Using the geolocated InfoUSA household data (used under DUA, not included), the Census TIGER block group files (in the “NC_blckgrp2010” folder0 and the community water system shapefiles (in the “NC_CWS_service_areas” folder), we use spatial join to identify the block group and community water system for each household. We export the GIS data into csv format and the data are “InfoUSA2014_2010CensusBlck.csv”, “InfoUSA2014_2010CensusBlckgrp.csv” , “InfoUSA2014_CWS_Merge.csv”.

Using geolocated hog data (in the “NC_HogData” folder), poultry (not included) data, and geolocated InfoUSA household data (not included), we use “Generate Near Table” tool to calculate the distance between hog/poultry farm and InfoUSA households. We then export the layer to csv file called “InfoUSA2014_AFO_GEODESIC_5km.csv” and “InfoUSA2014_Poultry_GEODESIC_5km.csv”.

We use the boundaries of counties (Brunswick, Carteret , Currituck, Dare, Hyde, New Hanover, Onslow, Pender) that are on the coast to define the coastline. We define the household as coast if the household lives within 5 miles of coastline. The exported data are “NC_County_Coastline_InfoUSA2014_GEODESIC5Miles.csv”.

To exclude urban households, we first draw the inner buffer of the urban areas and InfoUSA households in the inner buffer are defined as urban households. We defined the urban households for all 3/4/5km buffer. The exported data are “NC_CensusUrbanAreas2010_Negative3kmBuffer_InfoUSA_Join.csv”, “NC_CensusUrbanAreas2010_Negative4kmBuffer_InfoUSA_Join.csv”, and “NC_CensusUrbanAreas2010_Negative5kmBuffer_InfoUSA_Join.csv”. We also use actual urban areas to find households living in urban areas, the exported data are “InfoUSA2014_UrbanArea_Match.csv”.