This large contains a composite of diverse habitat types, predominantly marine. The site includes considerable stretches of dune systems up the western coast of the Mullet Peninsula. Behind the dunes and extensive areas of dune grassland and machair. Despite the recent changeover from commonage to divided "stripes", these grassland are of considerable botanical importance. The site also includes several brackish lakes i.e. Termoncaragh, Cross Lough and Leam Lough, which are important to breeding waders (Dunlin, Snipe, Lapwing, Redshank and Ireland's only site for breeding red-necked phalarope) and to wintering wildfowl (tufted duck, scaup, whooper swans, golden plover and barnacle goose).

Along the shoreline of Blacksod Bay, saltmarshes occur in sheltered bays and inlets. Blacksod Bay itself holds internationally important numbers of brent geese, as well as considerable numbers of oystercatchers, curlew, bar-tailed godwit, ringed-plover, redshank, dunlin and sanderling.

In summary, the Mullet/Blacksod Bay Complex is important for the range and extent of maritime and coastal habitats and for important numbers of breeding waders and wintering wildfowl.