

# Fish Ageing Survey Report

St Erth Pool

NFL Ref: 22#009

Date 14/07/2022

## About this water

St Erth Pool is a 1-acre natural lake used for match and pleasure fishing. It has an average depth of 3ft - 4ft. It contains a range of coarse fish species including common bream, common carp, crucian carp, eel, gudgeon, ide, perch, roach, rudd and tench. Carp are the most dominant species present. There is a variety of aquatic habitat present on site, including a good proportion of marginal plants, light woods, and some water lilies. There are no submerged aquatic plants present, and algal blooms occur annually.

## Summary of age data

St Erth Pool was sampled in April and May 2022 through use of rod and line. In total, 96 scales from common bream, common carp and roach were submitted for age analysis. Of these, 92 were aged with the remaining 4 samples being made up of replacement scales. Of the sampled fish, the common bream were aged to 11+, common carp were aged to 18+ and the roach were aged to 7+. The '+' notation refers to the fact that these fish were captured during their growth season (April to September).

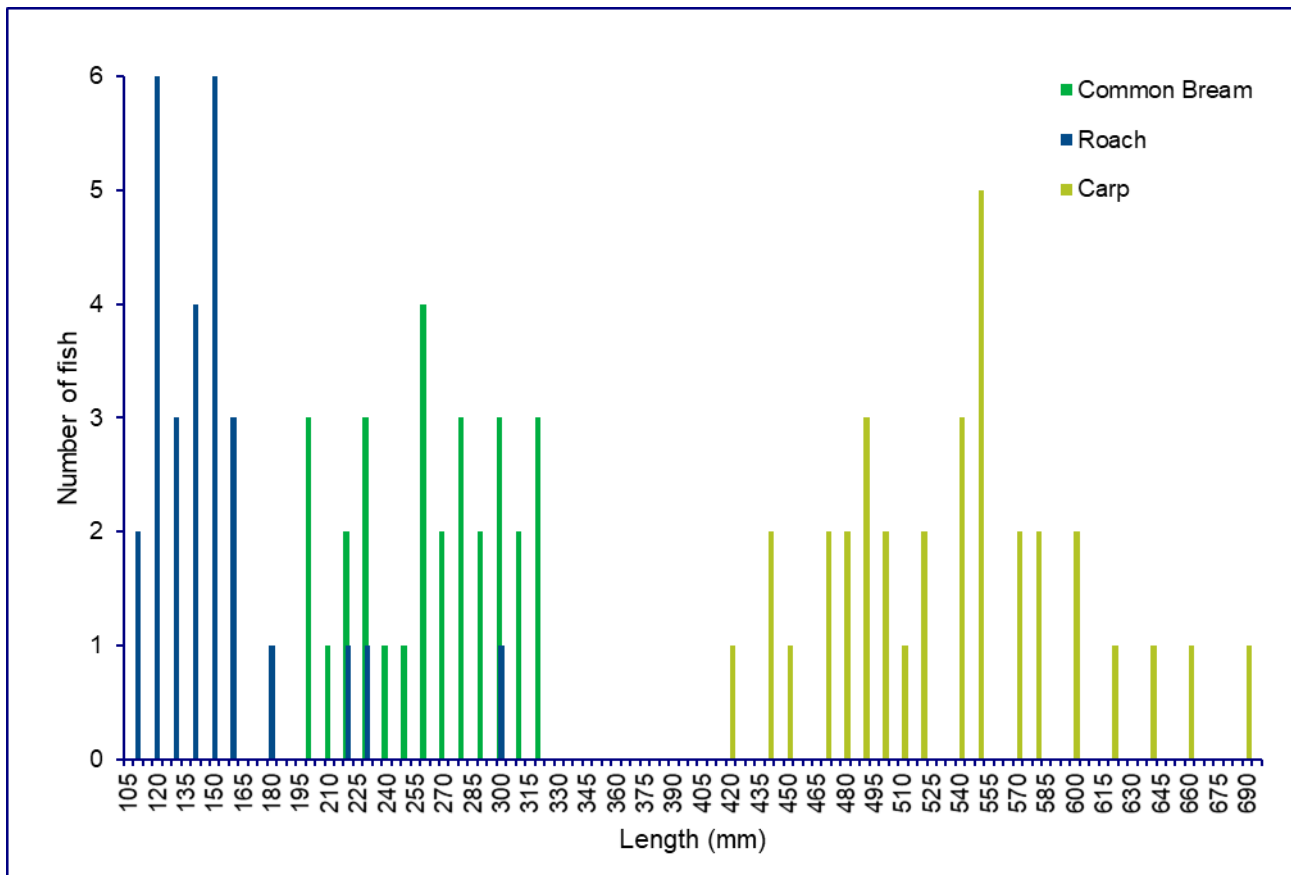


Figure 1. Number of each species and their size range

The fork lengths of the fish sampled varied between 110mm and 690mm, with the majority of the roach having fork lengths between 110mm and 160mm, all of the bream having fork lengths between 200mm and 315mm, and the majority of the carp having fork lengths between 440mm and 600mm (Fig. 1). The larger, older roach and carp are underrepresented in this sample. To improve the dataset, further scale samples could be taken from roach and carp with fork lengths >160mm and >600m, respectively.

## Average length at age

As a part of our examination of fish scales, we can measure the mark ('annulus') which shows the end of each year on the scales. We can then work out how long each fish was at the end of each year's growth. From this, we can calculate the average length at each age. This has been completed for all species submitted.

**Table 1. The estimated average length at age of the common bream, roach and carp sampled.**

Age (years)		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
Average length (mm)	Common bream	43	99	144	185	210	233	252	273	279	276	310	-	-	-	-	-	-	-
	Roach	50	89	112	130	152	183	247	-	-	-	-	-	-	-	-	-	-	-
	Carp	-	-	-	-	-	-	246	-	440	-	620	550	530	520		540	550	580

## Percentage Standard Growth values

The Percentage Standard Growth (PSG) values have only been produced for common bream and roach and was not completed for common carp. This is due to the lack of standard growth data available for this species.

The average lengths at each age for the common bream were compared to their respective species standard (National Fisheries Laboratory, unpublished data). The Percentage Standard Growth (PSG) value was calculated as 93% where 100% is the national average, indicating that the common bream are growing at an average rate in St Erth Pool (Figure 2).

The average lengths at each age for the roach from St Erth were compared to their respective species standard (National Fisheries Laboratory, unpublished data). The Percentage Standard Growth (PSG) value for roach was calculated as 103% where 100-110% is the national average, indicating that the roach are growing at an average rate in St Erth Pool (Figure 3).

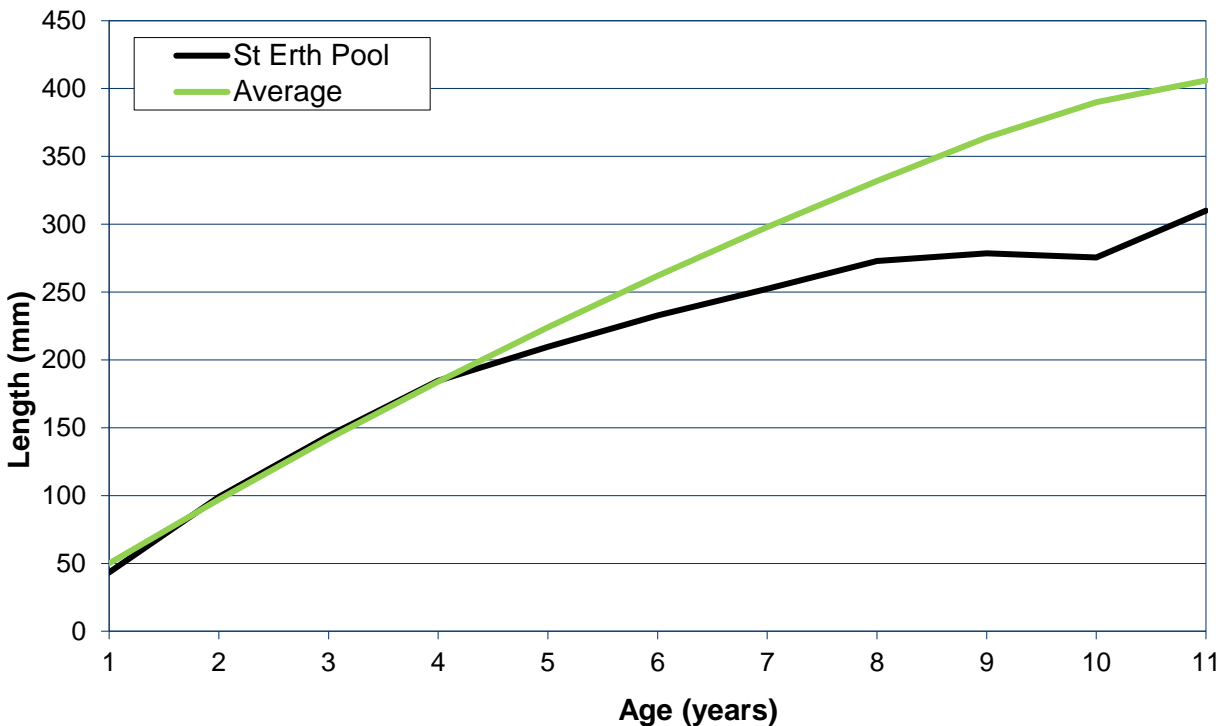


Figure 2. Growth of common bream from St Erth Pool compared to standard growth data for common bream (National Fisheries Laboratory, unpublished data)

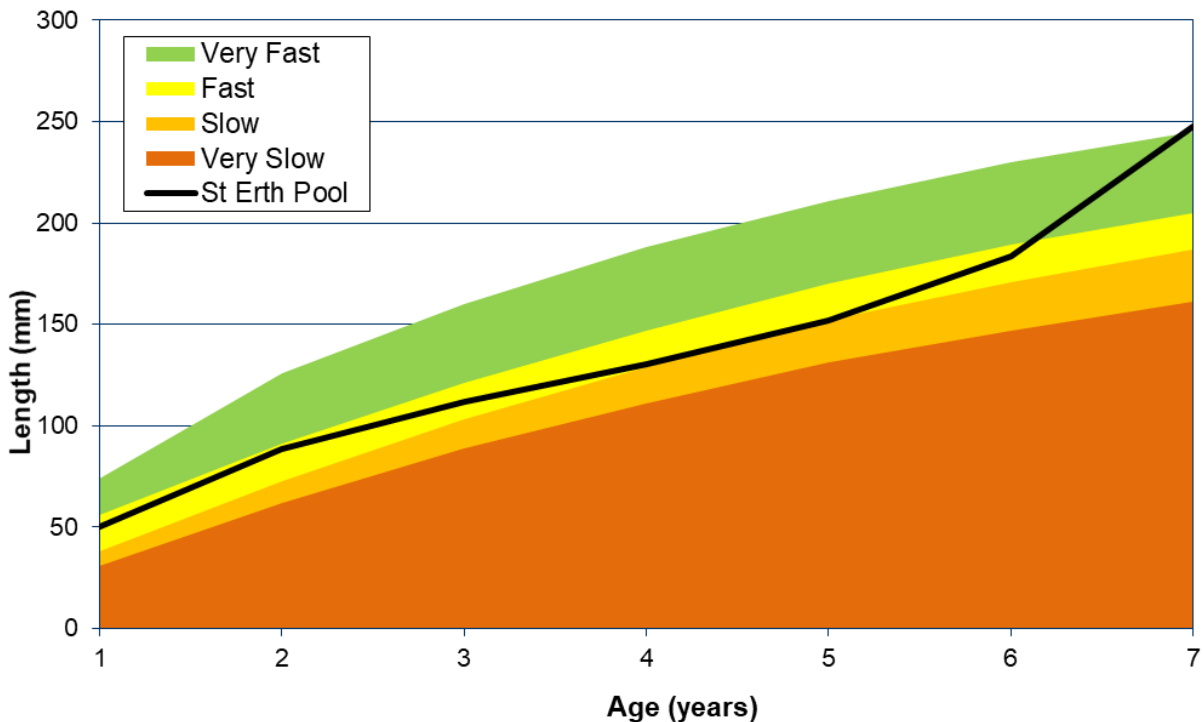


Figure 3. Growth of roach from St Erth Pool compared to standard growth data for roach (National Fisheries Laboratory, unpublished data)

## Findings and recommendations

Roach are generally good indicators of a water's ability to maintain healthy fish populations. The overall growth rate of the roach in St Erth Pool was in line with the national average, indicating the presence of good conditions for growth. It is also worth noting that the growth of the older roach appears to be particularly good, however as mentioned above, these larger fish are underrepresented in the sample and therefore caution should be observed in the interpretation of these data.

It was noted on the survey questionnaire that there is a total absence of submerged aquatic plants in St Erth Pool. Improvements to available habitat through the addition of submerged aquatic plants could lead to improvements in growth rates. These plants provide enhanced natural food resources and a more diverse habitat. Please contact your local area officer for information.

While no growth analysis was undertaken on the carp, the presence of fish of a good size up to 18 years old suggests that the conditions present are supporting growth and survival.

## Ageing notation

When fish are sampled during the period October to March, they are aged by counting the edge of the scale as the end of the previous growing season. The age is, therefore, given in terms of a full year without a plus (+) notation. Plus notation is used when the fish have been sampled between April to September and show some summer growth.

## Further information

If you require any further advice on managing your fishery please contact your local area officer, Sally Gallop on 07919 398162.

This report has been produced by the National Fisheries Laboratory. Always report signs of dead or dying fish to the Environment Agency immediately. For further information on fish health, please contact:

**National Fisheries Laboratory, Monitoring: Laboratories, Environment Agency,  
Bromholme Lane, Brampton, Huntingdon, PE28 4NE.**

**Tel: 02084 745244 or 07825 111723**

**[fish.health@environment-agency.gov.uk](mailto:fish.health@environment-agency.gov.uk) | [fish.ageing@environment-agency.gov.uk](mailto:fish.ageing@environment-agency.gov.uk)**

## Scale image

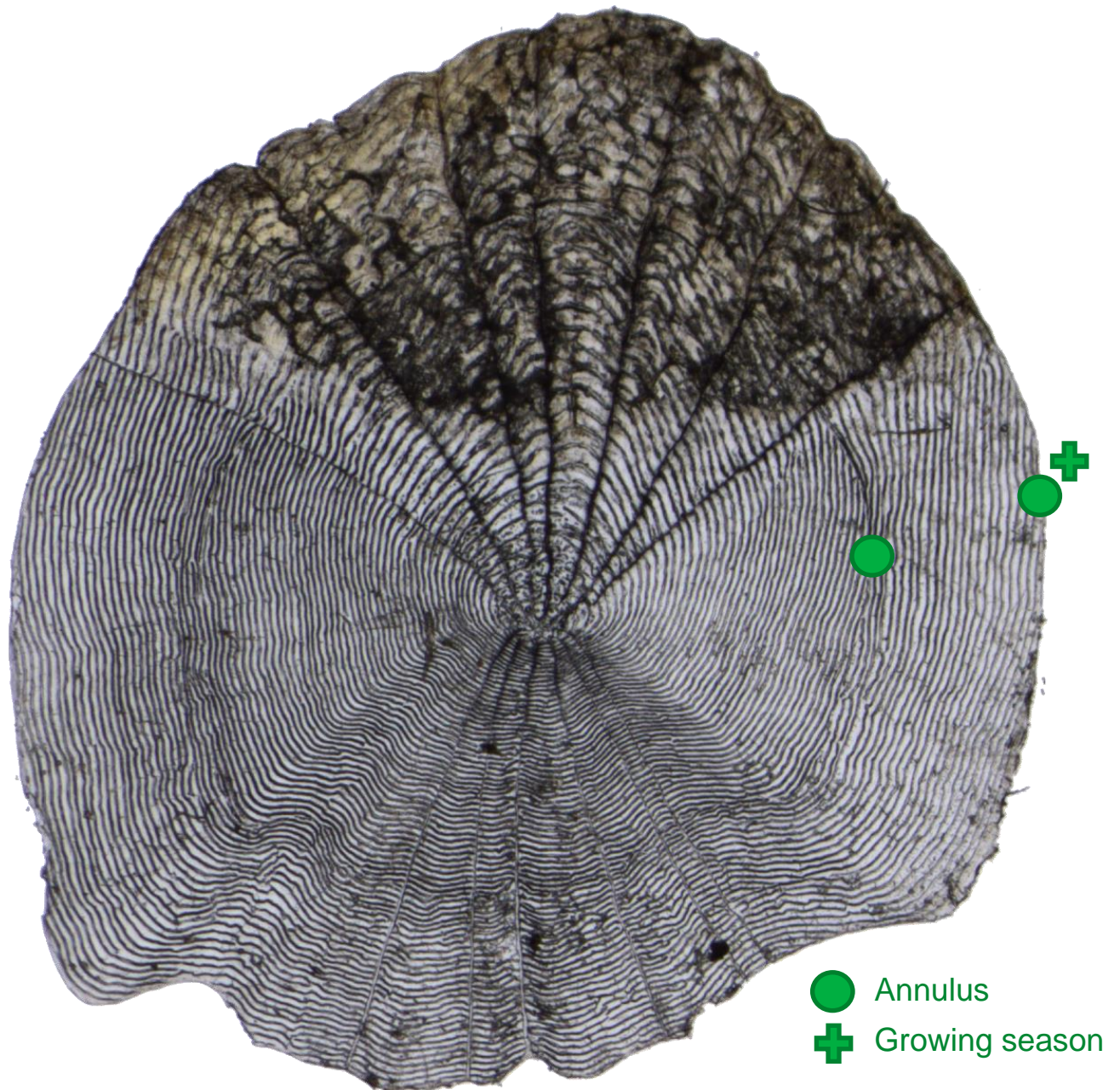


Figure 4. Example scale. Roach (fish 57) - 140mm, 2+.

Note: due to little or no growth so far this growing season, the 2nd annulus sits nearly on the scale edge.