

# A NOTE ON (I) THE RELATIONSHIP BETWEEN STATISTICAL GEOGRAPHIC UNITS AND ADMINISTRATIVE GEOGRAPHIC UNITS AND (II) THE AREA MEASUREMENTS OF STATISTICAL AND ADMINISTRATIVE GEOGRAPHIC UNITS

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Guidance Note

## 1. Introduction

The statistical geographic units for 2011 Census outputs have been designed in such a way that they are based on, and fully nested within, the current administrative units (the wards and Local Government Districts introduced in 1992). Thus Small Areas (statistical unit) nest within Super Output Areas (statistical unit) which in turn nest within electoral wards (administrative unit). Further detail on this can be found in the geography section of the NISRA website.<sup>1</sup>

The statistical units for the 2011 Census are based on the Census Output Areas (COAs) developed for the 2001 Census. In developing the new 2011 Small Areas, NISRA has become aware of some minor differences between the boundaries of statistical geographic units and the current boundaries of administrative units, namely wards as disseminated on behalf of the Local Government Boundary Commission by Land and Property Services (LPS). This is likely to have come about through LPS improvements to ward boundary sets since the 2001 Census – the COA boundaries were developed in 2001 and were constrained to ward boundaries at that time. It is noted that there have been no boundary reviews since 2001, and ‘changes’ to boundary files disseminated by LPS merely reflect enhanced data sets and data resolution.

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<sup>1</sup> Geography section of the NISRA website:  
<http://www.nisra.gov.uk/geography/home.htm>

February 2013

The ward boundary sets used for Census reporting have not been updated since 2001, since they represent the aggregation of COAs (2001) and SAs (2011). This short note describes the magnitude of differences between the ward boundary sets used for Census reporting and those disseminated by LPS. It is stressed that the differences are minor, and the purpose of this note is to explain and quantify the differences.

Clearly different boundary sets will affect area measurements, and the note goes on to describe the impact of the boundary differences on the area measurement of administrative units. The definition of 'Standard Area Measurement' follows European standards, for example regarding the exclusion of areas of inland water – for further detail can be found on the Office for National Statistics website.<sup>2</sup>

The resulting differences in Standard Area Measurement for administrative units are considered negligible and will only have a very minimal impact on statistical processes carried out using those datasets. The two most extreme instances are presented below for information purposes.

## **2. Donagh and Brookeborough wards (Fermanagh Local Government District)**

The map below (Picture 1) covers parts of Donagh (shown in blue) and Brookeborough (shown in red) wards in Fermanagh Local Government District. The official ward boundary between the two wards is delineated by dark red / brown line running roughly east – west on the map.

The Census look-up tables show Small Area N00002978 as lying within Donagh ward. However, the boundary files for N00002978 disseminated by NISRA follow the blue boundary line on the map, which places two small land areas from N00002978 within Brookeborough ward – these two areas are shaded yellow on the map below,

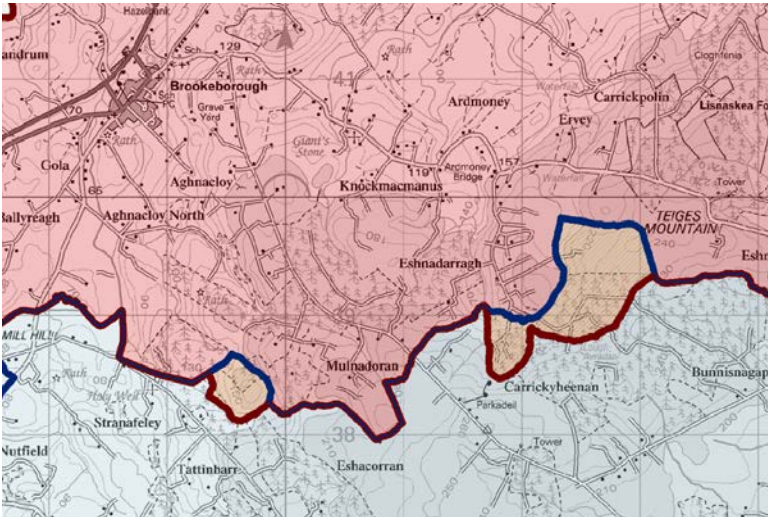
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<sup>2</sup> More information on 'UK Standard Area Measurement' is available from:  
<http://www.ons.gov.uk/ons/guide-method/geography/products/other/uk-standard-area-measurements--sam-/index.html>

February 2013

and have a combined surface area of 104 hectares. The blue line reflects a previous version of the ward boundary set.

### Picture 1



If the areas of the two wards are determined by aggregating the relevant Small Areas, this results in a slight difference in cumulative estimated area for each electoral ward of approximately one per cent when compared to the Standard Area Measurements that relate to the administrative units disseminated by LPS. This difference in area will flow through to Census statistics on population density.

There are no properties located in the areas shaded yellow, and consequently there will be no impact on any other 2011 Census outputs published at any level of geography.

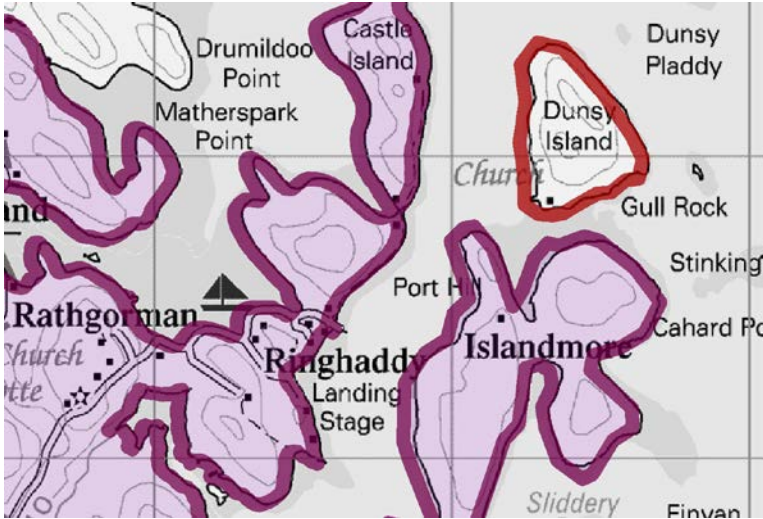
### 3. Derryboy ward (Down Local Government District)

Dunsy Island, circled in red in Picture 2 below, is located north of Islandmore and does not feature as part of the official administrative boundaries of Derryboy ward (in purple).

However, the definitive address database for Northern Ireland, POINTER, published by LPS, shows that there is at least one property on this island.

February 2013

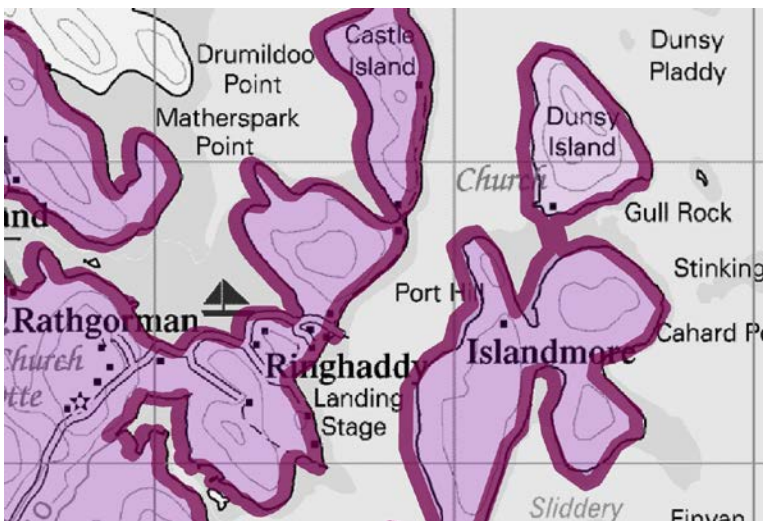
## Picture 2



In line with the 2011 Census methodology, the relevant statistical geographic unit – namely Small Area N00002686, constituent of Derryboy ward – has been modified and its boundaries extended to incorporate and consequently account for all properties on Dunsy Island. This is illustrated on Picture 3.

This results in a slight increase (15 hectares – c. 0.03 per cent of the total ward surface) of the Standard Area Measurement of the Derryboy ward when calculated by aggregating its constituent Small Areas as opposed to the administrative boundaries disseminated by LPS.

## Picture 3



February 2013

## **4. Summary**

At the time of the 2001 Census, NISRA developed a statistical geography of Census Output Areas (COAs) and Super Output Areas (SOAs) that nested exactly within administrative units (electoral wards).

Since 2001, there have been no official reviews of electoral wards.

For 2011, NISRA has reviewed the 2001 COAs and SOAs, replacing 2001 COAs with 2011 Small Areas but where each 2011 Small Area represents either a single 2001 COA or an aggregate of 2001 COAs.

For Census reporting, NISRA continues to use ward boundaries that are aggregates of COAs/SAs/SOAs. These ward boundaries are unchanged since 2001.

In the interim, LPS has enhanced the ward boundary files that it disseminates. This leads to small differences in the boundary files (and consequently, land areas) for electoral wards, as disseminated by LPS and as used for Census reporting.

More detailed information relating to the policy for main geographic outputs from the 2011 Census can be found on the NISRA website.<sup>3</sup>

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<sup>3</sup> 'Policy for main geographic outputs from the 2011 Census' is available from:  
<http://www.nisra.gov.uk/archive/census/2011/geographic-outputs.pdf>