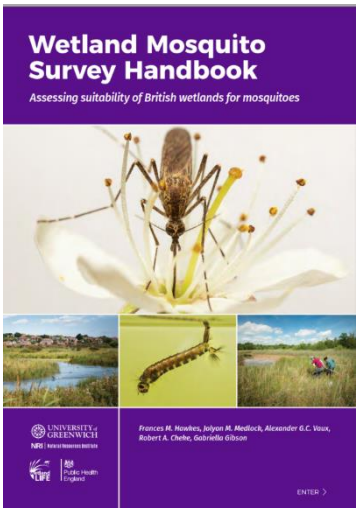
The Moors at Arne
Biting Insects and Ticks FAQ

July 2021

How do we know about biting insects at the Moors at Arne?

Public Health England (PHE) carried out baseline studies in the locality in 2017 and 2019 which were used as part of their ongoing work into mosquitoes in British wetlands, published in 2020.



Alongside this information the project:

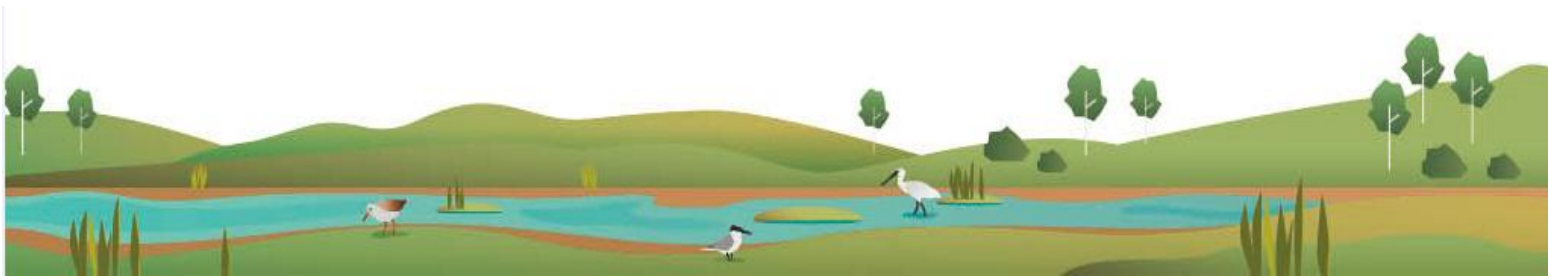
- reviewed the physical changes that would be caused, using the outputs from the tidal computer modelling work
- used the assessment guidance provided in the PHE Wetland Mosquitoes Survey Handbook (Hawkins et al, 2020)
- carried out informal consultation with the researchers from Public Health England.

(Hawkes, F.M., Medlock, J.M., Vaux, A.G.C., Cheke, R.A. and Gibson, G., 2020. Wetland Mosquito Survey Handbook: Assessing suitability of British wetlands for mosquitoes. Natural Resources Institute, Chatham, UK).

What biting insects are currently present?

Mosquitos: Public Health England undertook trapping surveys in the area to capture and record adult mosquitoes. There were nine species of adult mosquitoes captured which were typical of acidic pools, acidic bogs, brackish pools and ditches, summer flooded grasslands and fens. Some species of adult mosquitoes can fly long distances from their larval habitats (up to 10km) so the surveys indicate the range of species present in the wider area. Additional larval surveys were also undertaken between 2017 and 2019 and found low numbers of mosquito larvae, which were all native British species.

Mosquito Culex Modestus - © Alchetron



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Ticks:

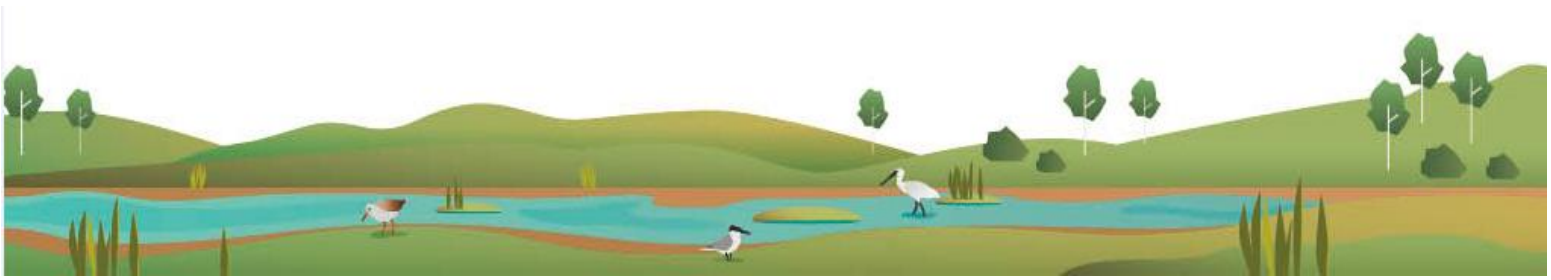
Deer ticks are arachnids and they are notable for potentially carrying Lyme's Disease, which can be harmful to humans. With the healthy populations of deer across the Arne Peninsular it is reasonable to assume that ticks are currently likely to be present across The Moors at Arne (*Ixodes ricinus*).

Deer tick (Ixodes Ricinus)

***Blandford Fly*:**

Bites have been reported anecdotally within the locality of The Moors at Arne. However the current habitats within The Moors are not typical of the breeding needs of Blandford Fly, which is notably prevalent in the flowing rivers of mid-Dorset.

Blandford Fly - © Oxford Health NHS Foundation Trust



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How will the project affect the presence of biting insects?

The project will result in change to approximately 116 ha of the existing habitats; from an area dominated by coastal and floodplain grazing marsh habitat, to a mosaic of around 78 ha of intertidal habitat, and 38 ha of shallow saline lagoons. The largely freshwater system will change to a saline-dominated habitat.

Mosquitoes

Only 5 of the 35 species of UK mosquitoes can utilise saline dominated habitats. No mosquitos are able to breed in a fully tidal environment and mosquitoes cannot breed in large open bodies of water.

Aedes detritus - salt marsh mosquito
©Anders Lindström

The project will therefore have a **net reduction** in the amount of habitat that has the potential to support mosquitoes.

The wider unchanged area around the Moors at Arne, which is a landscape of extensive natural habitats comprising saltmarsh, reedbed, fens, mire, heath and woodland habitats, will continue to support populations of mosquitoes in the same way as found by PHE.

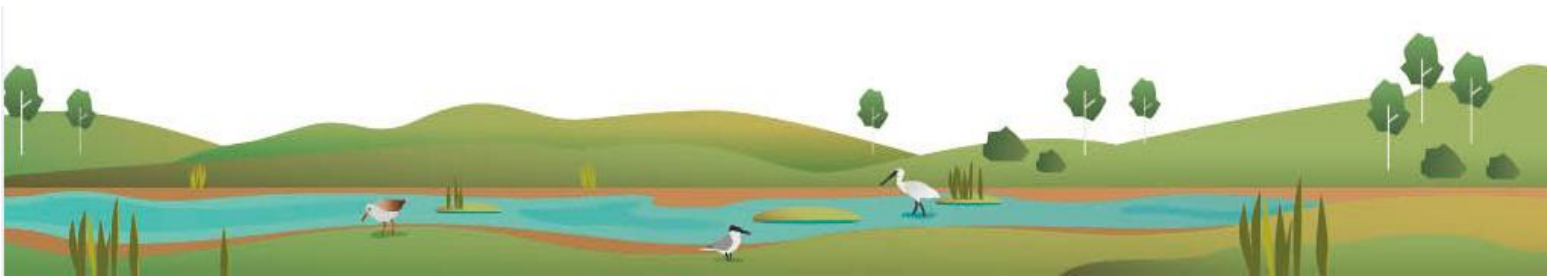
Deer Tick

The new habitats created by the project will be **unsuitable** for deer tick. This will create a **net reduction** in potential habitat for deer tick but they will continue to be present in the surrounding existing habitats.

Blandford Fly

Typical habitats for the Blandford Fly to breed are flowing rivers and streams with step sided banks. These types of habitat are largely absent from The Moors at Arne.

Therefore there is **no change** in the health risk as a result of the project.



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Will monitoring be in place after the scheme has been created?

The work on biting insects has shown that the project proposals will result in a net reduction in habitat able to support mosquitos, deer tick and Blandford Fly. There is therefore no proposal to carry out specific project monitoring for these species. Other public health work may continue to support the wider scientific understanding of wetland insects.

Will climate change increase the risk of diseases associated with biting insects at the Moors at Arne?

Reviews of the long term consequences of climate change in the UK (Parliamentary Office of Science and Technology (POST), 2019, Medlock and Leach, 2015) have highlighted the possibility of diseases such as Dengue virus, Chikungya Virus and West Nile Virus being at risk of being brought into circulation in the UK in the future, as climatic conditions become more favourable for the mosquitos that transmit them (which are currently non-native to the UK).

These mosquitoes breed in 'container habitats' for example water-filled tree holes. No such suitable habitats for these species will be created by the Project, and there is therefore **no change** in terms of the potential risk of establishment of these diseases.

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