

Quarry Lakes Fisheries Report 2011

EBRPD Fisheries Department

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Introduction

The purpose of this report is to give lake supervisors and their staff an overall view of the condition of the fisheries in their respective lake. 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 also hope this will help you to convey this information to the general public while allowing the District to maintain our beautiful lakes and their fish assemblages.

Methods

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. Four lakes were sampled at Quarry Lakes for these analyses: Horseshoe Lake (4 sites), Lago Los Osos (3 sites), Rainbow Lake (2 sites), and Shinn Pond (2 sites). Results for this report include years 2008-2011.

Results

Horseshoe Lake

The highest catch rates for our surveys in Horseshoe Lake were observed during 2008 (Fig. 1). For all years, the majority of fishes sampled were inland silverside and largemouth bass (Fig. 2). Based on size class distributions (Fig. 3) the largemouth bass population appears to have had good reproductive years in 2008 and 2011. Due to the structure of the lake, adult largemouth bass can not be effectively sampled because they are likely in the deeper zones where electrofishing is ineffective. However, the presence of younger age class bass suggests they are reproducing and high numbers of inland silverside provide forage for bass and birds. We

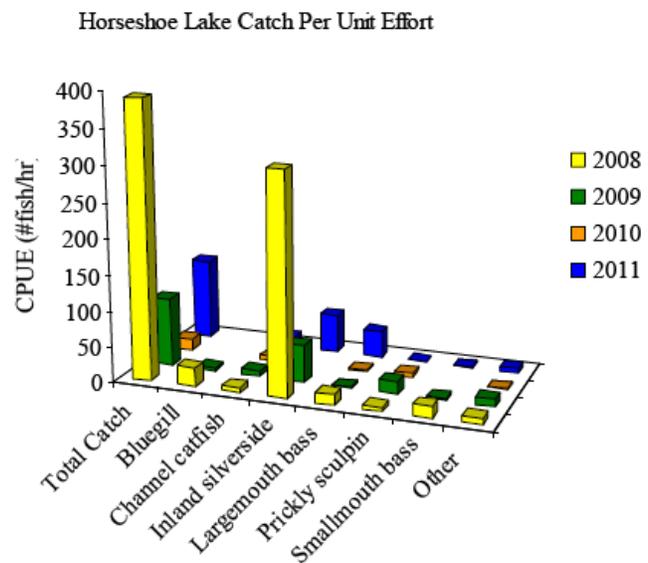


Figure 1: Total catch per unit effort (CPUE) and individual species catch for years 2008-2011.

hope to continue installing Christmas tree reefs in Horseshoe Lake which provide important spawning and nursery areas for fish.

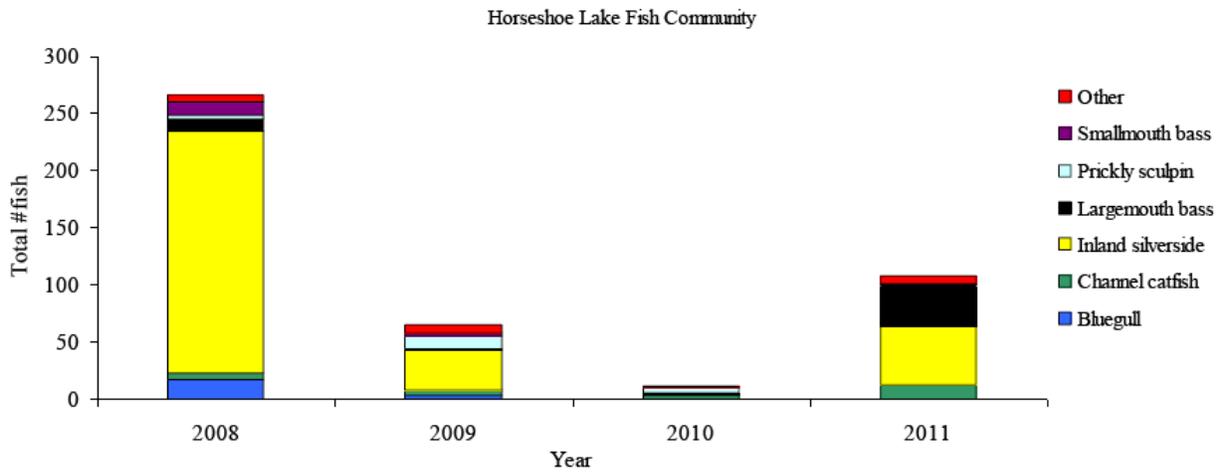


Figure 2: Total number of individual fish species caught from years 2008-2011.

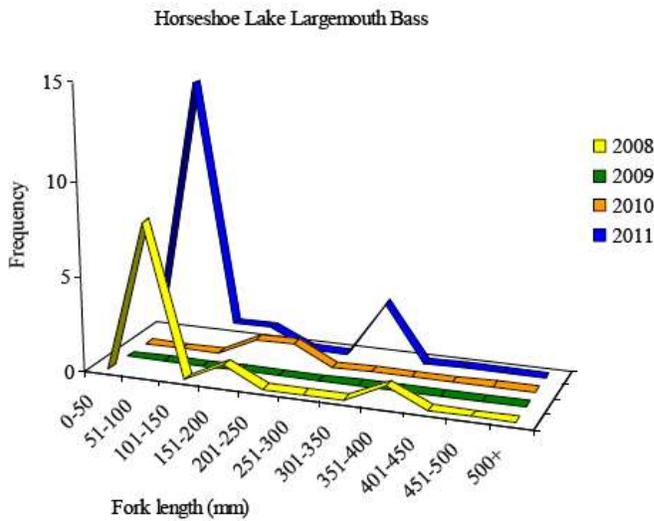


Figure 3: Size class distribution of largemouth bass during years 2008-2011. Frequency is the total number of fish for a given size class.

Lago Los Osos

The highest catch rates for our surveys in Lago Los Osos were observed during 2011 and consisted of good numbers of inland silverside, largemouth bass, channel catfish, and smallmouth bass (Figs. 4 and 5). Similar to Horseshoe Lake, the largemouth bass in Lago Los Osos appear to have had good reproduction years during all years except 2010 (Fig. 6). Again, few adult bass were observed, which was likely the result of the sampling method employed.

Los Osos Catch Per Unit Effort

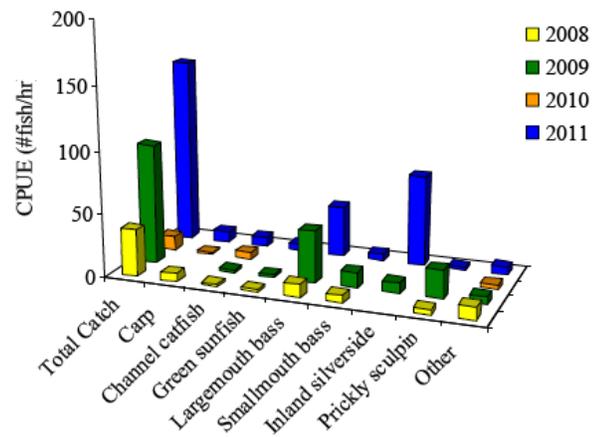


Figure 4: Total catch per unit effort (CPUE) and individual species catch for years 2008-2011.

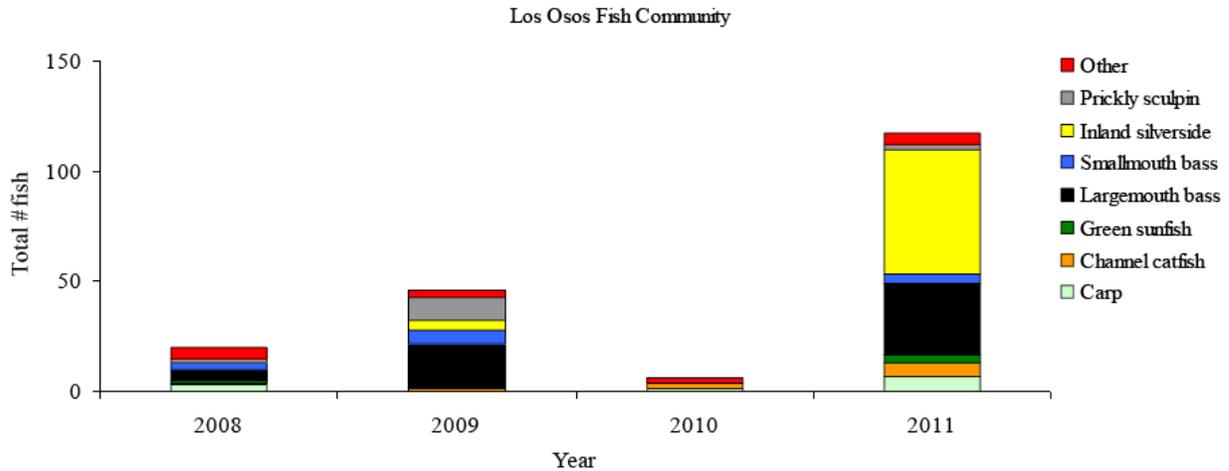


Figure 5: Total number of individual fish species caught from years 2008-2011.

Rainbow Lake

Rainbow Lake appears to support the highest numbers of largemouth bass out of the 4 Quarry Lake Regional Park lakes sampled. Catch rates were high for all years except 2010 (Fig. 7). In addition to largemouth bass, the fish community consists of inland silverside, prickly sculpin, and channel catfish; bluegill have not been observed since 2008 (Fig. 8). Much like Horseshoe Lake and Lago Los Osos, Rainbow lake supports healthy numbers of younger age class largemouth bass and we will continue to enhance habitat for them there by

Rainbow Lake Catch Per Unit Effort

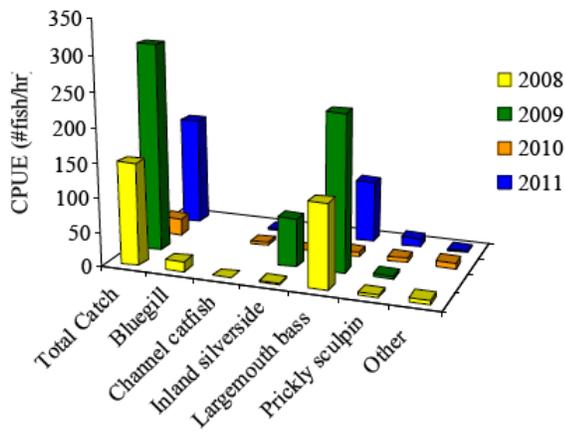


Figure 7: Total catch per unit effort (CPUE) and individual species catch for years 2008-2011.

Los Osos Largemouth Bass

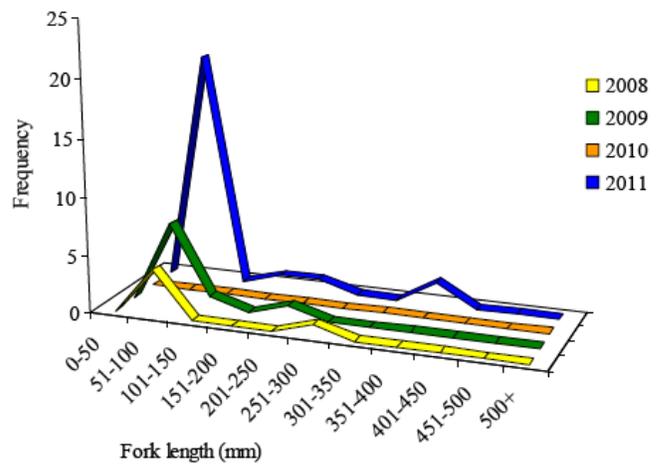


Figure 6: Size class distribution of largemouth bass during years 2008-2011. Frequency is the total number of fish for a given size class.

installing Christmas tree reefs (Fig. 9). Rainbow lake received 850 Christmas trees in both 2011 and 2012. These reefs were placed on the south east end of the lake where the depth is relatively shallow and the prevailing winds drive the warm surface water. These conditions provide the best largemouth and smallmouth bass spawning and rearing conditions. Neither the District nor Department of Fish and Game plant rainbow trout or channel catfish directly into Rainbow Lake; however, these species do migrate into Rainbow Lake via an underground pipeline.

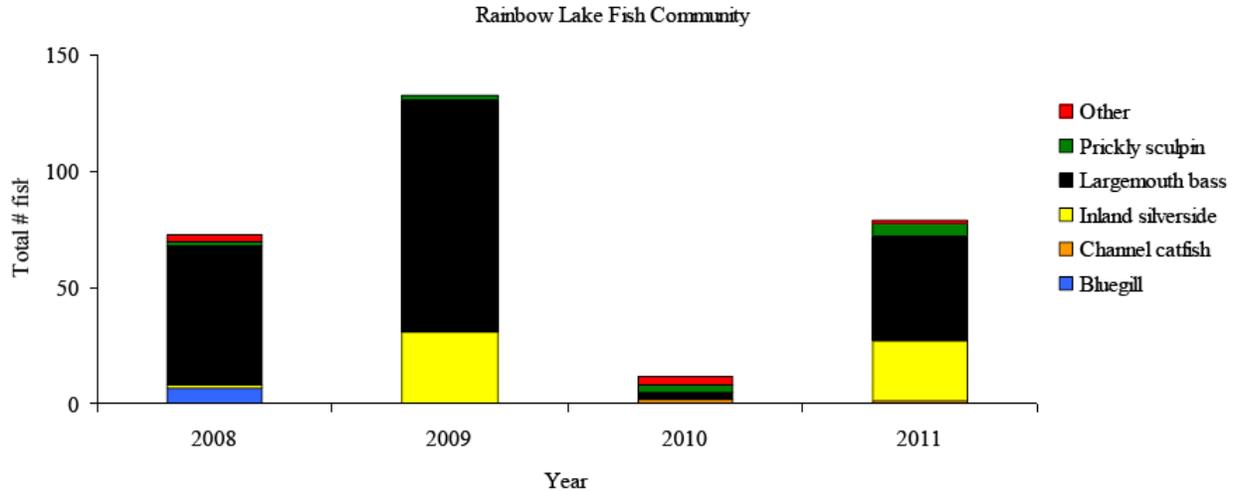


Figure 8: Total number of individual fish species caught from years 2008-2011.

Shinn Pond

Although the catch rates have been gradually declining since 2008, Shinn Pond supports a diverse fish community consisting of inland silverside, largemouth bass, prickly sculpin, green sunfish, and bluegill (Figs. 10 and 11)! Overall, the largemouth bass population has continued to increase and healthy numbers of juvenile and adult fish were observed during all years except 2010 (Fig. 12). Anglers fishing Shinn Pond are not required to have a District fishing access permit. As a result, the District plants of channel catfish are relatively low each year. In 2011, a total of 750 pounds of catfish were planted in Shinn Pond.

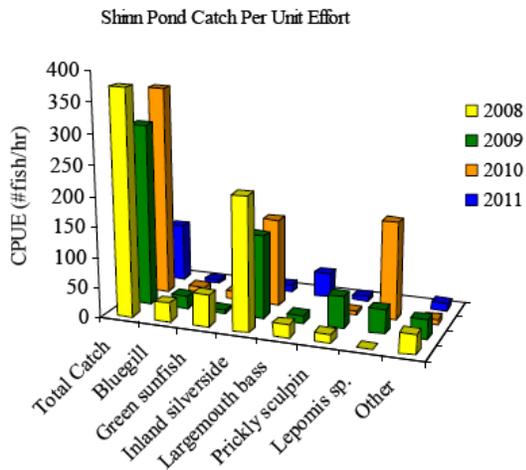


Figure 10: Total catch per unit effort (CPUE) and individual species catch for years 2008-2011.

Rainbow Lake Largemouth Bass

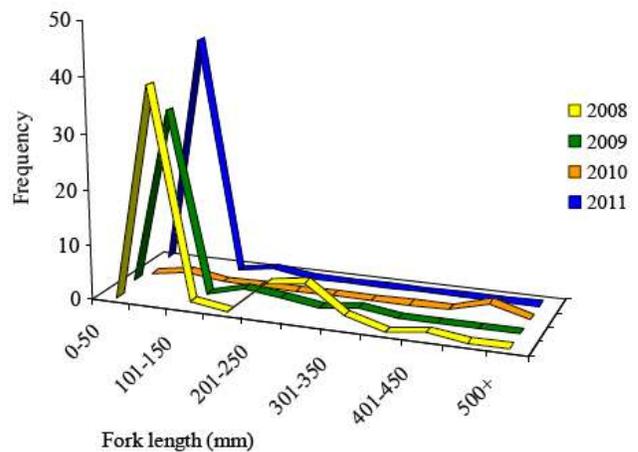


Figure 9: Size class distribution of largemouth bass during years 2008-2011. Frequency is the total number of fish for a given size class.

Put –n- take fisheries

Besides the naturally reproducing fish species discussed here, Horseshoe Lake supports a popular put –n – take fishery for rainbow trout and channel catfish. Funded by the District’s Fishing Access permit program, Quarry Lakes Regional Park generated \$82,385 in revenues and a total of \$121,544 was expended on fish plants in 2011. Horseshoe Lake received 32,300 pounds of rainbow trout from EBRPD and an additional

4,850 pounds of trout from the California Department of Fish and Game in 2011. The District also planted 4,200 pounds of channel catfish during the summer months. Some of the largest fishes caught and reported by anglers in 2011 include: a 16 lb. 8 oz. channel catfish, a 15 lb. 3 oz. rainbow trout, and a 3 lb. smallmouth bass!

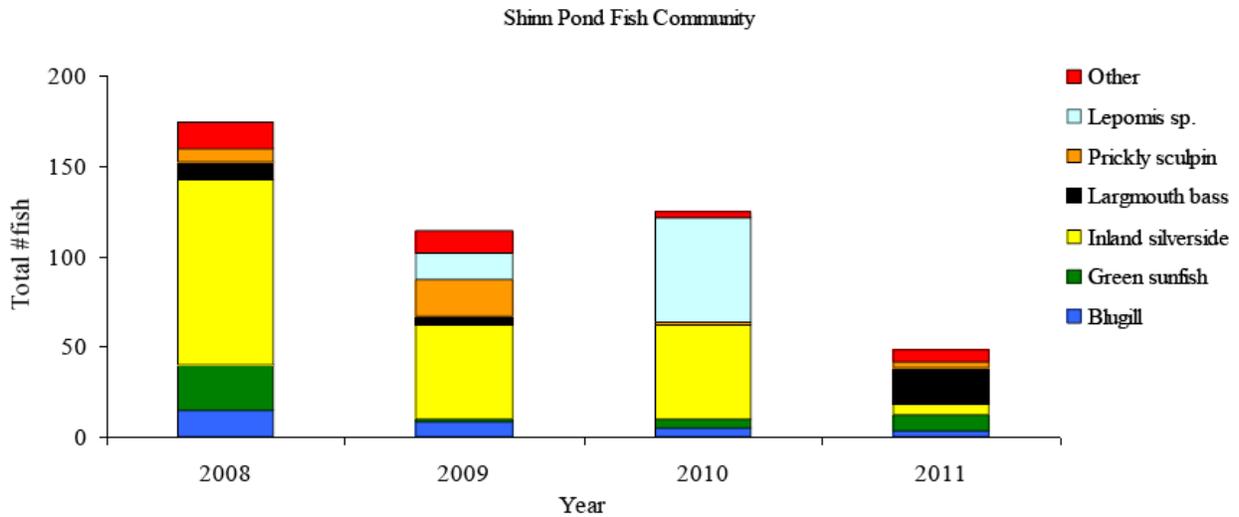


Figure 11: Total number of individual fish species caught from years 2008-2011.

Conclusions

Quarry Lakes remains an important east bay fishery not only for planted rainbow trout and channel catfish, but also for largemouth bass. By continuing to improve the nearshore structure of the lakes using Christmas tree reefs we hope to see bass and sunfish populations gradually increase. Due to the configuration of the lakes it is difficult to track certain fish species; however, anglers are continuing to catch large fish and fill their limits. It is important that we continue to monitor these fish communities because the more we can learn about them, the better we can make decisions to manage this important fisheries resource.

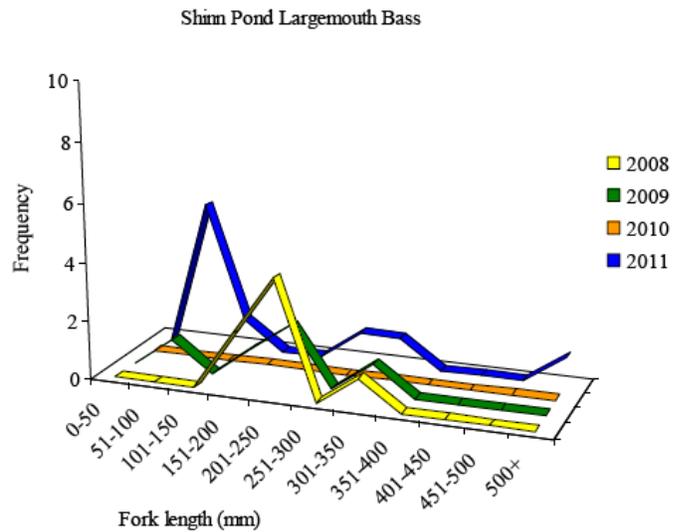


Figure 12: Size class distribution of largemouth bass during years 2008-2011. Frequency is the total number of fish for a given size class.