

## SUMMARY FRESHWATER INVERTEBRATE SURVEY

The construction of the hard stands for the turbines within the proposed development is likely to result in the disturbance of soils in the vicinity. The runoff from this movement of soil could potentially introduce silt into the local watercourses. To establish if such activities will impact on the local drainage scheme, streams within a 50 meter radius of the proposed hard stand location were sampled. Two streams within the proposed development site fell within these criteria. These streams were sampled upstream and downstream of the proposed stand location to determine baseline conditions. ( 4 monitoring locations)

The area is dominated by intensive agriculture primarily improved grassland for grazing or silage and smaller areas of tillage. Field size is moderate to large and hedges vary in quality. Mature trees generally occur in conjunction with dwellings or have developed from existing hedges. The streams, which could potentially be impacted by the development drain to the Bandon River, which lies to the south.

On the basis of the protocol (Toner *et al.*, 2005) **all four sites** were designated Q3-4, i.e. "slightly polluted". Intermediate designations were allocated as there were invertebrates present in numbers that dictated both Q3 and Q4 status at all four sites.

Results indicate that water quality is unsatisfactory at all four monitoring locations. Watercourses of this type located within an intensively farmed landscape are particularly susceptible to localised nutrient enrichment. This is particularly true of smaller watercourses, which due to their low flows have limited assimilative capacities. Sources of nutrients may include surface run-off from land in receipt of landspread animal waste or chemical fertiliser. Open cattle drinking points may also contribute nutrients and silt. It is also noted that smaller streams may dry up completely in very dry weather leading to a depauperate macroinvertebrate fauna.

The surveyed streams are unsuitable for freshwater pearl mussel however given that the streams drain to the Bandon river which holds significant populations it is recommended that as a precautionary step certain mitigation measures are implemented.

It is recommended that all turbines are located at least 25m from watercourses to prevent increased siltation. Stockpiled material should also be stored 25m from any watercourse and positioned so that any run-off to watercourses is prevented. A worst case scenario i.e. torrential and prolonged rain on stockpiled material and bare ground should be actively planned for prior to the commencement of works. If necessary groundwork should be planned for drier periods i.e. summer to early autumn.

The construction management of the site will take account of the recommendations of the CIRIA guides *Control of Water Pollution from Construction Sites 2001* and *Control of water pollution from linear construction projects 2006* to minimise as far as possible the risk of pollution.

Likely Impact of the Development

### **Construction phase**

Provided that the mitigation measures are effectively implemented the risk to local watercourses is considered slight. Any impact will be short-term and localised and there will be no significant risk to the Bandon River.

### **Operational phase**

No impact on watercourses is expected to occur during the operational phase.