

Summary of Activities

Date: November, 2018

To: Ian Kitch
Sustainable Development - Fisheries
Branch
cc. Jonathan Stephens, SVSFE Board

From: Brock Koutecky, Holly Urban, Megan
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Technical Staff
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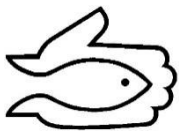
Subject: 2018 East Angling and Burrows Lake Status Update

Location: Upper Dam, Duck Mountain Provincial Forest (14 U 355044 5702255)

Summary: A fisheries inventory assessment was conducted on both Burrows and East Angling Lake between September 17th and 20th, 2018. The objective was to gather information on the status of the perch population in East Angling Lake. Originally, the plan was to catch as many perch as possible to determine population dynamics within a workweek. Methods included gill netting, trap netting, boat electrofishing, and angling. Upon arrival to Burrows Lake on September 17th, water levels had dropped ~1m since July, which made accessing East Angling by boat impossible. After discussion, it was decided to split the crew and gear into two teams. Team one would trap net, gill net, and angle Burrows Lake in search of perch. Team two would do the same on East Angling but would have to access the lake by ATV via Designated Route L.

Background Information: Very little historical information is available on the East Angling/Burrows system aside from information on the dam construction and the Master Angler database. In addition, there have been no documented stockings of sport fish species in this system. Beginning in the 1960's, East Angling Lake began producing Master Angler (MA) submissions for yellow perch. Burrows Lake, on the other hand has produced very little MAs historically. Since 1963, East Angling has produced 368 MA perch, 4 MA walleye, and 6 MA northern pike; whereas Burrows has produced 1 MA perch, and 2 MA walleye. A summary of East Angling Lake perch catch submissions can be viewed on page 3. On East Angling Lake, submission rates skyrocketed around 1987 which lasted until 2003 when the jumbo perch fishery appeared to have crashed. In fact, the most recent registered MA yellow perch in East Angling was in 2003. Angling reports from the 1990s are summarized as "there were trucks everywhere", or "in March, there was an area the size of a football field with people ice fishing". The one statement that has been heard multiple times can be summarized as "in those days, people would walk out of there with 5-gallon pails full of perch". It is a common opinion around the fisheries community that the reason for the crash following 2003 was a result of overexploitation.

There are three common yellow perch parasites (class - Trematoda) or flukes commonly known as black spot, yellow grub, and white grub. These flukes are very common in perch lakes of Manitoba's Parkland. Even though they are harmless to humans, anglers around here generally don't harvest infected perch. East Angling Lake perch are known to be "clean", which cannot be said for many perch fisheries in the Parkland.



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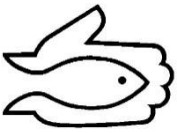
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Bathymetric Sounding and Mapping: Bathymetric sounding of both East Angling and Burrows Lake were conducted from July 16th-19th, 2018. Surveys were conducted using a Garmin EchoMap60s travelling 50 meter transects in both north-south, and east-west orientations. Data points were collected every meter until the lakes were complete. Burrows Lake has a maximum depth of 5.4m, and a total surface area of 426.3ha. East Angling Lake has a maximum depth of 11m, and a total surface area of 149.3ha. Bathymetric maps created from the 2018 sounding data can be viewed on pages 4-6.

Fish Inventory: The fish community was assessed through (1) gill netting, (2) trap netting, and (3) angling. On Burrows Lake, gill netting was conducted with the use of a monofilament index gangs consisting of 150ft (2") and 150ft (2.5") mesh. Two short sets fished for a total of 3hrs yielded 40 northern pike. Two standard ESTN trap nets (both set overnight) for a total effort of 47.96 hours yielded 20 pike and 3 white sucker. While waiting to pull the gill nets, technicians angled which yielded 0 fish.

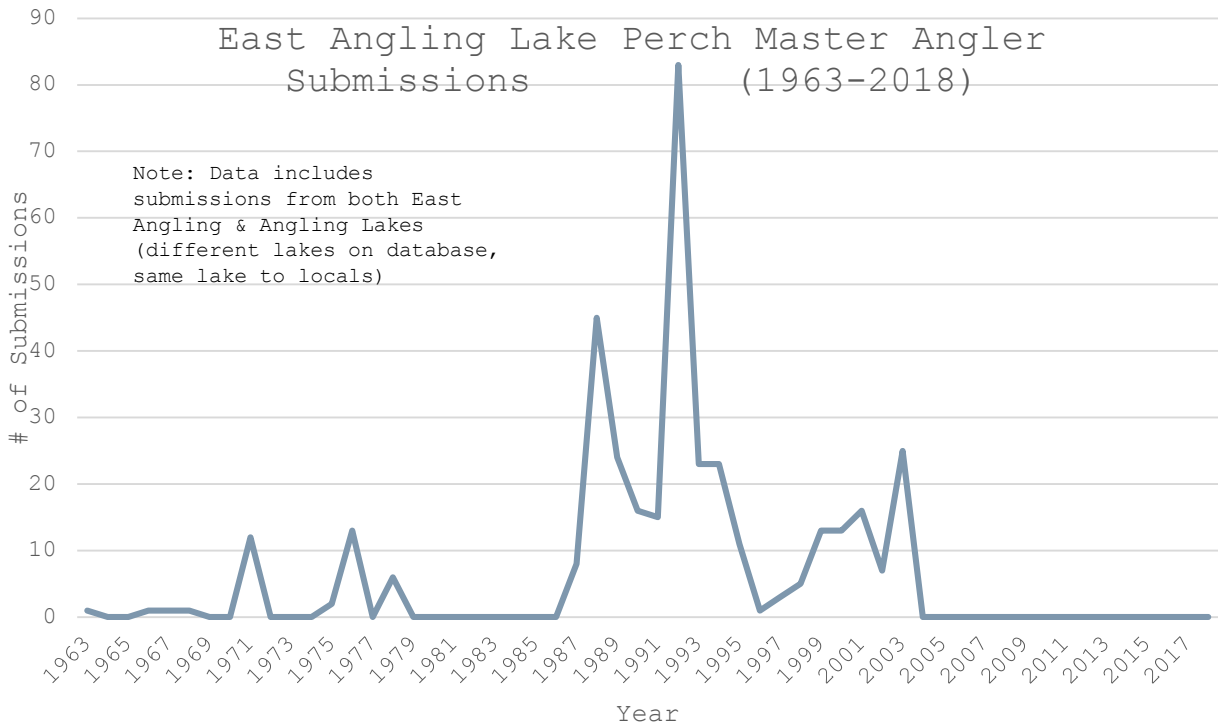
On East Angling Lake gill netting was conducted with the use of a custom monofilament and nylon index net consisting of 15 meters of each mesh; 1", 1.5", 2", 2.5", 3", 3.5" and 4". Four short sets fished for a total of 6.3 hours total yielded 34 northern pike, 5 walleye, 62 white sucker, and 6 yellow perch. Two small mesh custom trap nets (both set overnight) for a total effort of 43.6 hours yielded 7 pike, 3 walleye, 22 white sucker, and 111 perch. While waiting to pull the gill nets, technicians angled which yielded 11 pike and 1 walleye. An effort map can be viewed on page 7, and figures of fish data can be found on pages 8-11.

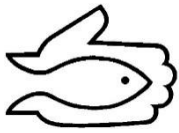
Burrows Lake Catch Summary				
Species	Method	Catch (#)	CPUE (fish/hour)	Percent of Total Catch (%)
Northern Pike	Gill Net	40	13.33	95%
	Trap Net	20	0.41	
	Angling	0	-	
White Sucker	Gill Net	0	-	5%
	Trap Net	3	0.06	
	Angling	0	-	
East Angling Catch Summary				
Species	Method	Catch (#)	CPUE (fish/hour)	Percent of Total Catch (%)
Northern Pike	Gill Net	32	5.07	21%
	Trap Net	7	0.16	
	Angling	11	-	
Walleye	Gill Net	5	0.79	3%
	Trap Net	3	0.06	
	Angling	1	-	
White Sucker	Gill Net	62	9.8	32%
	Trap Net	22	0.5	
	Angling	0	-	
Yellow Perch	Gill Net	6	0.95	44%
	Trap Net	111	2.5	
	Angling	0	-	



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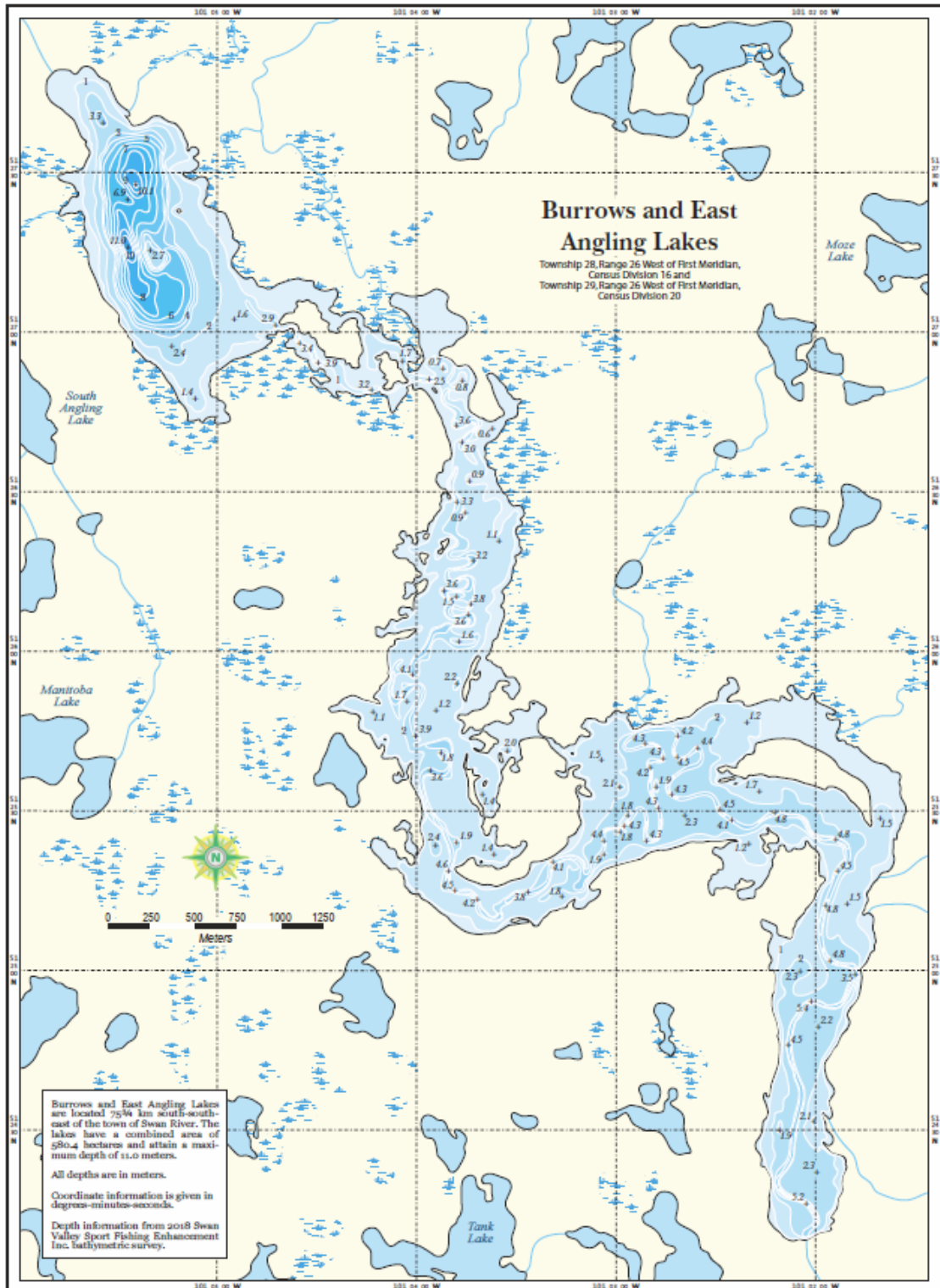
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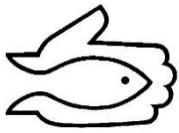




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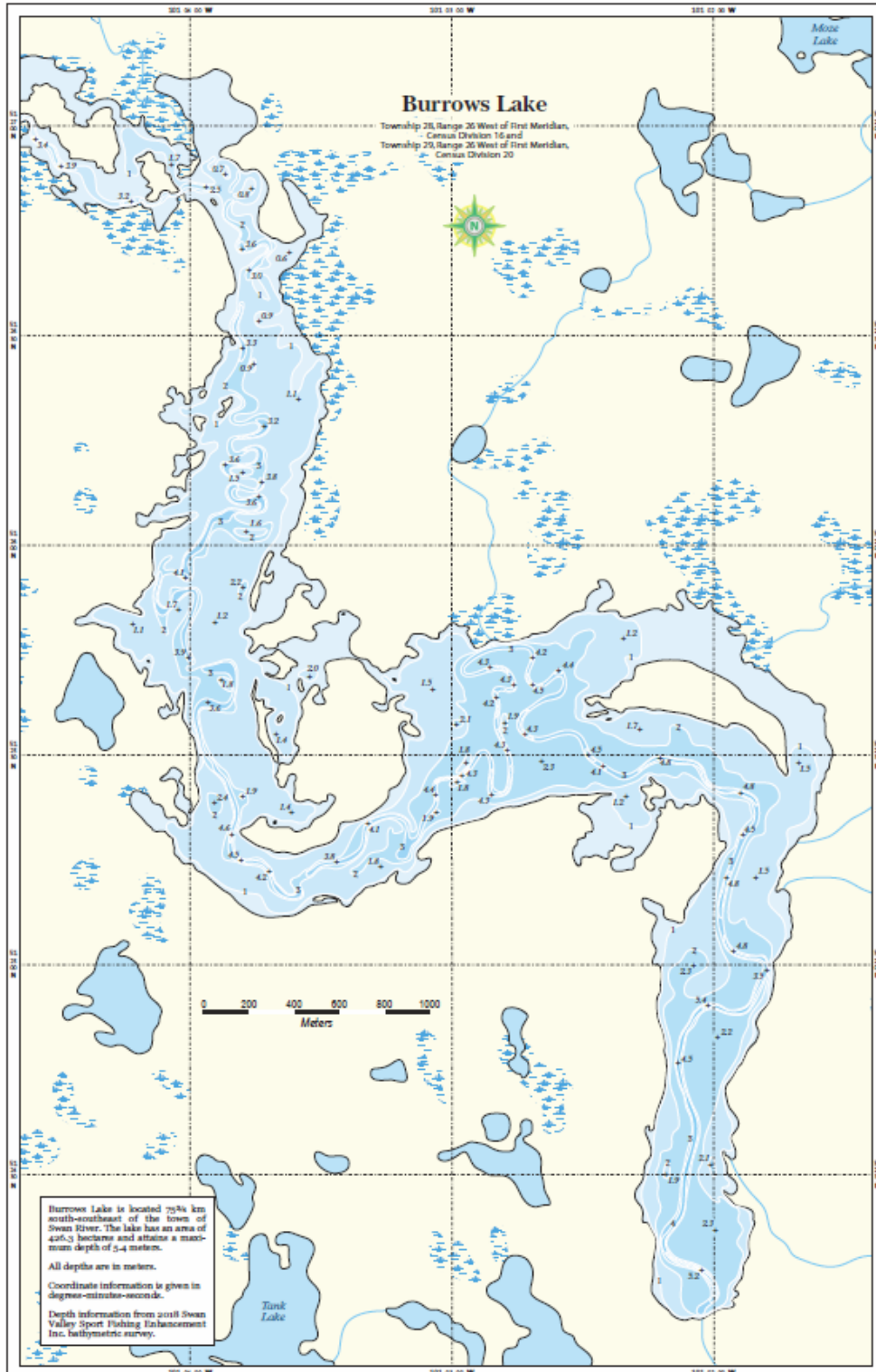
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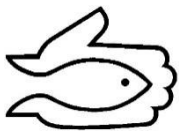




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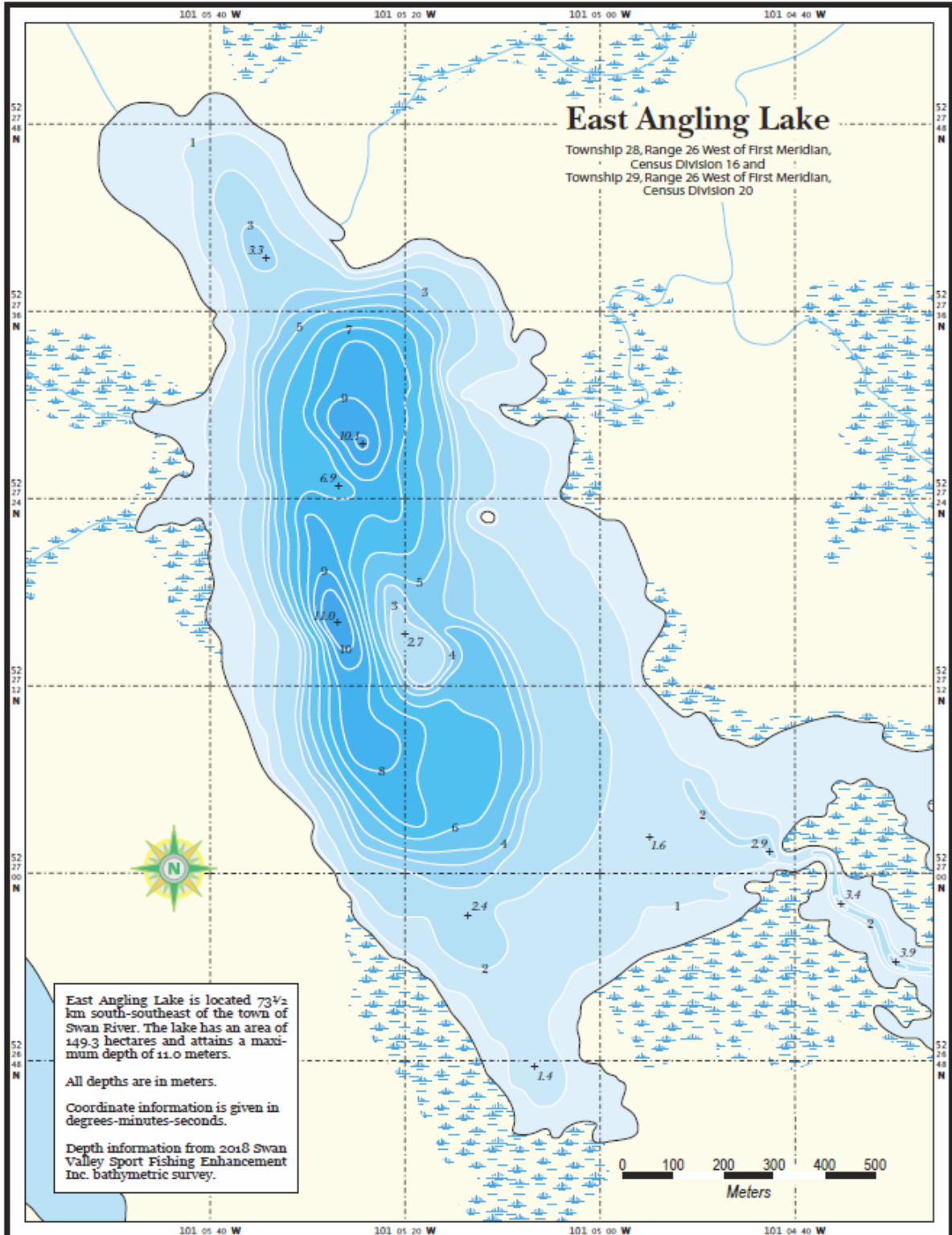
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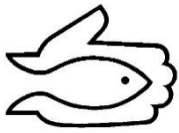




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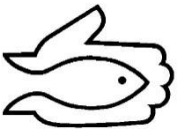


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2018 Burrows and East Angling Effort Map

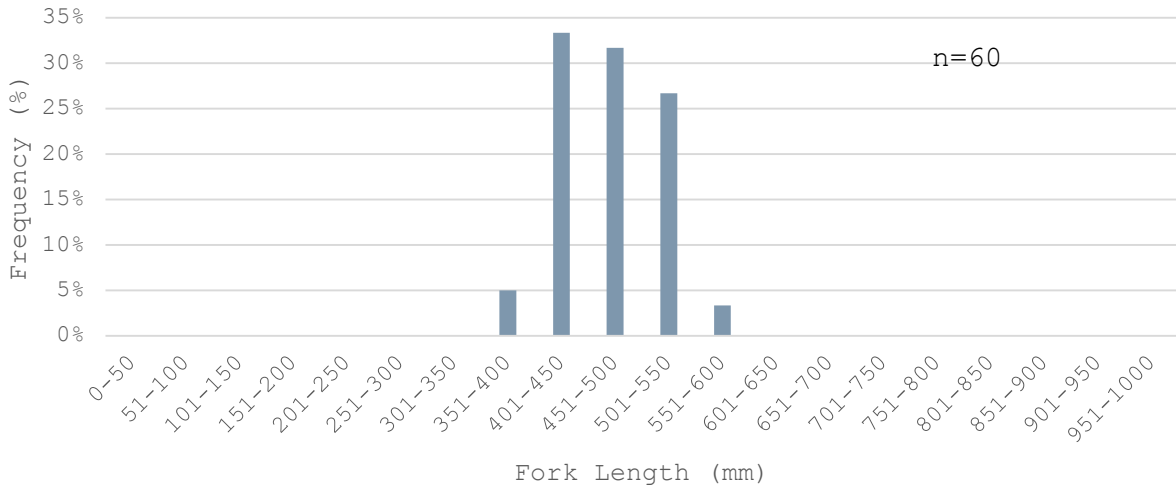




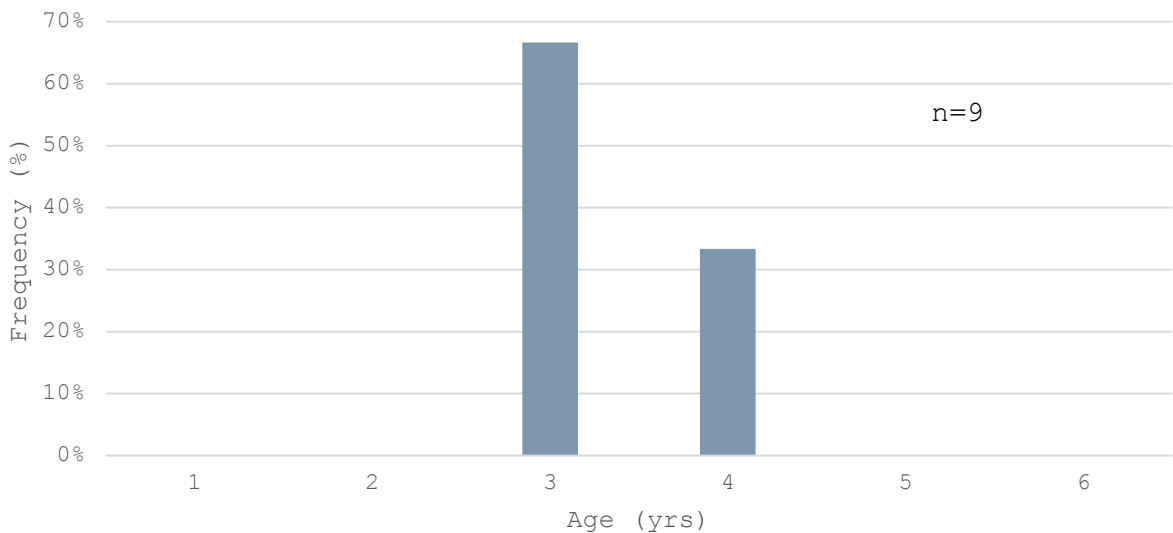
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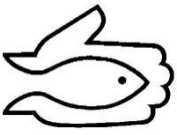
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Burrows Lake Northern Pike Length Frequencies



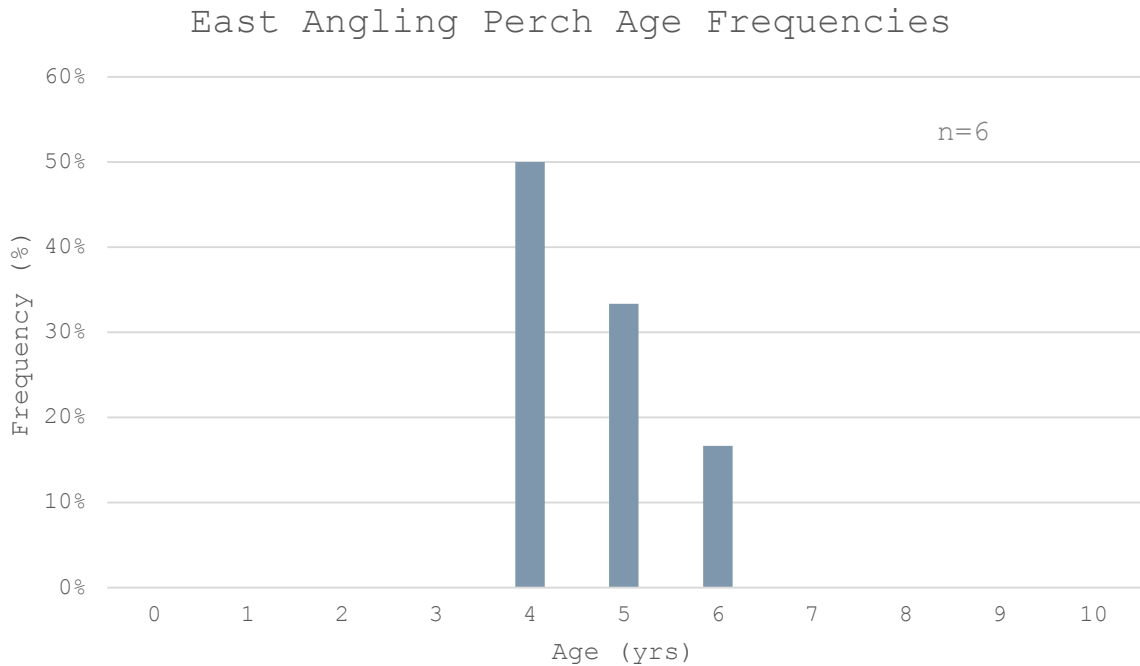
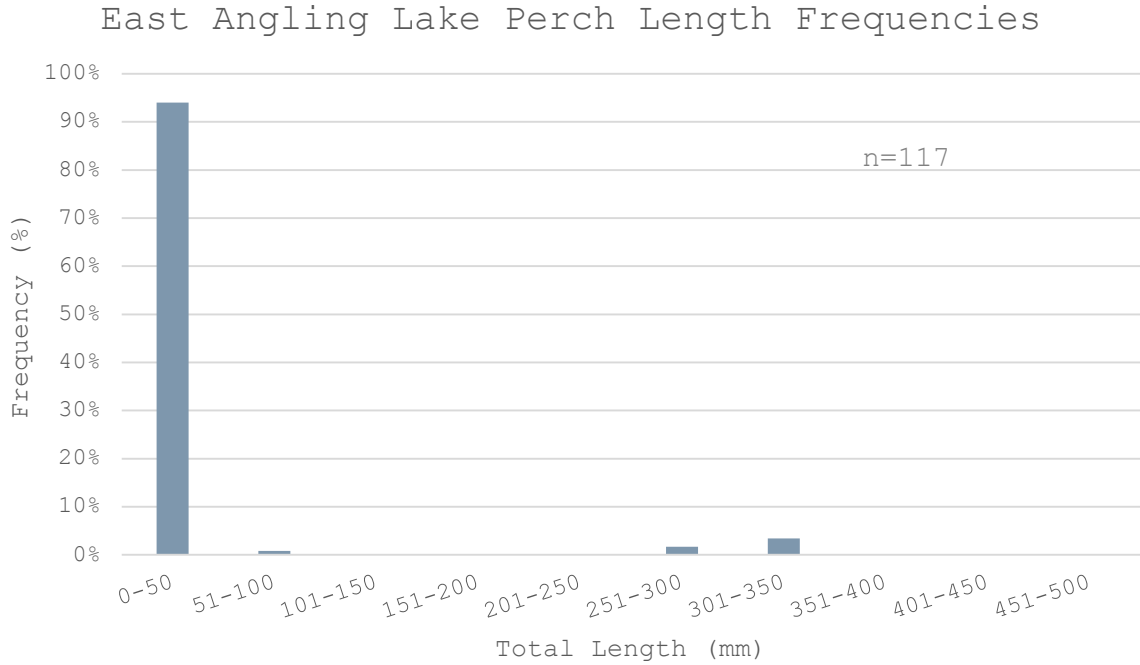
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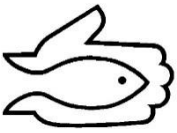




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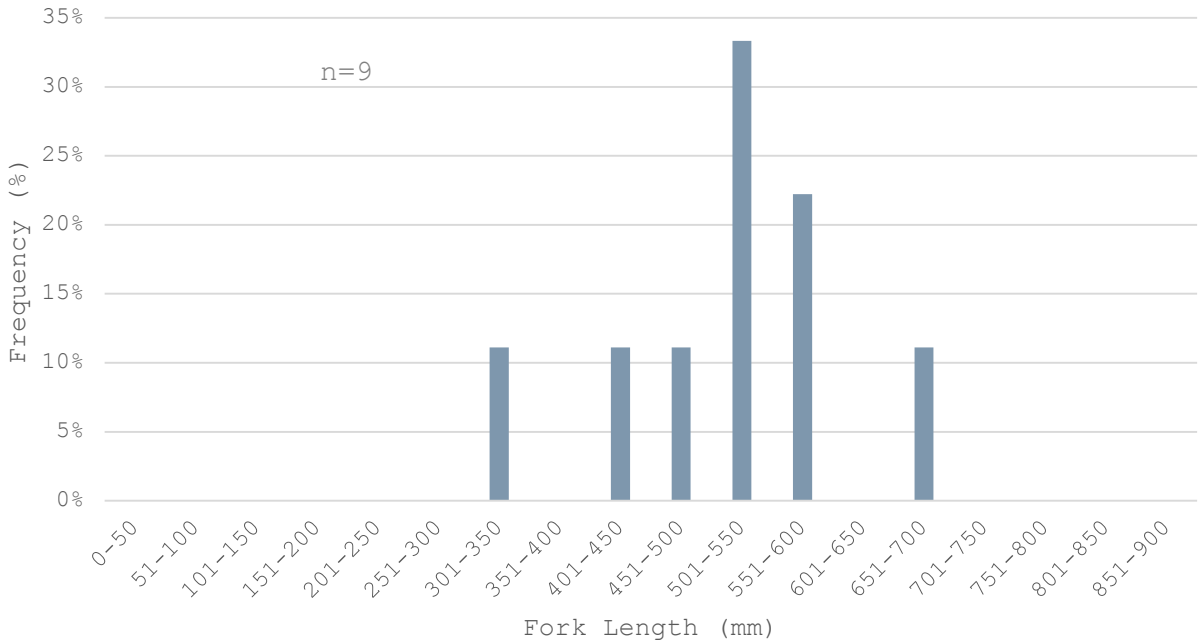




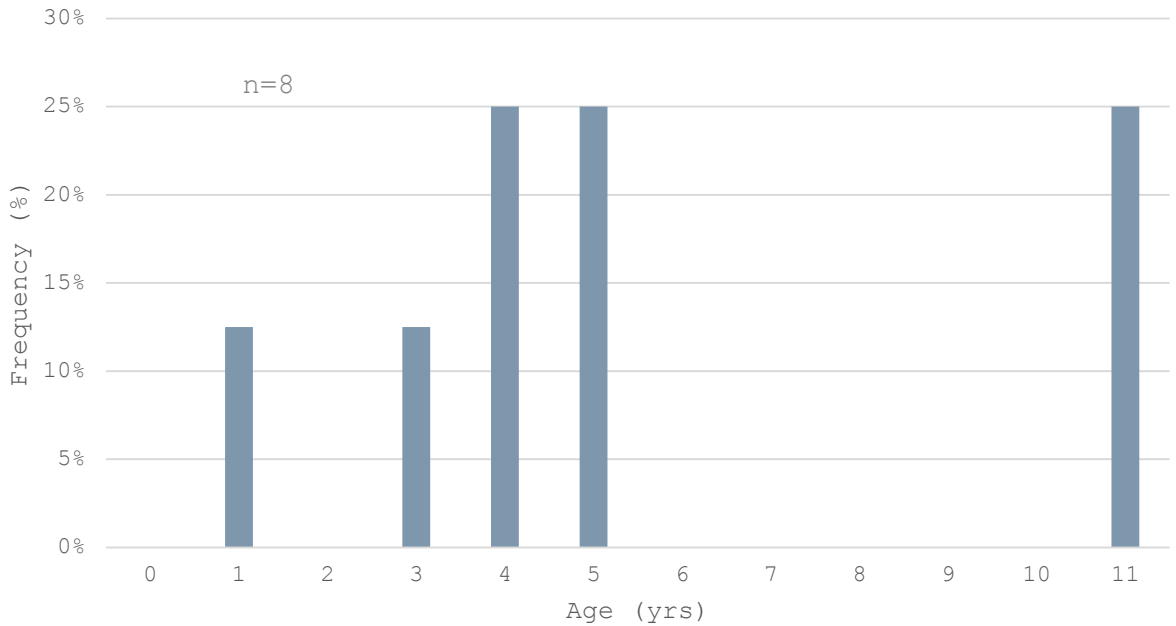
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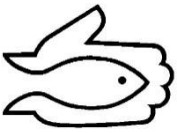
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East Angling Walleye Length Frequencies



East Angling Walleye Age Frequencies

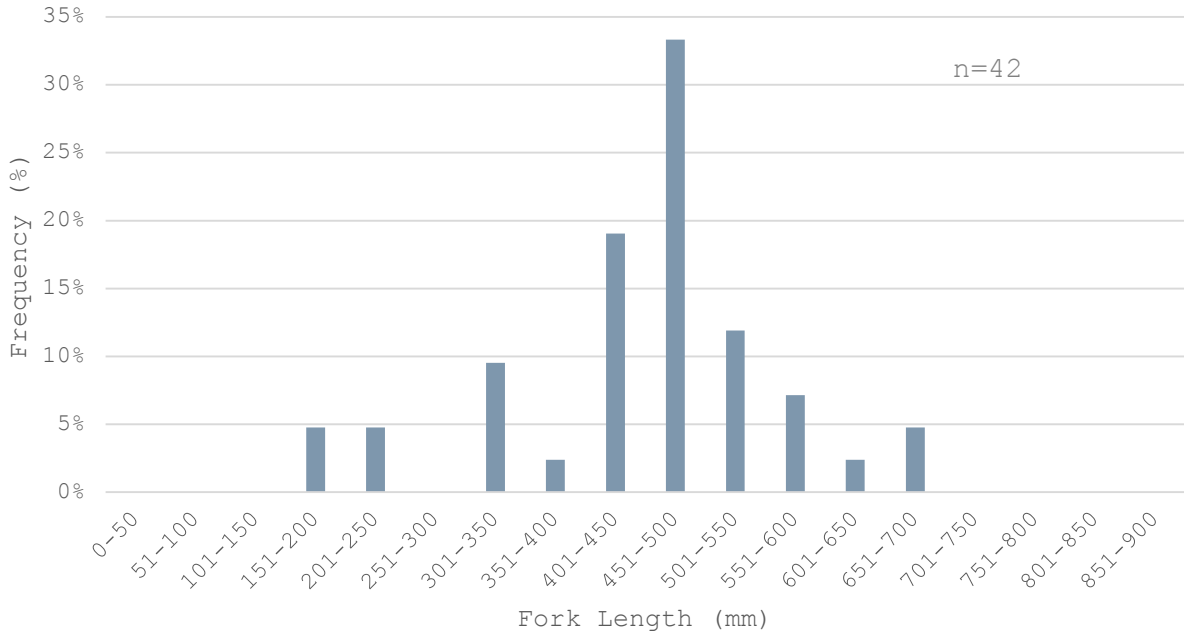




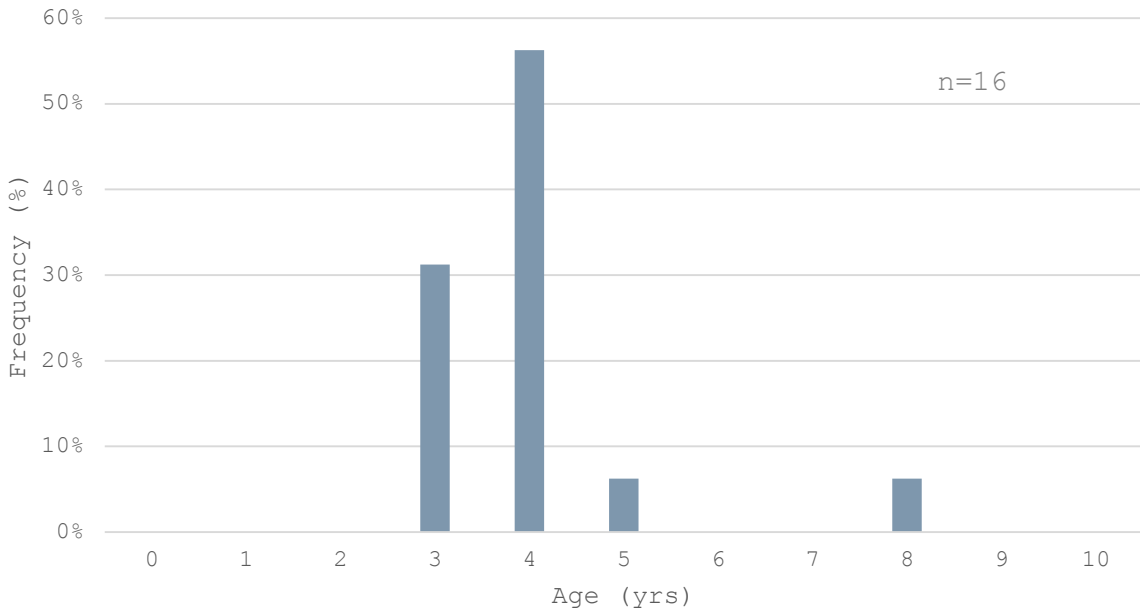
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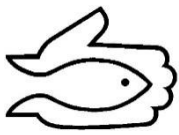
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East Angling Pike Length Frequencies



East Angling Northern Pike Age Frequencies



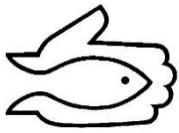


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Sample photos of fish caught at East Angling Lake. Due to negligence, there were no photos taken of catch form Burrows Lake.



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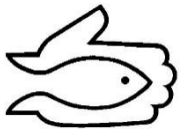
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Discussion: Unfortunately, due to the significant decrease in water levels, the original idea to "throw the kitchen sink" at East Angling and Burrows Lake required some improvising last minute. If the original plan had worked out, it is without a doubt that with double the personnel, double the gear, and the e-fishing boat more quality data could have been collected on the perch populations. Regardless, the survey still provided valuable information on the fisheries that was set out to be gathered.

In terms of Burrows Lake, no perch were captured. Unfortunately, netting efforts were limited to the lower portion of Burrows Lake for unforeseen reasons. Trap and gill netting efforts did gather data on the northern pike population. The population appears to be limited to a young pike (350-600mm), approximately 3-4 years of age. Fish movement is permitted between Burrows and East Angling during the high water months. The degree of movement within the system is unknown at the time. During the time of the survey, the lack of connection and differences in catches may indicate perch seek overwintering habitat in East Angling or that they are resident fish and remain in the lake year round.

With regards to East Angling, netting found targetable sized perch. This was exciting because there was no qualitative data from anglers prior to the assessment. By locating the school of 'jumbos' (n=6), there was now evidence the perch fishery was rebounding to some extent. As the assessment continued for the remainder of the week, only juvenile perch were caught in the fine mesh trap net. The average life span of a yellow perch is around 10 years. The jumbo perch caught (n=6) averaged 303mm (~12") were aged at 4-6 years suggesting high growth rates. This small lake is impressive. Sampling occurred in a short period with limited gear and extensive travel each day, yet perch, pike, and walleye were found at impressive numbers, size, and condition.

In addition, the qualitative information discovered following the assessments was most valuable. Two different conversations provided good insight into the state of the fishery. The first, local whitetail outfitter, Pat Bergson, stated "in recent years perch fishing has been excellent, with fish >13" being caught". The second, was with local tackle shop owner and outfitter Phil Paczkowski. Phil stated "perch fishing has been getting better consistently over the past 6 years or so". He also mentioned he has caught many over 13", with the biggest in recent years being 14". Phil's livelihood is dependent on angling quality in the Roblin area, so when asked why he hasn't been promoting or guiding here, he simply said because access is not what it used to be. He also stated that the abundance of "blood worms" or non-biting chironomid larvae are extremely abundant in this fishery. Chironomid larvae are an important food source for all life stages of yellow perch. This is likely a contributing factor, in addition to a number of other ecological factors, as to why this lake produces perch at such impressive sizes.



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There is undeniably a demand for jumbo perch fisheries in the Province of Manitoba at the current time. This reference is not towards the "catch and feast" type anglers, but the "catch and release" type angler. Those that participate in the Manitoba Master Angler Program travel impressive distances and spend thousands of dollars chasing the next big bite.

When the word of a jumbo perch fishery gets out, anglers tend to flock to these destinations. For example, Oak Lake, the presence of jumbos produced high pressure and spikes in MA submissions (1976-1977, 1986-1989, 1999-2002, and 2012-Current). This can be said for East Angling Lake (1987-2003), Shoal Lake (2012-2015) amongst many others. The cyclic nature of any wild population is complicated, incorporates a variety of different factors, and not necessarily understood in most cases. It seems as jumbo perch fisheries in the Province always become very popular before they crash, therefore exploitation and fishing pressure are likely contributing factors to this phenomena. Currently, no examples of managerial bodies using angling regulations to protect and sustain a trophy perch fishery has been located. In Pennsylvania, analysis indicated that restricting the harvest to a maximum size of 11 inches afforded good protection of the spawning stock from overfishing. It is suspected, a reduced limit and a maximum size restriction could sustain a trophy fishery long term but more research would have to be completed.

With the qualitative and quantitative information gathered in 2018, it is evident that the trophy perch fishery at East Angling Lake is on the rebound. The extent of which, is not completely know. How things progress from here will be very interesting. It is predicted that once a few master anglers are submitted and a few pictures are posted online, that the lake will start attracting the fishing community. Access has changed tremendously since 2003 as well, which is assumed to limit pressure compared to the past.

Acknowledgments:

The updated report could not be possible without our committed partners and supporters. Thank you to the Fish & Wildlife Enhancement Fund for financial support to this and many other initiatives. Big shout out to Don Stokotelny with Intermountain Sport Fishing for assisting with the project and providing accommodations for the crew. Lastly, great thanks to the individuals who provided information on the fishery and assisted in executing the project when hurdles where faced.

