

**Name of Method:** Saltmarsh Analysis

**Summary of Method:** The method involves the analysis of historical maps, charts and other archives to determine how the marsh may have changed over time. Depending on the level of detail required and the data available, the assessment may include mapping of species to enable saltmarsh dynamics and community changes to be more accurately assessed. Data commonly used includes aerial photography, from which the features including the extent of the marsh can be extracted and transposed into digital format, primarily into a GIS system.

Problems with the use of early photographs can be at least partially resolved by the use of CASI imagery, which has become increasingly available in recent years and helps in the delineation of vegetated areas and even the classification of flora. The use of such data can be combined with detailed elevation maps from LiDAR, to improve the extent and confidence in vegetation classification.

Once a series of images are available in digital format, a change analysis can be conducted. Depending on the image type and quality, this may be restricted to saltmarsh extent or include issues such as percentage vegetation cover, desiccation or change in community structure.

**Advantages of Method:** Provides a visual record of historical change in habitat extent and potentially habitat structure with time.

**Limitations of Method:** Errors during the interpretation of data from photograph to digital are typically related to the quality of early photographs and the ability to determine the marsh front due to variations in morphology and algal cover. Ground truthing is usually required, including saltmarsh vegetation identification. Specialist software is required (GIS) together with the availability of suitable images.

**References:** [www.estuary-guide.net](http://www.estuary-guide.net)