www.boggart.org.uk
BOGGART HOLE CLOUGH COMMUNITY ACTION TRUST
Protecting and revitalizing Boggart Hole Clough Ancient Woodland Park

Report by volunteer Conservationists looking after Boggart Hole Clough Local Nature Reserve

Canada Geese population 2004-2010 data analysis

Boggart Hole Clough Community Action Trust (**BHCCAT**) works in partnership with, among others, Manchester City Council (**MCC**) the landowner of Boggart Hole Clough (**BHC**).

Excessive numbers of Canada Geese, an invasive non-native species, are causing problems in the Lake environs. They tend to push out indigenous waterbird species & graze aquatic marginal plants to extinction; their droppings, besides contributing to the growth of toxic blue-green algae in the Lake, create health & safety risks for customers outside the Lakeside Café. Therefore BHCCAT volunteer Conservationists are carrying out measures to reduce Canada Geese numbers.

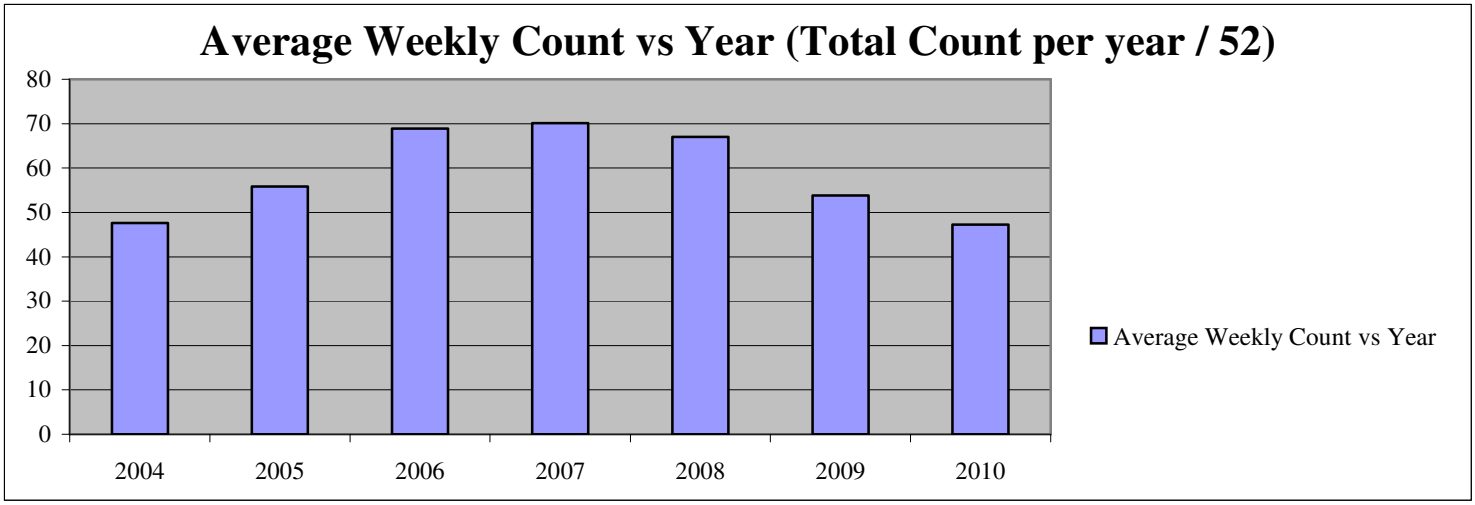
Canada Geese are attracted to the Lake area because the Island provides a suitable breeding / nesting site and because people at the Lakeside feed the birds.

- Licensed by Natural England, we have carried out during the past 2 years Canada Geese eggs control measures to stop the hatching of goslings (report on website); we intend continuing to carry out this measure for as many years as required. This curtailment of productive breeding should encourage the Canada Geese to breed elsewhere.
- In order to decrease people's feeding of the waterbirds we have produced a sign - '*Please don't feed the waterbirds*' (see website) - which we hope MCC will adopt & install around the Lakeside. In the meantime we distribute paper copies of this sign to people at the Lakeside seen feeding the birds many of whom then refrain from this activity.

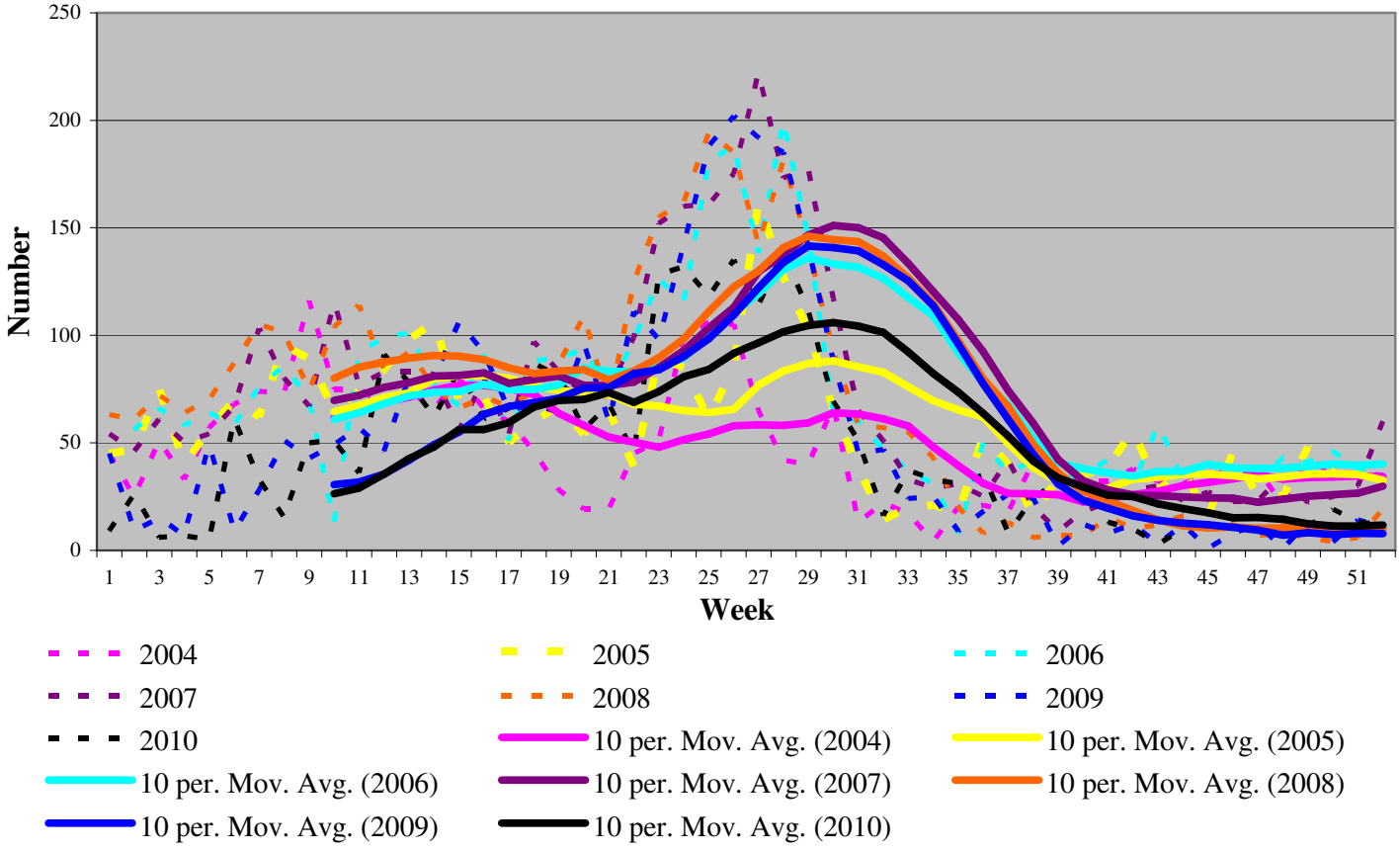
We have been counting the populations of the various waterbird species in the Lake environs every week since 2004 (survey results on website). Frank Cairns BSc has analysed the adult Canada Geese segment of this data in the form of the graphs & text in the 5 boxes below. This analysis shows that the 2 measures we are taking, as described above, appear to be working successfully to reduce Canada Geese numbers.

Data

When we look at the large amount of data and the method of collection (same time, same day, every week) there is little doubt the data is valid and ideal for use in providing accurate trending information about the population of Canada Geese in the Lake area at BHC. The graphs typically hold their distributed shape with little or no 'skew' from year to year again adding to the integrity of the data collected and the methods followed while doing so.



10-point Moving Average Trend



Notes on methods used in analysis

In statistics the moving average is used to analyse a set of data points by creating a series of averages based on subsets of the data. The moving average is commonly used with time series data to smooth out short term fluctuations and highlight longer terms trends and cycles. In the analysis of the presented data a 10 per moving average is used, hence the lack of calculated points for the first 10 weeks. There is the possibility of using points from week 42-52 from the previous year to provide the 'roll on' of the graph into week 1-10 but it was felt it would be better to keep data for each year completely separate on this occasion.

Observations and Conclusions

Peak population numbers occurred during 2007 showing fairly rapid growth from 2004. Similarly the decline has been just as rapid, and statistically I would expect this to continue next year, conditions remaining the same. It is reasonable to assume the intervention to disrupt the breeding of the Canada Geese, in tandem with the campaign to educate the public not to feed the Lake birds, is proving positive in reducing numbers. It is also reasonable to conclude that numbers of geese will continue to decline as the average age of the population increases and more die from old age (this is not taking into account any additional reductions from other natural causes e.g. predators, disease, etc).

Thanks to all BHCCAT volunteer Conservationists especially those most closely involved in this particular matter (Frank Cairns, Paul McCrystal, Sarah Gorman, Steve Hamilton) and to the following for their support:

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MANCHESTER CITY COUNCIL