



Eastern Georgian Bay Stewardship Council

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2007 Community Fisheries Involvement Project Report

Moon River of Eastern Georgian Bay Walleye Culture and Index Netting Program

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A / Eastern Georgian Bay Stewardship Coordinator

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Volunteer, Bill McRobb with lunker female walleye

1.1 Introduction:

In 2007, the Eastern Georgian Bay Stewardship Council (EGBSC) in partnership with the Moon River Walleye Association and the Upper Great Lakes Management Unit – Lake Huron Office of the Ministry of Natural Resources (MNR), conducted a walleye culture and walleye (spawners) index-netting survey on the Moon River of eastern Georgian Bay.

This represented the second consecutive year of this partnership that is intended to:

- Conduct walleye culture of native Moon River walleye stock for the purpose of rehabilitative plantings,
- Assess the health and status of the walleye spawning stock, and
- Monitor the progress of the walleye spawning run to ascertain the impacts of natural or man-induced factors with respect to walleye spawning success.

2.0 Methods:

2.1 Index walleye spawners survey

Trap-netting operations commenced April 21 and terminated May 4 after walleye catch numbers had decreased significantly. Water temperature was 8 deg. C at commencement and 11 deg. C at termination of field operations.

Two six-foot trap nets (NSCIN standard) were set at index netting locations #1 (south shore) and #3 (north shore) as identified by the Upper Great Lakes Management Unit – Lake Huron office (see Figure 1).

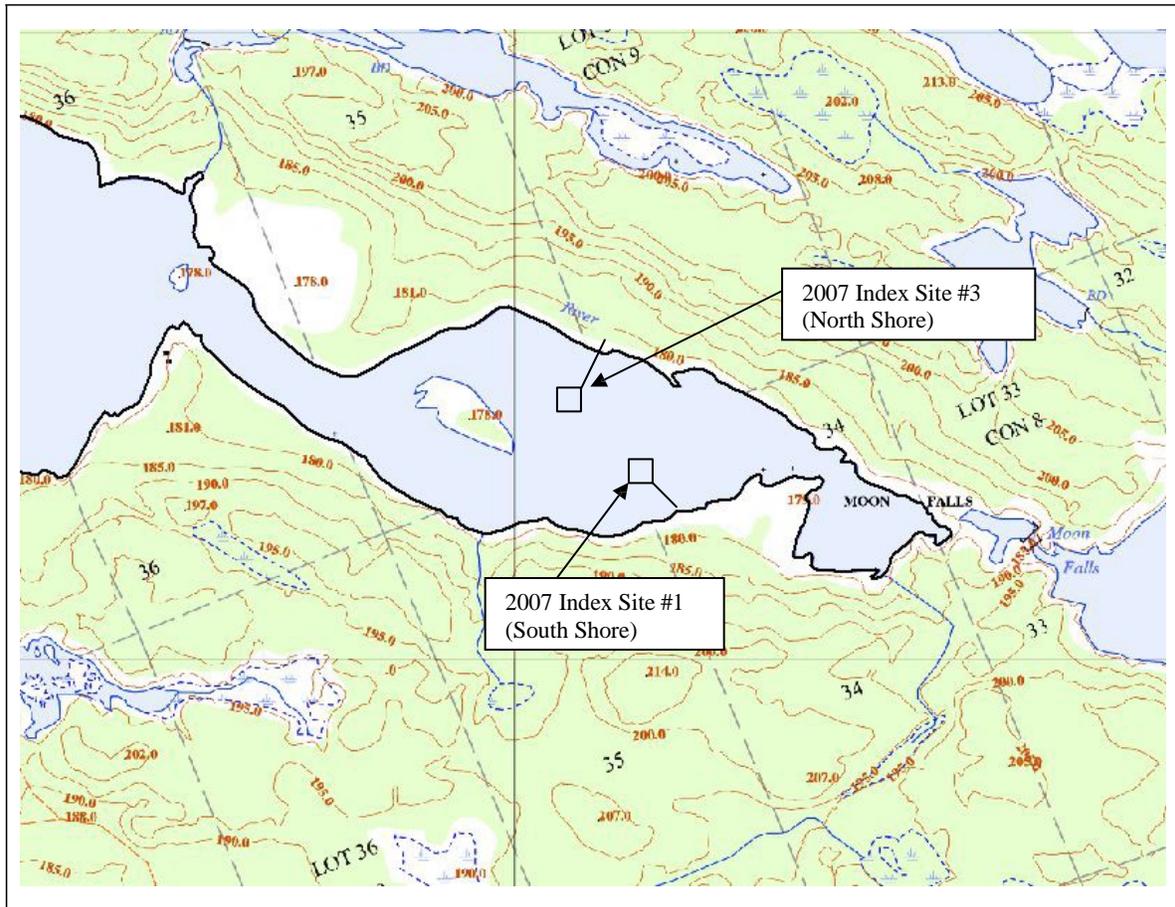
Nets were lifted daily with 100% catch enumerations (Table 1).

Biosampling (total and fork length, round weight, sex and gonad condition, presence of tags and tag number, check dorsal fin for previous removal of spine, scale sample collection, presence of disease) was conducted on a representative sample (303 of 444) of walleye captured (Appendix A, B and C). Size sampling only (total and fork lengths, weight and sex and gonad condition if evident) was conducted for a representative sample of other species captured (Appendix D).

2.2 Walleye culture & rehabilitative plantings

Walleye eggs were collected and cultured in accordance with procedures specified in the Ministry's Walleye Culture Manual (Richard, 1986). Eggs were incubated at the 'Moon River Walleye Association hatchery' located at Moon River Cottages on Arnold's Bay. Almost all walleye were stocked as emergent fry. A small number were raised to the summer fingerling stage at the pond located at Moon River Cottages and subsequently stocked in Arnold's Bay.

Figure 1. Trap-net set locations (Index netting sites #1 and 3) for the 2007 Walleye (Spawners) Index-netting Survey at the Moon River of eastern Georgian Bay.



3.0 Results

3.1 Walleye Spawning Population Monitoring:

3.1.1 Catch Data:

Our catch data is stratified according to netting site (Table 1).

In 12 netting nights of fishing effort, index netting site #1 (south shore) caught a total of 122 walleye, 3 pike, 3 brown bullhead, 4 smallmouth bass, 2 common white sucker, 1 muskellunge, 1 lake whitefish, 1 bowfin, 1 largemouth bass and 1 lake sturgeon (Table 1)

Also in 12 netting nights of fishing effort, Index netting site #3 (north shore) caught a total of 322 walleye, 63 brown bullhead, 13 northern pike, 3 smallmouth bass, 2 common white sucker and 1 rock bass (Table 1).

Table 1. Catch summary from two six-trapnets at index site #1 (south shore) and index site #3 (north shore) during the Moon River walleye spawning run, 2007.

Date Set	Date Lifted	Water Temp. (deg. C)	Location 1 - South Shore					Location 3 - North Shore				
			Walleye	N.Pike	Br. Blhd.	S.M. Bass	Other	Walleye	N.Pike	Br. Blhd.	S.M. Bass	Other
Ap.21	Ap.22	8.0	6	2	0	0		22	1	2	0	
Ap.22	Ap.23	9.0	14	0	0	0		14	0	2	0	2 sucker
Ap.23	Ap.24	8.0	8	0	0	1		32	5	3	0	
Ap.24	Ap.25	9.0	19	0	0	0	1 sucker	52	2	1	0	
Ap.25	Ap.26	9.0	19	0	0	0	1 muskie	0*	1	2	0	1 r.bass
Ap.26	Ap.27	9.0	11	0	1	0		92	0	2	0	
Ap.27	Ap.28	8.0	1	0	0	0		12	0	6	0	
Ap.28	Ap.29	8.0	8	0	0	0	1 whtfs.	13	1	0	0	
Ap.29	Ap.30	9.0	5	1	0	1	1 bowfin	55	1	2	2	
Ap.30	01-May	9.0	14	0	1	1		catch data excluded				
1- May	02-May	9.0	11	0	0	0		9	2	6	1	
2- May	03-May	10.0	6	0	1	1	1 LMBass 1 sturng. 1 sucker	11	0	17	0	
3- May	04-May	11.0						10	0	20	0	
CPUE (no. / net set)			10.167	0.250	0.250	0.333		29.273	1.083	5.250	0.250	
Standard Error			1.609	0.179	0.131	0.142		8.026	0.417	1.867	0.179	
Standard Deviation			5.573	0.622	0.452	0.492		26.620	1.443	6.468	0.622	
Confidence Level(95.0%)			3.541	0.395	0.287	0.313		17.883	0.917	4.110	0.395	
Total			122	3	3	4		322	13	63	3	
Sample Size (# net nights)			12	12	12	12		11	12	12	12	

* indicates catch data not used in CUE calculation

Walleye catch-per-unit-effort (CPUE) was 10.2 ± 3.5 ($p < 0.05$) walleye per net-night at index site #1 (south shore) (Table 1). At index site #3 (north shore), it was 29.3 ± 17.9 ($p < 0.05$) walleye per net-night (Table 2).

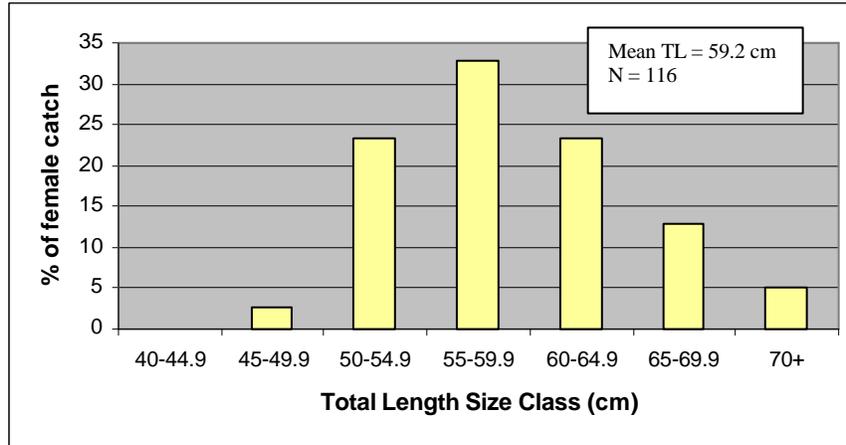
3.2. Walleye Spawning Population Size Class Analysis:

3.2.1 Females:

Mean total length of female walleye sampled at index site #1 was 59.1 cm (N=54) and 58.9 cm (N=62) at index site #3. Because of the similarity between sites, female biosampling data from both sites was combined (Appendix A) with an over-all mean total length of 59.2 cm (N=116) for females.

A third (32.8%) of the females we sampled fell into the 55 – 59.9 cm size class (Figure 2). Twenty-three percent (23.3%) fell into the size classes on either side of this.

Figure 2. Size class distribution of female walleye sampled during the 2007 Moon River Index Walleye Spawners survey.

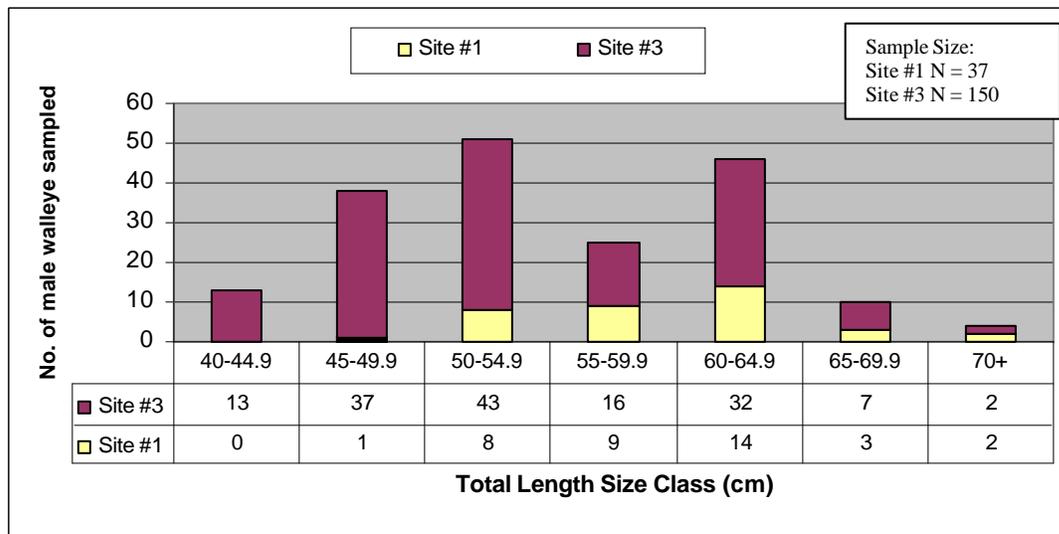


3.2.2 Males:

Male walleye at index site #1 (south shore) had a mean of 59.6 cm (N=37) in total length. At index site #3 (north shore) the mean was considerably smaller at 53.9 cm (N=150) (see Figure 3).

The predominance of small size male walleye in our catch, especially at index site #3, is a positive indicator of recent successful reproduction and recruitment to the Moon River walleye spawning population.

Figure 3. Total length size class distribution of walleye sampled from index sites #1 and #3 at the Moon River, spring 2007.



3.3 Tags and recapture:

During the 2005 walleye (spawners) index-netting survey conducted by the Upper Great Lakes Management Unit, spaghetti tags were affixed to all walleye sampled during the survey. Tagged fish also had their 4th dorsal spine removed to ascertain the long-term tag loss rate.

In our survey we observed/sampled 116 female walleye. Twelve had spaghetti tags applied in 2005 still affixed. Seven had the 4th dorsal spine missing but no tag, indicating the loss of the tag previously affixed in 2005 (Appendix 1). One fish had its 1st dorsal spine missing and we are unsure if this represents a previously tagged fish or not.

Of 187 male walleye sampled (Appendix 2 & 3), 39 had tags, 8 had dorsal spines missing indicating having been previously tagged, and 2 had the 1st dorsal spine cut or missing, and again we are unsure if this represents a previously tagged fish or not.

Over-all (both sexes combined), 16.8% (51 of 303) of walleye sampled had spaghetti tags affixed. Fifteen fish had dorsal spine removals that indicated they were previously tagged. **Consequently, 21.8% (66 of 303) of all walleye sampled were recaptures from the 2005 indexing survey in which tags were applied.** In the 2006 index survey (McIntyre, 2006), 34.1% of 170 walleye sampled had tags affixed.

Four fish were sampled that puncture marks in the soft tissue of their jaws which indicated they had been previously sampled in this survey.

3.4 Lymphocystis: *(Lymphocystis is a common viral disease on spawning walleye and appears as a tumour-like protuberance on the body.)*

Six of 116 female walleye and 28 of 187 male walleye sampled had tumor-like protuberances indicating lymphocystis infection. Over-all, 11.2% of walleye exhibited lymphocystis symptoms.

3.5 Moon River Flow Regime and Factors Influencing Spawning Success:

Netting operations commenced on April 21 under flow conditions that we deemed were excellent for walleye reproduction (Photos 1 & 2). Walleye spawning habitat was well covered and flow velocities were optimal to oxygenate incubating eggs but not dislodge them.

Photo 1 – Flow through first constriction below Moon River Falls – April 2007.



Photo 2 – Approx. 14 cms cascading over Moon Falls – April 2007.



Subsequently we were advised the flow rate was approximately 14 cms, which is specified as the minimum guaranteed flow to the Moon River in accordance with the Muskoka River Water Management Plan (OMNR, 2006). This flow was maintained until the end of the walleye egg incubation period (May 31) (Steve Taylor, pers. comm.).

On several occasions the shoreline on both sides of the river were carefully inspected. The loss of walleye eggs from being left 'high and dry' was negligible.

Although many factors contribute to walleye year class strength, we consider the flow regime to have been optimal for successful walleye reproduction in 2007.

3.6 Egg Collection, Incubation and Stocking Results:

Approximately 2.5 million eggs were collected of which 56% or 1.4 million were estimated to have successfully hatched. All fry were deposited in the Arnold's Bay and Moon River Bay areas (see Table 2).

Approximately 75,000 fry were deposited in the rearing pond at Moon River Cottages. These were raised to the summer fingerling stage and on or about June 27th, approximately 612 walleye were planted in Arnold's Bay.

Table 2. Walleye egg collection and fry stocking summary, Moon River 2007.

Jar #	Date Collected	Date Hatched	No. Collected	Est. No. stocked	Stocking Location	Comments
1	Apr. 23	10-May	250,000	100,00	Arnold's Bay - Ranger Cabin	High Egg mortality; est 60%
2	Apr. 23	10-May	250,000	75,000	Arnold's Bay - Ranger Cabin	High Egg mortality; est 70%
3	23-Apr	10-May	120,000	75,000	Fingerling Rearing Pond	
4	Apr. 24	11-May	172,000	100,000	Arnold's Bay - Ranger Cabin	
5	Apr. 25	11-May	280,000	200,000	Arnold's Bay	
6	Apr. 26	12-May	250,000	200,000	Arnold's Bay - Ranger Cabin	
7	Apr. 26	12-May	280,000	150,000	Arnold's Bay	High Egg mortality
8	Apr. 27	12-May	256,000	180,000	Arnold's Bay & Moon R. Bay	
9	Apr. 29	13-May	250,000	200,000	Arnold's Bay Point - SW side	
10 & 11	Apr. 30	14-May	400,000	225,000	Arnold's Bay @ Hatchery	
Totals			2,508,000	1,405,000		Approx. 56% hatch rate

Table 3. Walleye summer fingerling stocking summary, Moon River 2007.

Date	# Summer Fingerlings	Stocking Location	Comments
June 27	612	Arnold's Bay	

4.0 Literature Cited:

OMNR, 2006. Muskoka River Water Management Plan. OMNR Parry Sound District Office.

Richard; Peter, D. 1986. Walleye Culture Manual. OMNR Fish Culture Section, Fisheries Policy Branch. Toronto, ON.

Taylor, Steve. pers. com. OMNR Parry Sound District water control specialist.

5.1 Acknowledgements:

We gratefully acknowledge the significant contribution made by the following people in contributing to this project:

- Moon River Walleye Association: Bill McRobb, Rob Emslie, James Grisdale
- Ministry of Natural Resources: Jim Palmer and Adam Rabiewsky (Co-op student)
- Parry Sound High School Volunteers: Fawn Horvath, Andrew Austin, Shawn Morrissey and Jordan Rettie
- Eastern Geo. Bay Stewardship Council: Peter Agnello, Eric McIntyre

The project was supervised by Eric McIntyre.

Special thanks and acknowledgement are extended to Bill McRobb, Moon River Cottages' owner, and member of the Moon River Walleye Association and Eastern Georgian Bay Stewardship Council. Bill provided launching and docking facilities for the netting crew and once again very ably conducted all egg, fry and fingerling culture activities. The project could not have been completed without his significant efforts.

Appendix A. Biosampling Data for Male Walleye – Moon River Index Walleye Spawners Project, Spring 2007.

Set Loc.	Total Lg. (mm)	Fork Lg. (mm)	Weight (grams)	Sex Condition	Tag #	Comments
1 - S. Shore 3 - N. Shore						
Summary:						
1 & 3 combined	592.379	563.578	2715.517	Mean		
	5.419	5.366	85.038	Standard Error		
	10.733	10.628	168.443	Confidence Level(95.0%)		
	58.361	57.788	915.884	Standard Deviation		
	574.5	545	2350	Median		
	116	116	116	Count		
1	575	547	2050	green		
1	526	498	1900	green		
1	572	543	2650	green		
1	569	543	2550	green		
1	538	512	2050	green		
1	660	634	4250	green		
1	654	629	4150	green		
1	674	648	4150	green		
1	640	612	4000	green		
1	568	536	2150	green		
1	651	611	3800	green		4th dorsal missing
1	658	630	3300	green	17655	
1	570	545	2300	green		
1	665	635	4100	green		4th dorsal spine tip missing
1	630	581	2900	green	17213	Lympho/4th dorsal spine gone
1	646	608	3200	green		
1	557	528	2100	green		
1	548	515	2200	green		
1	625	594	3600	green		
1	621	595	2700	green	17699	5th dorsal missing
1	576	542	2600	green		
1	612	576	2900	green		
1	576	545	2200	green		
1	538	505	1800	green		
1	606	656	3600	green		
1	635	598	2800	green		
1	473	445	1250	green		
1	555	525	2100	green		4th dorsal spine missing
1	568	541	2300	green		
1	542	512	2100	green		
1	662	638	4150	part spent		
1	661	633	3100	spent		Lympho
1	605	585	2500	spent	17212	Lympho/5th dorsal gone/07 recap
1	670	636	3250	spent		
1	602	568	2100	spent		
1	712	680	4700	green		4th dorsal missing
1	588	560	2900	green		
1	568	534	2500	green		
1	490	463	1250	spent		
1	623	594	2950	green	17699	07 recap/5th dorsal spine missing
1	563	528	2200	green		

Appendix A continued ...

1	574	544	2550	green		
1	535	503	1200	green		
1	570	545	2200	green		
1	728	690	4000	green		
1	550	521	2000	green		
1	564	534	2350	green		
1	643	608	2750	green	17742	5th dorsal missing
1	535	508	1750	green		
1	575	545	2350	green		
1	544	512	2200	green		
1	551	521	2150	green		
1	723	691	4950	green		
1	560	531	2150	green		
3	525	503	1700	ripe		Lympho
3	555	525	2400	green		
3	635	598	3700	green		Lympho
3	648	612	3300	ripe	19317	
3	643	611	3500	green		
3	613	585	3650	green	19551	
3	647	615	3700	green		
3	531	504	2100	green		
3	571	545	2350	green		
3	680	647	4250	green		
3	664	630	4150	green		
3	526	498	1800	ripe		
3	550	525	2250	ripe		
3	548	518	2000	green		
3	548	517	2050	green		
3	635	605	3150	green		1st dorsal clipped
3	756	728	5200	green		
3	615	592	3450	green		
3	555	531	1850	spent		
3	554	524	2550	green		
3	556	525	1900	green		
3	538	514	2000	green		
3	662	629	3700	green		4th dorsal missing
3	602	573	2600	green	19322	4th dorsal missing
3	541	515	2100	green		
3	542	510	2000	green		
3	635	600	2800	spent		
3	546	517	1550	spent		
3	536	512	1650	spent		
3	649	621	3550	green	unreadable	5th dorsal missing
3	567	538	2350	green		
3	556	528	2100	green		
3	554	527	2350	green		
3	527	501	1850	green		
3	652	625	3900	green		4th dorsal missing
3	546	521	2050	green		
3	576	548	2550	green		
3	670	638	4200	green		
3	618	595	4300	green		
3	678	635	4050	green		
3	643	601	3300	green		07 recap
3	502	476	1400	spent		
3	595	575	2250	green	49368	
3	630	605	2950	green		4th dorsal missing
3	545	520	2150	green		
3	560	535	2250	green		
3	552	525	2100	green		4th dorsal missing/07 recap

Appendix A continued ...

3	726	703	4550	green		
3	582	555	2000	spent		
3	566	538	2000	spent		
3	580	553	2250	green		
3	640	605	2950	green	19458	4th dorsal missing
3	537	505	2000	green		
3	648	612	3800	green		
3	716	695	4800	green		Lympho
3	543	515	1850	green		
3	470	445	1250	green		
3	516	491	2150	green		
3	545	511	2000	green		
3	515	490	1500	green		
3	556	532	2300	green		
3	575	542	2600	green		07 recap

**Appendix B. Biosampling Data for Male Walleye from Index Site #1 (South Shore)
Moon River Index Spawners Survey, Spring 2007**

Total Lg. (cm)	Fork Lg. (cm)	Weight (grams)	Tag #	Comments
642	608	3050		some Lympho
524	493	1650		
613	581	2850		
701	667	4100	17607	
579	552	2250	mono only	4th dorsal gone
530	501	1700		
565	544	2000	19465	2+3rd dorsal missing
572	548	2400		6th dorsal spine missing
608	560	2500		
510	484	1500		
534	501	1700		Lympho
611	579	2850		Lympho/Sarcoma
537	500	1650		
620	585	2600		4th dorsal spine missing
612	573	2800	19046	
523	495	1550		
452	425	1000		
555	529	2200		
647	616	3100		
564	534	2050	19255	4th dorsal missing
587	558	2600	19584	4th dorsal missing
673	646	3150	17677	dorsal disfigured
523	496	1550		
528	499	1900		
601	570	2150		
621	585	3100	17688	
589	559	2000	17652	4th dorsal missing
689	656	4000	19401	Lympho
625	585	2550		
644	611	2950		
613	583	3000		Lympho
723	692	4650		5th dorsal missing
595	571	2400	19591	4th dorsal missing
698	665	2700	17219	5th dorsal missing
575	545	2350	19250	07 recap/4th dorsal missing
641	602	2450	19088	4th dorsal missing
645	607	2650	19182	4th dorsal missing
596.459	565.000	2477.027	Mean	
9.963	9.673	125.241	Standard Error	
20.207	19.617	254.001	Confidence Level(95.0%)	
60.605	58.836	761.814	Standard Deviation	
601	570	2450	Median	
37	37	37	Count	

Appendix C – Biosampling Data for Male Walleye sampled at Index Site #3 (North Shore) – Moon River Index Spawners Survey, Spring 2007

Total Lg. (mm)	Fork Lg. (mm)	Weight (grams)	Tag #	Comments
569	543	2150		
490	462	1500		Lympho
554	515	1750		
507	480	1500		Lympho
512	484	1600		Lympho
402	378	700		Lympho
645	612	3100		Lympho
622	587	3100		
595	560	2400	19186	Dorsal (front (1st)) clipped
613	579	2600	19478	1 or 2 dorsal spines missing
465	443	1200		
512	482	1400		Lympho - maniac
454	429	1050		
467	443	1250		
631	589	3200		1st dorsal spine cut
610	575	2850		07 recap
457	435	950		
508	478	1350		Lympho
537	508	1750		
440	417	1000		
445	421	1000		
550	474	1400		1st dorsal spinen cut
463	436	1000		
540	475	1400		
482	454	1100		
474	448	1100		
620	588	3000		
511	483	1450		
450	424	950		Lympho
650	609	3000	17641	Lympho
490	460	1400		
605	564	2750	unreadable	4th dorsal spine missing
514	489	1550		Lympho
478	452	1150		
481	456	1200		
648	609	3050		4th dorsal spine missing
475	449	1100		
497	472	1400		
446	421	900		
475	452	1150		Lympho
521	494	1550		
509	487	1400		
513	487	1750		
536	506	1650		
517	491	17000		Lympho
539	510	1900		
521	490	1550		
689	646	3850	19414	
450	424	1000		
486	454	1350		
468	442	1050		

510	482	1500		Lympho
639	604	2800		
428	404	850		
552	523	2100		
503	472	1450		
544	518	1700		
462	439	1000		
443	414	900		
442	421	1000		
645	612	2750	19335	4th dorsal gone
618	594	2450		5th dorsal gone
573	538	2250		Lympho
524	502	1600		
465	444	1100		
412	390	800		
503	470	1450		
658	626	2750		
458	432	1050		
624	597	3000	19402	
627	596	2950		Lympho
577	541	2250	unreadable	3rd dorsal missing
469	446	1100		
516	492	1550		Lympho
510	482	1450		07 recap
643	606	2400	19093	3+4th dorsal spines missing
484	455	1200		
615	575	2500	19415	
665	639	3450		
611	580	2650		5th dorsal missing
584	555	2300		5th dorsal missing
525	498	1600		
543	515	1900		Lympho
534	509	1600		
520	495	1500		
539	505	1750		
409	382	600		
682	658	3550		
437	414	950		
577	550	2350	19602	4th dorsal missing
645	607	3100	unreadable	4th dorsal missing
445	419	800		
532	507	1750		
485	458	1250		
494	465	1250		
480	455	1250		
496	473	1350		
640	605	3000	17614	Lympho/4th dorsal missing
534	508	1600		
498	469	1200		
488	464	1200		
609	588	2750		
514	493	1550		
507	480	1400		
651	619	3100		
452	427	1000		

509	479	1650		
502	479	1500		
623	592	3000		
578	550	2300	19250	4th dorsal missing
478	457	1300		
462	438	1000		
609	580	2800	19329	Lympho/4th dorsal missing
605	572	2250	17355	
507	481	1450		
478	451	1150		
730	692	4200		
567	524	1750		
607	578	2550	19585	4th dorsal missing
506	479	1400		
510	479	1400		Lympho
497	471	1250		
414	398	700		
496	470	1300		
520	491	1500		
429	408	850		
610	578	2700	19073	Sarcoma/4th dorsal missing
512	487	1350		
530	502	1600		
522	497	1550		
558	530	1950		Lympho
578	560	2350		
656	622	3100		Lympho
712	676	4450	19??8	
645	612	3300		
594	570	2500		
539	509	1650		
626	590	2450		
555	523	1750	19614	4th dorsal missing
638	606	3100	19352	4th dorsal missing
605	580	2200	17750	5th dorsal missing
642	605	3000		
648	614	3100	19317	3rd dorsal missing
494	465	1150		
563	528	1800		
634	602	1650	17653	5th dorsal missing
531	505	1650		
518	485	1450		
633	601	3000	19493	4th dorsal missing
485	461	1150		
<hr/>				
538.853	509.700	1936.000	Mean	
5.903	5.641	120.602	Standard Error	
11.665	11.146	238.311	Confidence Level(95.0%)	
72.298	69.082	1477.063	Standard Deviation	
520.5	491.5	1550	Median	
150	150	150	Count	
<hr/>				

Appendix D. Biosampling Data for Other Species Sampled from Index Sites #1 and 2 Combined, Moon River Index Spawners Survey, Spring 2007.

Species	Index Site	Total Lg. (cm)	Fork Lg. (cm)	Weight (grams)	Sex	Condition / Comments
S.M.Bass	1	50.2	47.9	2150		
S.M.Bass	3	47.5	46.0	1750		
S.M.Bass	3	33.0	31.5	500		
S.M.Bass	1	50.2	47.5	1950		
S.M.Bass	1	46.5	44.4	1550		
S.M.Bass	3	38.8	36.3	1000		
S.M.Bass	1	46.8	44.1	1750		
L.M.Bass	3	42.4	40.8	1300		
L.M.Bass	1	39.8	38.2	1000		
N. Pike	1	50.8	47.1	800	M	Ripe
N. Pike	1	31.0	29.3	150		
N. Pike	3	62.7	59.0	2200	M	Ripe
N. Pike	3	46.7	44.0	550	F	Ripe
N. Pike	3	62.3	58.4	1550	M	Ripe
N. Pike	3	79.0	67.4	2100	F	Ripe
N. Pike	3	58.9	55.6	1400	F	Ripe
N. Pike	3	49.3	46.4	700	M	Ripe
N. Pike	3	56.3	52.9	1100	F	Ripe
N. Pike	3	63.4	699.0	1800	F	Ripe
N. Pike	3	43.6	41.2	500	F	Ripe
N. Pike	3	52.0	49.5	900	F	Ripe; black spot
N. Pike	1	60.5	56.5	1350		
N. Pike	3	69.5	65.6	2150		
N. Pike	3	52.5	49.0	900		
Muskellunge	1	98.0	91.2			Did not weight for fear of injury
Bowfin	1	72.7				
C.W.Sucker	1	47.6	44.4	1500		
Br. Bullhead	3	22.2		200		
Br. Bullhead	3	25.1		250		
Br. Bullhead	3	25.8		250		
Br. Bullhead	3	21.0		150		
Br. Bullhead	3	26.9		200		
Br. Bullhead	3	23.3		150		
Br. Bullhead	3	22.3		150		
Br. Bullhead	3	25.3		250		
Br. Bullhead	1	24.5		250		
Br. Bullhead	3	27.5				
Br. Bullhead	3	30.5				
Br. Bullhead	3	20.8				
Br. Bullhead	3	22.9				
Br. Bullhead	3	24.5				
Br. Bullhead	3	24.0				