

Evidence

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The extent of saltmarsh in England and Wales: 2006–2009

Project summary

Over the past four years, the Environment Agency has gathered high resolution aerial photographs to map the extent of saltmarsh in England and Wales, in order to determine a full national picture of its extent. This project incorporated outputs from three flight and mapping programmes coordinated by various Environment Agency departments including:

- Regional Coastal Monitoring Programmes (RCMPs);
- Marine Monitoring Service (MMS) under its Water Framework Directive requirements;
- Strategy and Engagement Team in Flood and Coastal Risk Management (FCRM).

Scientists from the Environment Agency incorporated the work of external contractors and used a consistent and repeatable method to produce a new baseline map of saltmarsh in England and Wales. This has provided a national picture which can also be scaled for local or national use.

Saltmarsh provides important natural resources and ecosystem services. For example, by reducing wave energy in front of tidal defences, saltmarsh provides demonstrable flood and coastal risk management benefits. It is of immense value to wildlife, supporting habitats and species of national and international significance.

The aerial survey work was carried out by two contractors (Fugro-BKS and BLOM Aerofilms) and the Environment Agency's own Geomatics Group. Mapping work was undertaken by Peter Brett Associates, Hyder, MMS and Geomatics Group. MMS carried out the final collation of the mapping data.

The last complete survey of saltmarsh extent in the UK was completed by the Nature Conservancy Council in 1989. Since then surveys from a national perspective have been ad hoc, fragmented and localised which has made it difficult to appreciate whether saltmarsh is being gained or lost nationally.

Differences in the methods used to map saltmarsh can be considerable and so caution was applied by the Environment Agency team in comparing the new national figures for saltmarsh extent in England and Wales with previous historical figures.

The team identified possible sources of error and limitations in the methodology at a national level in order to estimate the extent of saltmarsh change. Error calculations are only possible at a national level because there are risks with trying to compare historical data with the new baseline at a local level. Findings suggested that the rate of saltmarsh loss at a national level has been slower than previously thought. Our improved understanding of the national rate of saltmarsh change means that the national figure for gain/loss of saltmarsh may need to be revised.

Future work is recommended to further validate the new figures, especially in areas where there is considerable freshwater marsh and other transitional zones into which saltmarsh mapping may have been extended.

It is vital for the Environment Agency to have an accurate assessment of saltmarsh extent so that it can assess the progress it is making to meet its legal obligations for biodiversity. The creation of a consistent baseline figure for the extent of saltmarsh in England and Wales will also allow future assessments to be compared with confidence.

This summary relates to information from the following output:

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