

## Devon and Severn IFCA News

### Stock Assessments of Cockle and Mussel Beds

Devon and Severn IFCA undertake annual mussel and cockle surveys in several estuaries throughout the District.



Over the last couple of months D&S IFCA Officers have been undertaking stock assessments of several shellfish beds. Mussel beds were surveyed in the Exe, Teign and Taw-Torridge estuaries, while cockle beds were surveyed in the Exe, Teign and Devon Avon estuaries. These surveys are carried out annually, in line with [D&S IFCA's Annual Plan](#) to build up a long-term picture of the stock status of each bed, which is used to inform management of the resource. This year's data is still being analysed and reports will follow shortly, but previous year's reports can be found on our [website](#).

Shellfish beds form important habitats for many species in estuaries, particularly as a significant source of food for over-wintering and migratory wading bird populations. These birds are often priority features of an estuary designated as a [Marine Protected Area](#) (MPA), such as the Exe Estuary SPA or the Taw-Torridge SSSI. Cockle and mussel beds play an important role in the healthy functioning of marine ecosystems, not just by acting as a food source to wading birds, but mussels provide an enhanced area of biodiversity in an otherwise sediment-dominated environment. Mussel beds support their own diverse communities as the mussel matrix, composed of interconnected mussels and accumulated sediments and debris, provides numerous microhabitats and an organically enriched environment.

#### How are the surveys conducted?

The surveys work best with two or three teams working together. This allows more of the sites to be covered on the low tides when the beds are exposed. Teams comprise of D&S IFCA's Environment Officers and quite often the Enforcement Officers are needed to add to the numbers. Partner organisations sometimes assist, and Standard Operating Procedures ensure the survey work remains consistent each year.

For cockles, predetermined sampling points are visited by using a handheld GPS. A quadrat is used, and a small area of sediment is dug out. After sieving, the cockles are retained until

they can be measured and sorted into year class. To determine cockle density, the data is transferred into Mapinfo GIS software to produce the maps.

A GPS is also used for mussel surveys. To determine coverage and patch density, transects are walked in a zig-zag pattern with a cane with an 11cm ring attached to the end. Every three steps it is positioned on the ground and a "hit" or "miss" is recorded. On every fifth "hit" a sample is taken.

Once all transects are completed the mussel samples are sieved and cleaned. Mussels are divided into size groups with each group being weighed separately and the total weight for each group recorded. The data are used to calculate the coverage, density and area of the mussel bed, which are then used to estimate the mussel tonnage on each bed.

### **Temporary Closure of Beds**

The public mussel beds in the Teign and the Exe Estuaries have been closed to the removal of mussel since 1<sup>st</sup> May 2019, after data from the D&S IFCA stock assessments concluded stock levels were too low and needed extra protection to ensure the resource remained as a food source for overwintering birds. Details of the closed areas can be viewed for both the [Teign and the Exe](#).

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