

Fish Stories

Lake Erie Management Unit
A Fact Sheet for Lake Erie Recreational Fishers
Issue #1 – 2015



Introduction to the LEMU

The mission of the Lake Erie Management Unit (LEMU) is to provide leadership and direction on sustainable resource management for Lake Erie, by maintaining and, where possible enhancing the social, economic, cultural and environmental benefits of the lake's rich aquatic resources. The LEMU works to achieve this through its annual fisheries assessment programs, port observer program and management activities on the Canadian waters of Lake Erie, Lake St. Clair and connecting waters. Presently the LEMU maintains facilities in Wheatley, Port Dover, and administrative offices in London.

The Lake Erie Management Unit consults regularly with resource management partners, namely Ontario sport and commercial fish interests on Lake Erie and Lake St. Clair. The principal venue for this consultation process is the Fisheries Management Zone 19 Council where representatives from the sport, commercial bait, and food fisheries discuss emergent and long-term fisheries issues. In addition, the Lake Erie Management Unit participates in the Lake Erie Percid Management Advisory Group (LEPMAG), which was established to help guide future Walleye and Yellow Perch management in Lake Erie.

The purpose of this factsheet is for the LEMU to communicate to the broader recreational fishing community. It provides brief updates on the status of recreationally important fish species and highlights some of our programs that may interest recreational fishers.

Fisheries Summaries

Walleye

In 2014, lake-wide Walleye harvest was estimated at 2.869 million fish. Recreational fishers harvested 1.577 million fish and commercial fishers harvested 1.292 million fish. The 2014 harvest levels were below the long-term (1975-2013) average for recreational (2.346 million fish) and commercial (2.042 million fish) harvest. Assessment surveys found that the fishery was dominated by large, age 11 walleye (from the 2003 year class) with moderate contributions of age 3 (2011) and age 4 (2010) fish. In 2015, these year classes will continue to contribute to the fishery with recruitment of a moderate strength 2013 year class. The 2014 year class appears to be strong and will fully recruit to the fishery in 2016.



RV Keenosay, one of several LEMU research vessels

Lake Erie Management Unit Contacts:

Report Resource Abuse: 1-877-847-7667

Wheatley Office: 320 Milo Rd. Wheatley On, N0P 2P0, ph. (519) 825-4684

Port Dover Office: Box 429, 49 Passmore Ave. Unit 7, Port Dover On, N0A 1N0, ph. (519) 583-0981



Yellow Perch

In 2014, lake-wide Yellow Perch harvest was estimated at 8.97 million pounds. Recreational fishers harvested 4.8 million fish and US and Canadian commercial fishers harvested 21.4 million fish. The 2014 harvest was an 8.3% decrease from 2013. Assessment surveys found that the fishery was dominated by age 4 (2010 year class) and age 6 and older fish. The eastern basin fishery also had high contributions of age 2 (2012) and age 3 (2011) fish. In 2015 the fishery will be supported by 2010 and 2011 year classes but fishery assessment surveys indicated that abundances of fish are at or below the long term average across the lake. Recruitment of 2013 year class to the fishery in 2015 will be above average in western basin and below average elsewhere in the lake. Assessment surveys indicate the 2014 year class, which will recruit to the fishery in 2016, is strong in western basin and moderate elsewhere in the lake.

Smallmouth Bass

In 2014, Smallmouth Bass abundance remained low (in comparison to other species) across Lake Erie with the majority of catches in western and eastern basins, based on the partnership index netting program. In western basin the population was primarily composed of age 1 and 2 fish while the eastern basin population Consistent of multiple age groups. The size of fish appears to be near the long term average.

The majority of the Smallmouth Bass recreational fishery is centered in Long Point Bay. In 2014 the Smallmouth Bass caught during the Long Point Bay Index gill netting program set a record for the total biomass (60.6kg/km of deployed net) and was the second highest abundance (93.7 fish/km of deployed net) since recording started in 1986. In 2014 the population was dominated (45%) by the 2010 year class (4 year old) with a secondary source from the 2008 year class (6 year old). In 2014 most age classes remained above average size. During the Long Point Bay trawl survey, abundances of young of the year (YOY; age 0) declined from 2013 and remained below the 35 year long term average; these fish will fully recruit to the fishery in 2017.

Rainbow Trout

In 2014, 1.88 million Rainbow Trout were stocked into Lake Erie, by US and Canadian agencies. This represented a 2% increase from 2013 stocking levels. An estimated 10,652 Rainbow Trout were caught in 2014. Catch rates remained near the long term average and angler effort targeted towards rainbow trout remains low, for the time series.

Fish Tagging

The LEMU is involved in several fish tagging studies to increase our understanding of movements and distributions of fish populations in the Lake Erie Watershed. Yellow perch tagging had been ongoing since 2009 to address uncertainties in their movements in western Lake Erie. In the Thames and Sydenham rivers, Walleye are tagged to understand the



Acoustic Tagged Walleye, with external identifying tags



Jaw Tag

dynamics of these populations including movements and abundances in the Lake St Clair, St. Clair river, Detroit river and Lake Erie fisheries. A larger effort addressing various management and research questions is underway that implant real-time

acoustic telemetry tags in various species lakewide. For these tagging efforts to be useful, reports of tagged fish capture by commercial or recreational fishers are required. If you capture a tagged fish, please record the date and capture location and report to the Wheatley (ph. 519-825-4684) or Port Dover (ph. 519-583-0981) Offices. Some tags have associated rewards which will be processed if and when tags are returned to an OMNRF office.



Acoustic Tagged, which are implanted in the abdomen

Angler Diary

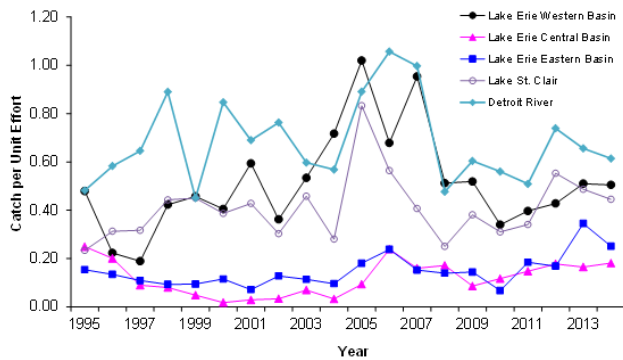


Figure 1: Walleye catch per rod hour of effort in the angler diary program.

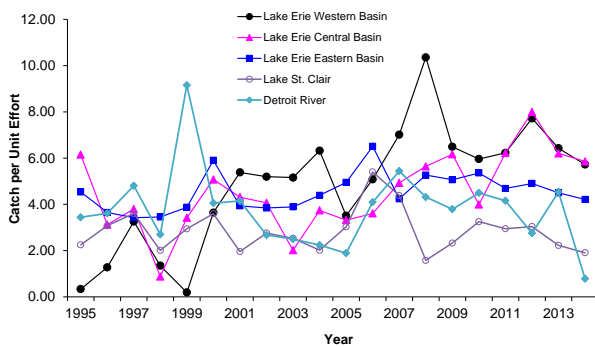


Figure 2: Yellow Perch catch per rod hour of effort in the angler diary program.

The Angler Diary Program is a volunteer catch reporting program for anglers on Lake Erie, Lake Erie tributaries, Lake St. Clair, Detroit River, and St. Clair River. We ask anglers to fill out a page in a diary for each fishing trip that they take. The program collects information such as: the location of fishing, time of fishing, species caught and harvested, and optional biological information such as length, weight and scale samples for aging. Program participants receive: a computer summary of personal fishing activities with the number of fish caught and harvested by species and area, personal catch rate, a summary of biological information from your catch (length, weight, age), a certificate of appreciation (after 3 years of participation in the program), and a summary of all data from Lake Erie and Lake St. Clair anglers. Anglers who return the diary by the end of November get entered into a draw for one of 6 prizes.

In 2014, the walleye catch per rod hour in the Angler Diary Program was highest in the Detroit River followed by the western basin of Lake Erie and Lake St. Clair (Figure 1). The yellow perch catch per rod hour was highest in the western and central basins of Lake Erie (Figure 2).

If you are interested in participating in the Angler Diary Program please contact Megan Belore, (519) 825-4684 or megan.belore@ontario.ca.

Asian Carp Surveillance

The Asian carp surveillance program is a multi-agencies initiative that monitors for the presences of Asian carp in the Canadian waters of Lake Erie and St. Clair System. Working with the Department of Fisheries and Oceans (DFO), and other branches on the Ministry of Natural Resources and Forestry, the LEMU actively collects and tests water samples for Asian carp eDNA from 106 sites in the Lake Erie, Lake St. Clair, and Lake Huron watersheds. Environmental DNA or eDNA is genetic material shed by living or dead organisms into the environment and is an indication that an organism may have been present. If eDNA were to be detected at a site the response would be additional water sampling to confirm the result and intensive netting and electrofishing to assess risk. Accidental introductions through bait buckets remain a high risk. Remember it is illegal to import any live bait, release bait fish or dump bait buckets within 30m of any waterway. For full fishing regulations see the 2015 Fishing Guide available from Ontario.ca/fishing

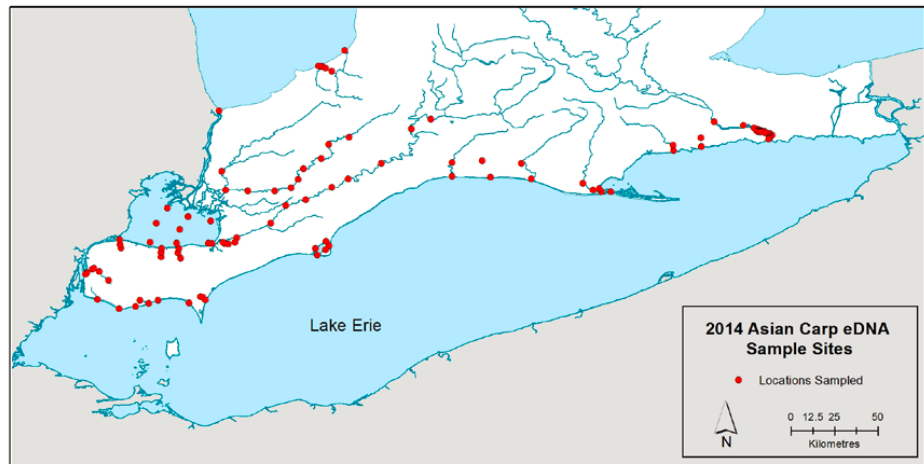


Figure 3. Asian Carp Asian Carp Surveillance program sampling sites

2014 Aerial Creel of Lake Erie

In summer 2014 the LEMU conducted an aerial creel survey of the Canadian waters of Lake Erie. Fishing effort was estimated from aerial counts of recreational fishing boats, while access point interviews provided information of capture and harvest rates for individual fish species. In addition to the creel survey, an angler attitude survey was conducted during access point interviews. The attitude survey was designed to assess use and economic value of the recreational fishery and gain insight into angler's attitudes/ opinions of the resource.

Lakewide, recreational fishers participated in an estimated 645,759 rod hours to capture an estimated 1,070,275 fish. This fishing effort represented an estimated 17,881 fishing trips averaging 4.8 hours in duration with 2.4 anglers, fishing 3.2 rods. During the 23 aerial survey flights, 5,295 observations of fishing boats were recorded with 96% of observations within 20 km of the coast (Figure 4). The greatest proportion of the effort occurred in Western Basin and East-Central Basin. Walleye and Yellow Perch were the most targeted and harvested species (table 1).

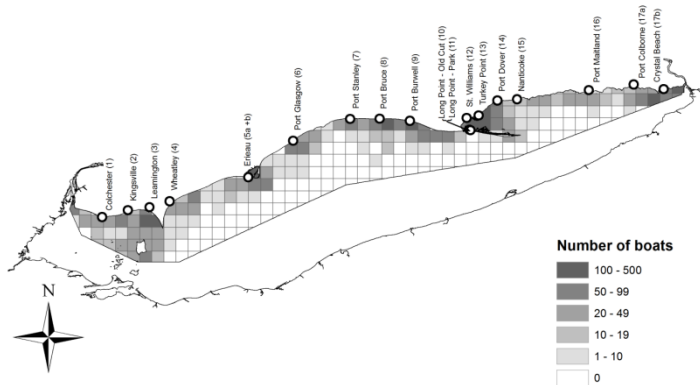
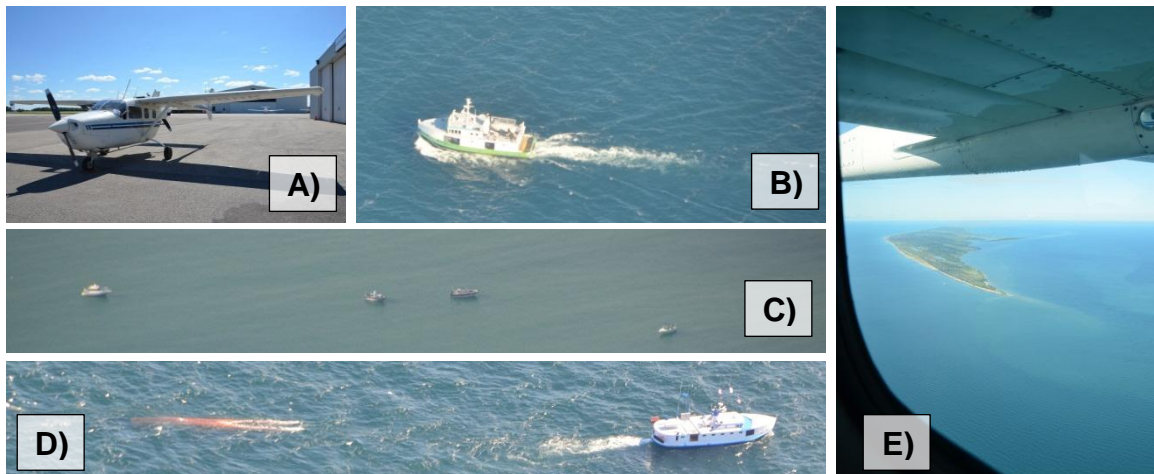


Figure 4: Distribution of boats counted during the 23 survey flights

Based on our angler attitude survey we found that most recreational fishers were satisfied with recreational fishing opportunities and the management of Lake Erie's fisheries. The average Lake Erie angler participated in 10-21 fishing trips/year, spending approximately 70-75% of their total time fishing in Lake Erie. Recreational fishers spent an average of \$69-\$84/ day fishing or a total of \$2,210-\$2,970/year on fishing related purchases and activities, making the fishery worth \$3.25 million in direct expenses.

Table 1: Summary of lakewide targeted effort, catch and harvest of selected species from the 2014 Lake Erie Creel Survey.

Species	Effort (rod hrs)	Catch	Harvest
Walleye	327,959	88,732	84,635
Yellow Perch	221,342	616,830	432,943
Rainbow Trout	71,640	4,613	4,165
Smallmouth Bass	70,421	48,779	17,263
Largemouth Bass	14,604	9,463	2,075
Northern Pike	9,825	3,277	71
All species	675,759	1,070,275	567,770



A) The Cessna 337 (Skymaster) used for the aerial Survey; B) Ontario Explorer steaming across Lake Erie towards Hikes shipyard in Wheatley Harbour; C) Recreational fishing boats off Leamington Harbour; D) Smelt Trawler in Eastern Basin, Lake Erie; E) Tip of Long Point from the Aircraft window