to continue this survey in Holloway Reservoir into the future and monitor walleye year-class strength going forward.

During my first year at this position I have gathered some information from past reports by Joe and it appears the reservoir supports natural reproduction, but anglers struggle with consistently catching Walleye over 15 inches to harvest. The amount of gizzard shad biomass during this survey was unbelievable and although this provides a strong forage base it may make for difficult fishing conditions when trying to convince a Walleye to take an artificial presentation. I am eager to continue working with the Holloway Lake Association and managing this system as a Walleye fishery. I would also be interested in talking with representatives from the community to determine what they currently appreciate about the fishery that is available to them while also hearing about what could make the fishery better overall.

Table 1. Survey metrics including catch-per-effort and mean total length (TL) for total Walleye catch, age-0 Walleye catch, and age-1 Walleye catch. Also, percent of total Walleye catch ≥ 15" which is the legal length for harvest.

	Year									
Metric	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
CPE (#/hour)	119	106	310	1054	262	145	474	259	180	248
CPE (#/mile)	79	70	206	527	139	77	258	144	99	132
All - mean TL (inches)	10.4	12.9	6.6	6.9	9.2	8.5	7.6	8.3	8.5	9.9
Age-0 CPE (#/hour)	97	38	303	876	86	89	456	229	127	163
Age-0 CPE (#/mile)	52	20	161	466	45	47	247	127	70	87
Age-0 mean TL (inches)	9.0	9.2	6.4	6.4	6.7	6.0	7.3	7.25	6.4	
Age-1 CPE (#/hour)	0	16	0	141	98	4	5	5	26	
Age-1 CPE (#/mile)	0	8	0	75	52	2	3	3	14	
Age-1 mean TL (inches)	-	10.6	-	9.8	9.1	9.6	12.7	13.3	9.8	
% total catch ≥ 15 inches	18	34	2	<1	<1	4	1	7	7	11

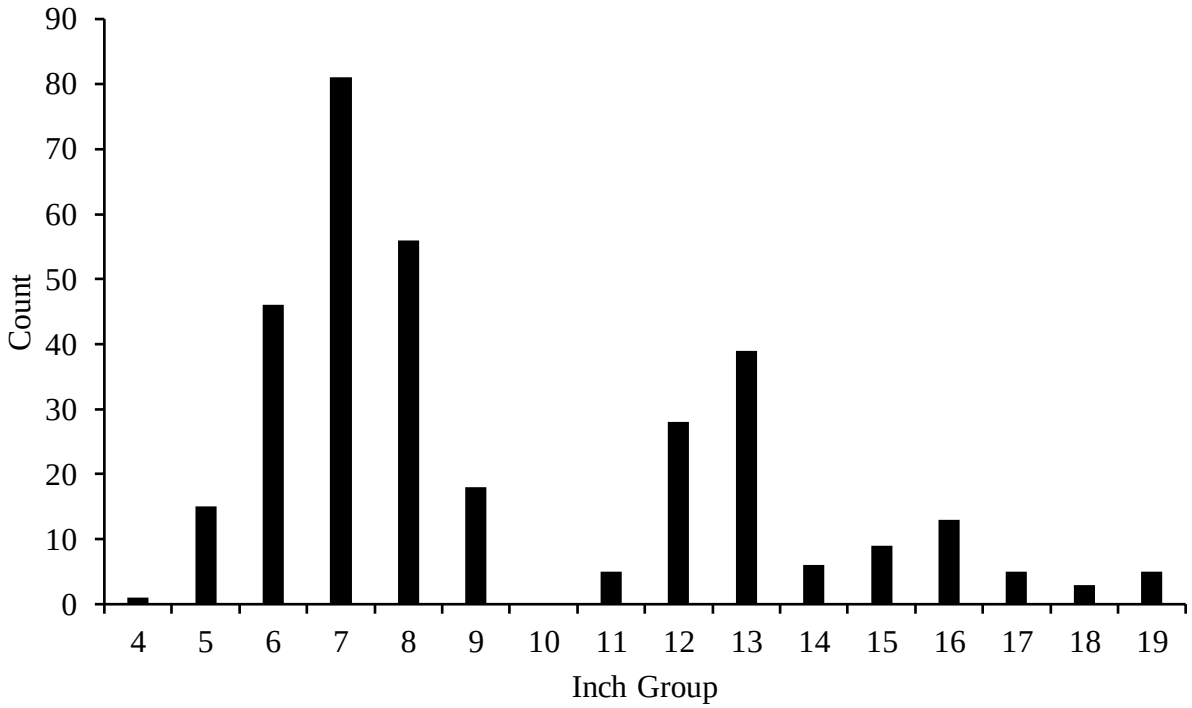

Figure 1. Length frequency distribution for Walleye collected during 24 September 2020 electrofishing survey of Holloway Reservoir.

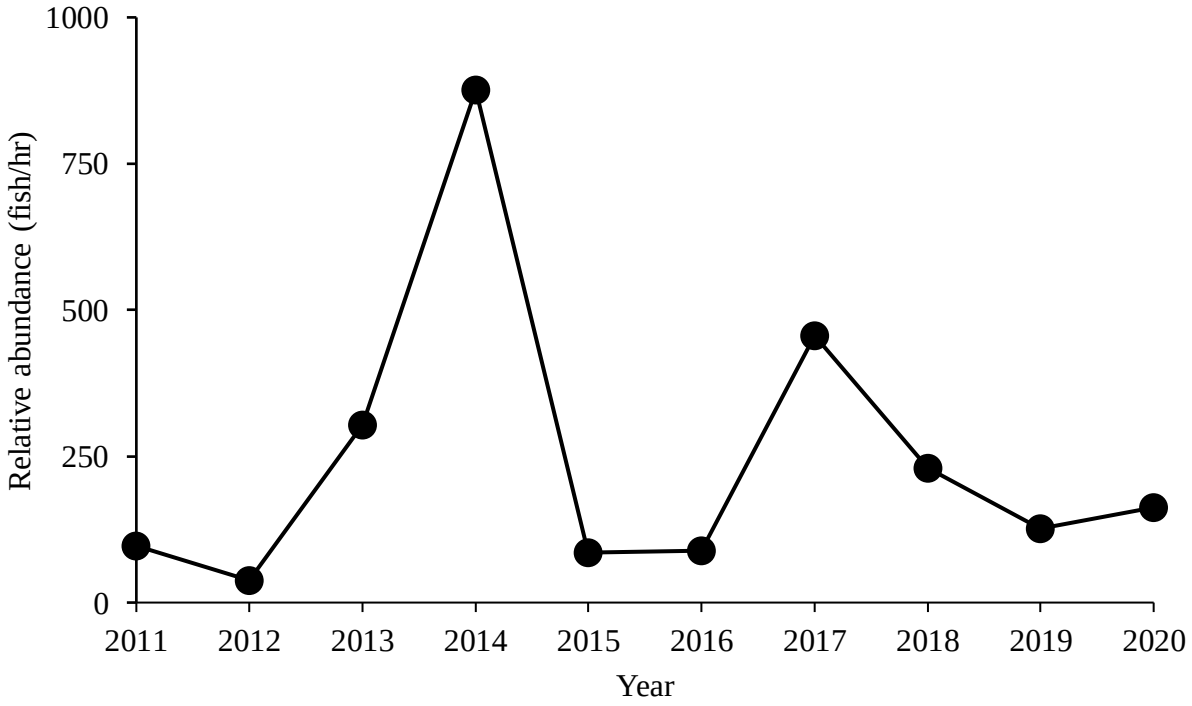

Figure 2. Age-0 Walleye relative abundance estimated from fall electrofishing surveys in Holloway Reservoir during 2011-2020.