Lake Temescal Fisheries Report 2013

EBRPD Fisheries Department

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Introduction

The purpose of this report is to give the public an overall view of the condition of the fisheries in the District's managed lakes. The surveys conducted for this report serve the purpose of identifying general trends in fish communities which aid in making management decisions. By analyzing these trends over time, our goal is to make decisions that ultimately improve recreational fisheries and the overall health of our lake ecosystems. We hope this information will help you understand the fisheries dynamics in our beautiful lakes.

Methods

Fish communities

Fish community surveys are conducted annually at the same sites from June-July. Surveys are conducted at night using an electro-fishing boat. This method utilizes an electrical current sent from the boat through the water which temporarily stuns the fish for easy collection. Upon collection, fishes are identified, measured for length and weight, and released back into the lake. Three sites were chosen at Lake Temescal along the nearshore zones. Results for this report include year 2008-2012.

Bass populations

Adult largemouth bass populations are estimated annually during the spring months (March-May) using a simple mark-recapture method. Bass are collected and tagged just behind the dorsal fin with an individually numbered yellow Floy tag. This procedure is repeated one or two more times over weekly intervals and the number of bass recaptured is recorded. From these data, the number of adult bass can be estimated. Estimating the bass population in Temescal began in 2012; however, this will continue to be conducted annually further improving our understanding of the population dynamics in this reservoir.

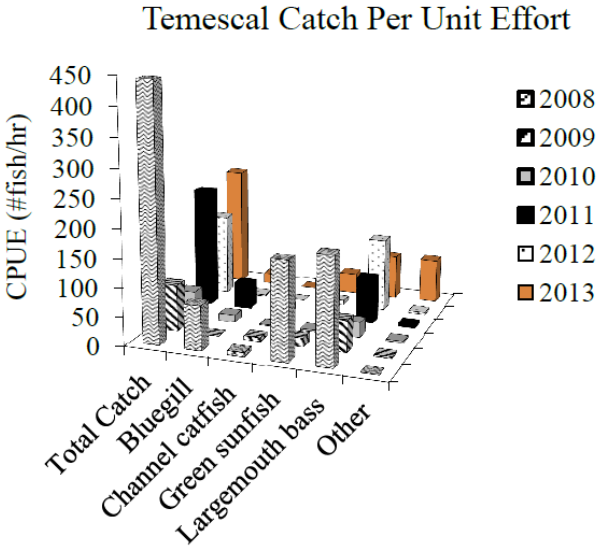

Figure 1: Catch results from fish community surveys from 2008-2013. CPUE is total number of fish caught per hour.

Results

Fish communities

The highest total catch rates were observed in 2008, but have remained fairly high and stable the past 3 years (Figs. 1 and 2). The majority of the fish communities in Temescal consist largely of warm water sunfish (largemouth bass, green sunfish and bluegill. Figure 2 displays a large number of fish in the "other" category. This is due to the high number of juvenile sunfish that were observed and counted, but were not captured.

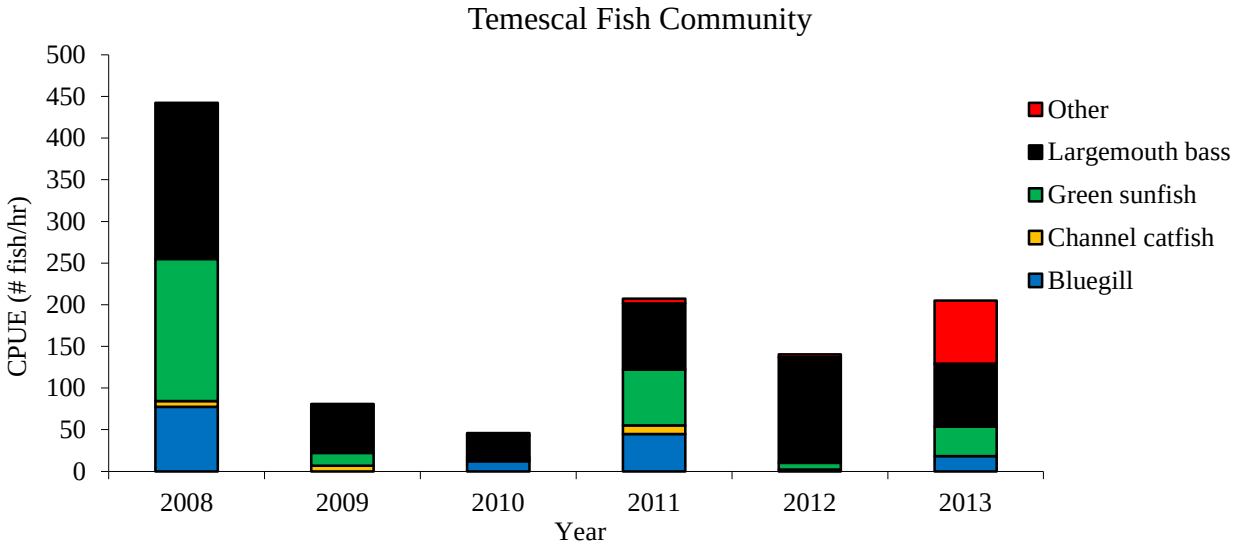

Figure 2: Total number of fish species caught per hour during fish community surveys from years 2008-2013.

Over the past 6 years, the largemouth bass population consistently has good numbers of juvenile and adult fish (Fig. 3). This suggests the population will continue to remain robust and reproduce. Good bass reproduction and growth are largely a result of sufficient vegetation in the nearshore zones that provides good spawning and rearing habitat for sunfish. Year 2011 appears to be a very good reproductive year for bluegill and green sunfish (Figs. 4 and 5). However, as mentioned earlier, there were very good numbers of juvenile sunfish observed in 2013. Based on these results, we expect these young fish to grow to adult stage and Temescal should continue to improve as a popular destination for warmwater gamefish angling.

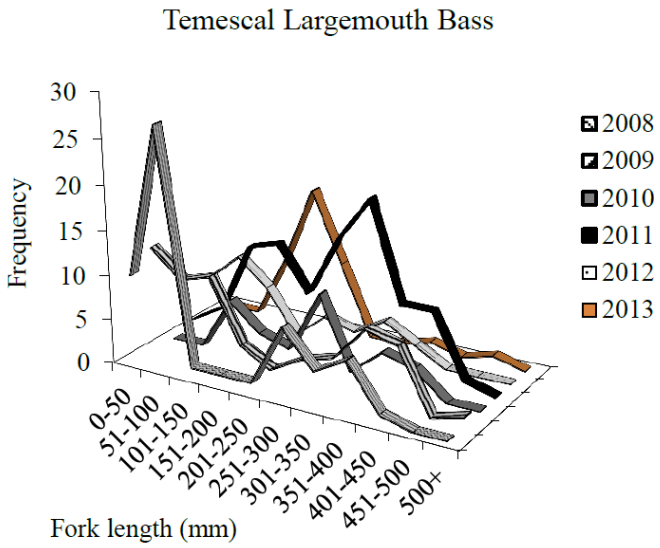

Figure 3: Size class distribution of largemouth bass during years 2008-2013. Frequency is the total number of fish in a given size class.

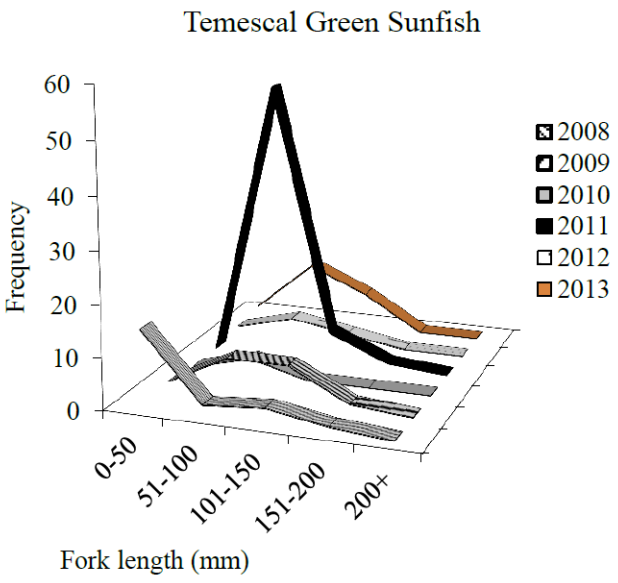

Figure 5: Size class distribution of green sunfish during years 2008-2013. Frequency is the total number of fish in a given size class.

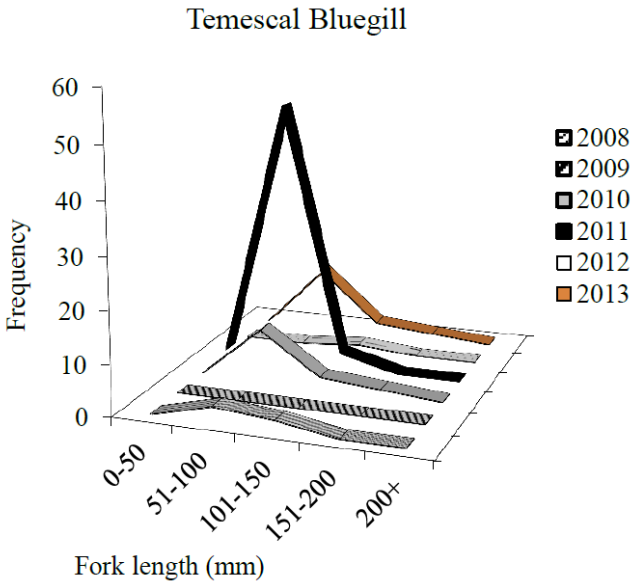

Figure 4: Size class distribution of bluegill during years 2008-2013. Frequency is the total number of fish in a given size class.

Largemouth bass populations

Estimates of the adult largemouth bass population in Temescal have only been conducted the past 2 years (Fig. 6). The larger error bars around the 2012 estimate give us less confidence in the calculation. Note, these estimates are for the number of bass greater than 11 in. in total length and do not represent the total number of bass in Lake Temescal. However, these calculations do give us better information on the number of bass available to be caught by anglers.

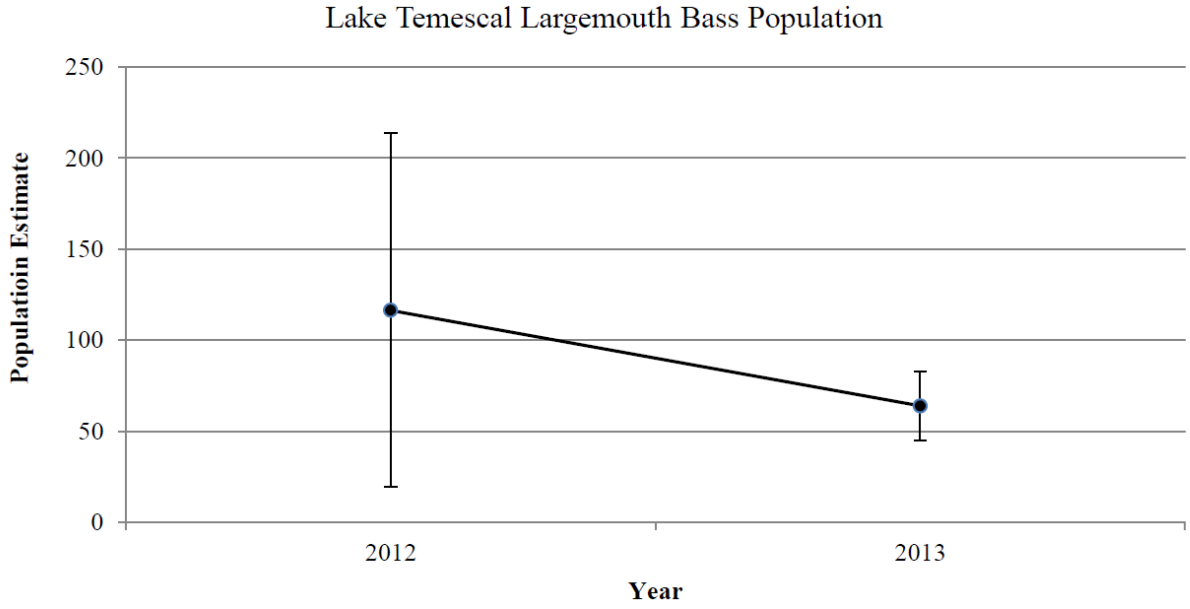

Figure 6: Estimation of number of adult largemouth bass in Lake Temescal. 'Adults' are bass that were greater than 11 inches total length. Error bars represent 95% confidence interval that the estimate falls within that range.

Put- n – take fisheries

Besides the naturally reproducing fish species discussed here, Lake Temescal supports a popular put –n – take fishery for rainbow trout and channel catfish. Funded by the District's Fishing Access permit program, Temescal generated nearly $10,000 in revenues and more than $32,000 was expended on fish plants in 2013. Temescal received 7,500 pounds of rainbow trout from EBRPD and an additional 4,000 pounds of trout from the California Department of Fish and Wildlife in 2013. The District also planted 2,000 pounds of channel catfish during the summer months.

Conclusions

As you can see, the fish communities and individual populations, especially the warmwater gamefish, in Temescal appear relatively robust given the size of the reservoir. The large swaths of vegetation around the nearshore areas provide important spawning habitat and also protect younger fish from predation. This is reflected in the amount of younger sunfish observed the past few years. We expect these young fish to grow too adults and provide a variety of angling opportunities in this popular urban lake. Thus, it is important to continue to monitor these fish communities, which will help us make decisions to manage this important resource.