

## **GEOGRAPHIC INFORMATION SYSTEM IN PEST CONTROL PROGRAMS, AN EXAMPLE WITH FERAL PIGEON (*COLUMBA LIVIA*) CONTROL PROGRAM IN MADRID CITY**

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**Abstract** Health Madrid as the municipal health administration of the City Council of Madrid (Environmental Health) manages pest prevention and control operations. Feral pigeons have increased during the last decades as one of the most frequent pest problems in Madrid City. The pest control sector, as almost all sectors, has always used maps. The inclusion of GIS technology has incorporated a new perspective, allowing spatial data to perform a much more important role due to the speed of complex geographical analysis or processes. This has represented a great opportunity for Health Madrid's Vector Control Unit to accomplish GIS-based programs (methodologies) for the prediction, prevention and control of cockroaches, rats, pigeons and other pests in Madrid City. After five years since the Unit systematically implemented Geographic Information Systems (GIS) in its feral pigeon control program, we present the know-how and results obtained in this period. GIS are useful in different phases of pest control, beginning with a simple map of residents' sightings, following with population census map or more complex correlated variables maps. As well as analysing control methods, the system allows the vector risks or Program results to be evaluated. After visualizing and understanding the implications of GIS-based programs we are convinced, and believe that other professionals will be too, that GIS is an essential tool for local pest management and particularly for managing urban bird populations.