THE MOORS AT ARNE

Environment Agency

RSPB ENGLAND

NATURAL ENGLAND

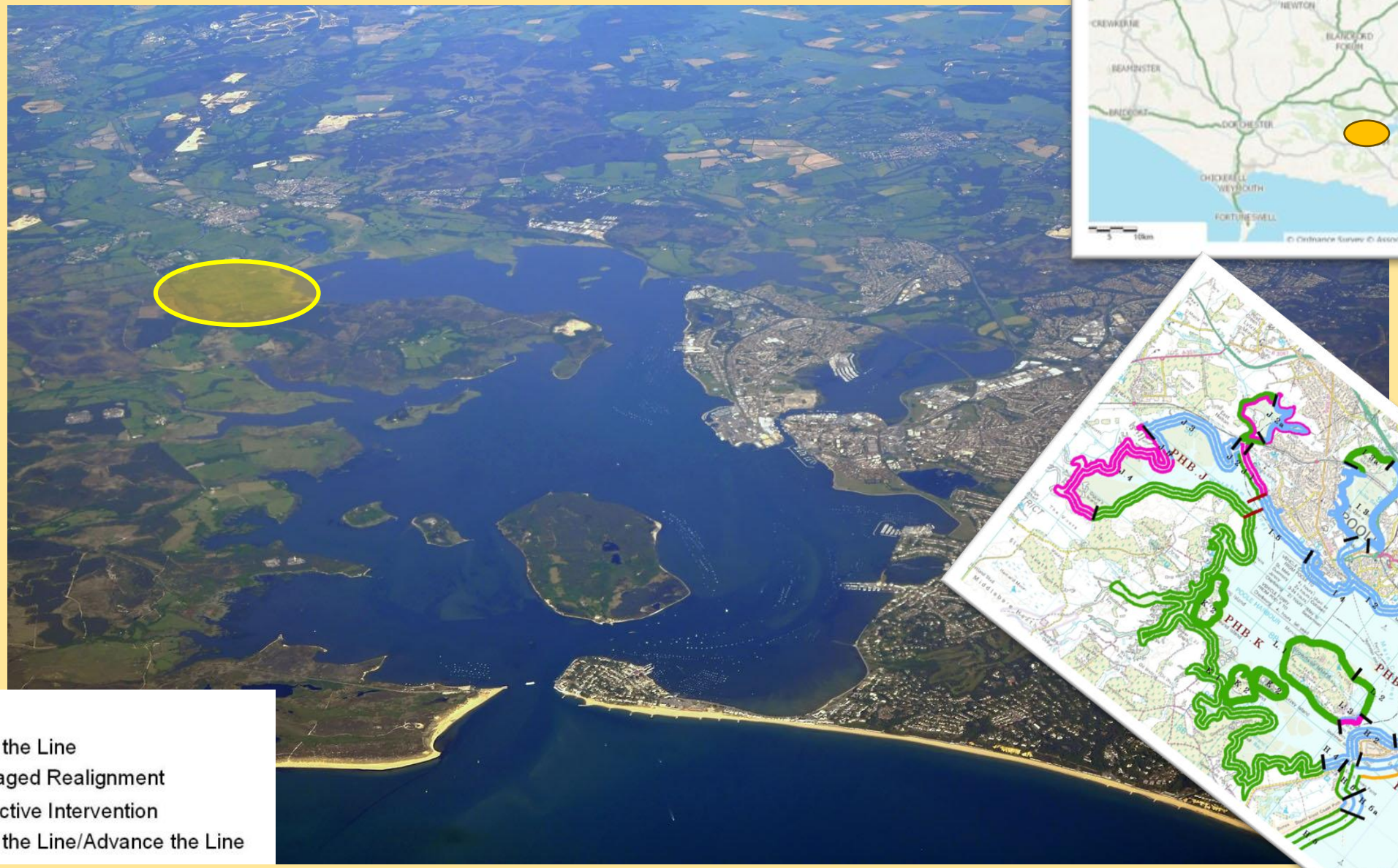
Creating a mosaic of inter tidal habitat, freshwater habitat and saline lagoons

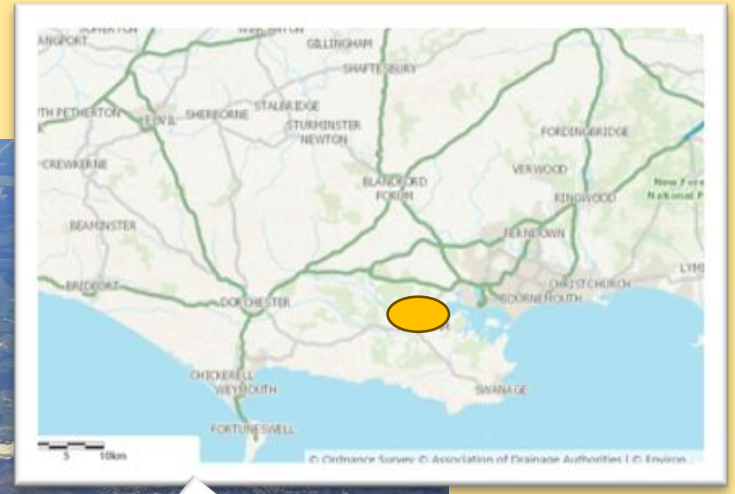


Making Way for the sea – The Moors at Arne Transformation

Neil Watson, Environment Agency
Project Executive

Context within Poole Harbour





Policy

- Hold the Line
- Managed Realignment
- No Active Intervention
- Hold the Line/Advance the Line

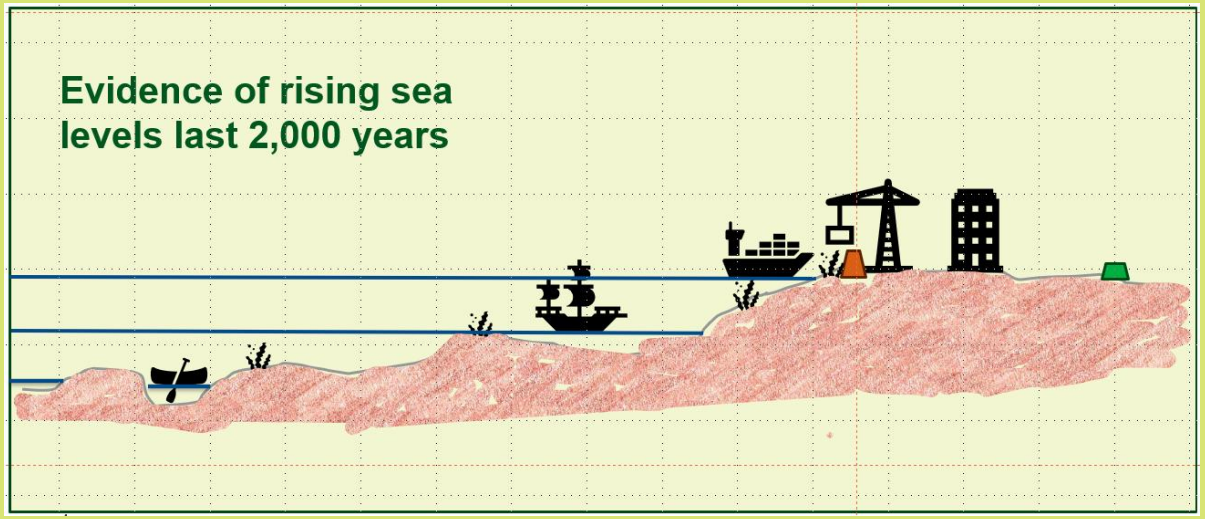
Harbour Evolution

Below: Map showing stages in the development of Poole Harbour
©Peter Lightfoot of Media Graphix Ltd



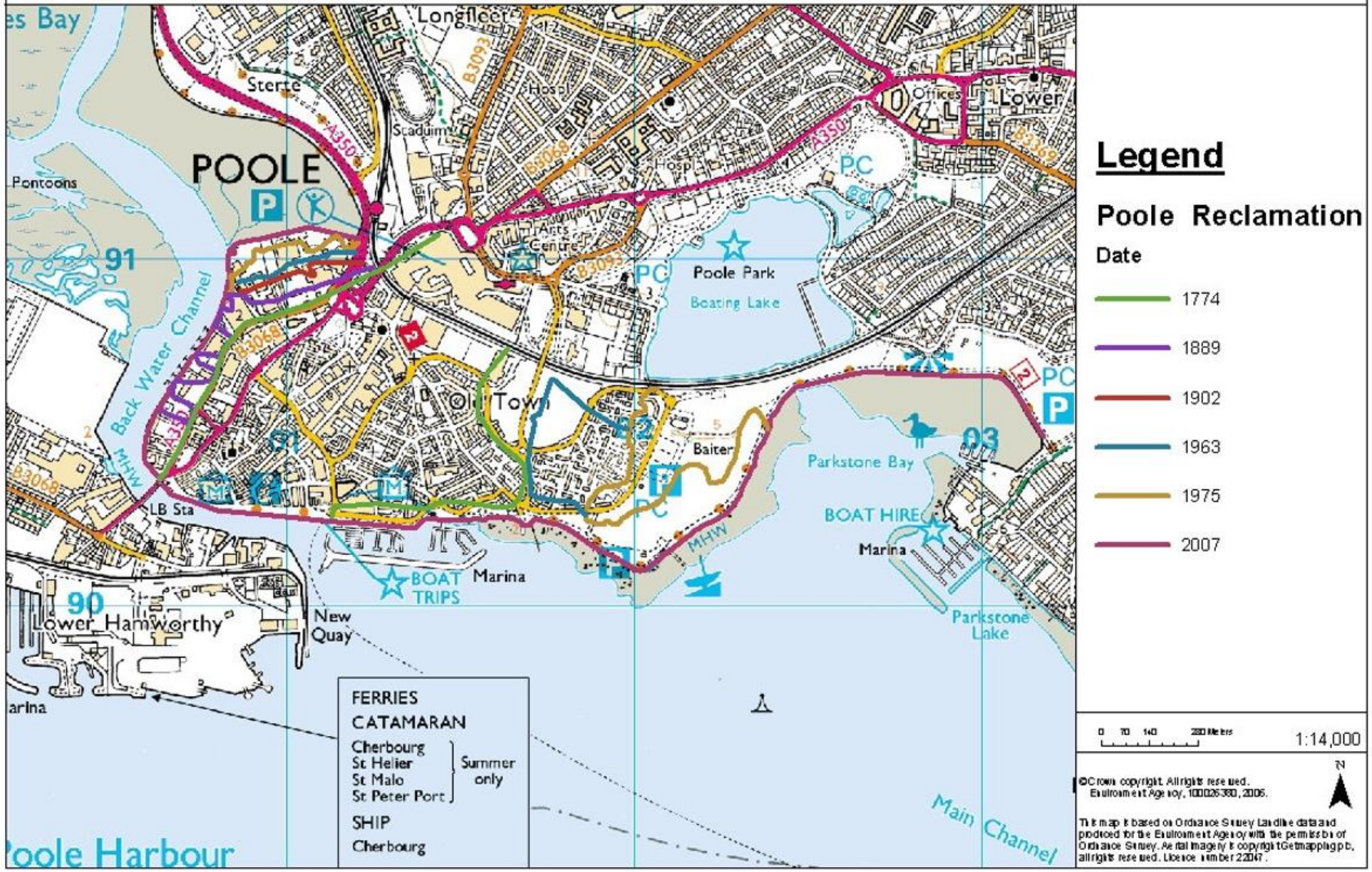
Past Sea Levels

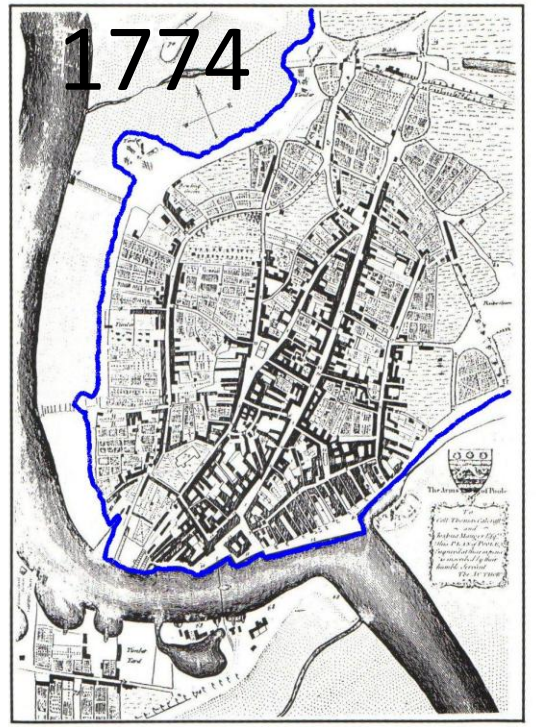
Era	Years before present	Sea level
Late Pleistocene	129,000	> - 30 m OD
Early Post Glacial	120,000	- 22.5 m OD
Early Mesolithic	14,000	- 9 m OD
Late Mesolithic	12,000	- 5 m OD
Neolithic	6,000	- 4 m OD
Early Bronze Age	4,300	- 3 m OD
Late Iron Age	2,100	-1.5 OD
Mid Saxon	1,400	-1 m OD

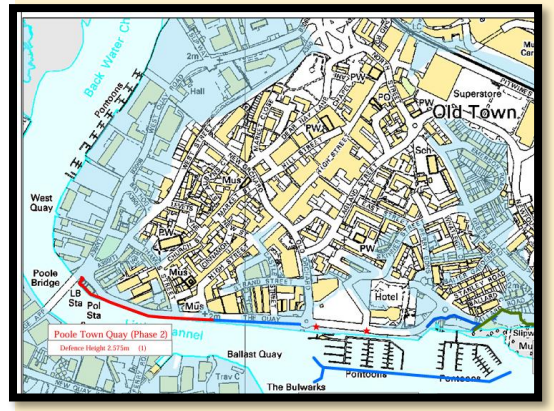


POOLE TOWN HISTORIC LAND RECLAIMATION

ENVIRONMENT AGENCY







Present day flood risk



Geomatics Group

Bournemouth Borough Council

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Visualisation - Flood Simulation 2018/2118

Mean High Water Neap Tide

Arne Moors Special site

Protected environment

Historic reclamation

RSPB breeding waders

Freshwater grazing marsh

Protected species

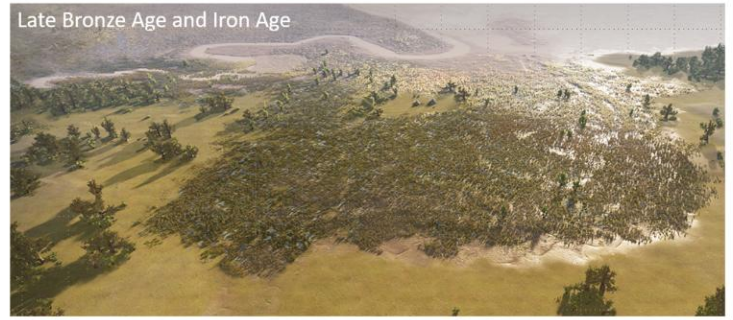
Coastal Squeeze

Changing landscape

Do nothing consequence









What are the new features?

A Shallow saline lagoons for bird roosting when high tide in harbour.

B Three open breaches to allow tides to flow freely in and out.

C **Eastern Embankment** To protect Special Area of Conservation (SAC) habitat from extreme tides.

D New Furzebrook Outfall structure.

E **Western Embankment** to protect property and freshwater area from extreme tides.

F Walking routes link to RSPB ARNE reserve.

G Two disabled parking spaces.

H New public access routes with viewing points.

I Freshwater area to preserve important plants and species.

J New Causeway Outfall structure

K New Intertidal area



Ecological constraints

















- Water vole
- Otter
- Bats
- Breeding birds
- Overwintering birds
- Reptiles: adder & sand lizard
- Protected botany (e.g. Scorzonera)

- Invasive botany
- Invasive Fish

- PLUS UXO
- Heritage/Archaeology
- Protected sites

Digging up the past: Bronze Age spade unearthed at RSPB Arne Moors

One of the oldest and most complete wooden tools ever discovered in Britain has been uncovered during habitat creation work for RSPB Arne Moors.



Bronze Age spade made of carved wood, c.3,500–3,400 years old, found near RSPB Arne in Dorset. 3D render by Wessex Archaeology

History and archaeology probably aren't the first things that spring to mind when you think about the RSPB. But there's much more to our work than you might imagine.

From prehistoric burial mounds to Second World War pillboxes, RSPB reserves are full of fascinating historic sites that offer an insight into our hidden past.

We have a responsibility to preserve the heritage on our reserves for future generations, and that's why we employ a small team of archaeologists. These archaeologists help our reserves staff to appropriately manage any historic features on the site, and they sometimes collaborate with external archaeologists on larger projects, such as habitat creation schemes.

It was during one of these habitat creation schemes, that an incredibly rare discovery was made.

Discovering hidden history

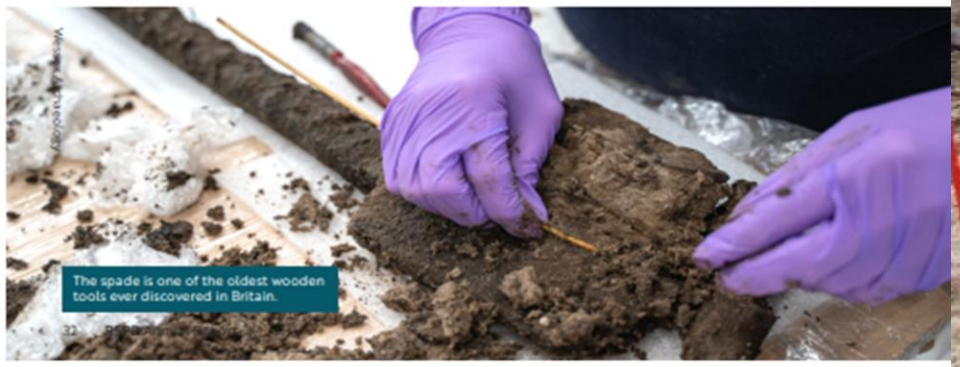
With rising sea levels threatening to destroy important wildlife habitat around Poole Harbour, we're working with our partners the Environment Agency, AtkinsRéalis, Natural England and UK construction company Kier, to transform 150 hectares of land close to our Arne nature reserve into vital wetlands for wildlife.

During excavation work for The Moors at Arne Project, archaeologists from Wessex Archaeology unearthed an extremely rare and almost complete prehistoric wooden spade.

Scientific analysis has revealed that it dates from the middle Bronze Age, between about 1500BC and 1400BC, making it one of the oldest wooden tools ever to be discovered in Britain. It's very rare for organic matter to survive this long in the ground, but the site's waterlogged conditions helped preserve the spade for more than 3,000 years.

Peter Robertson, Site Manager of the RSPB's Dorset nature reserves, said: "It's been amazing to learn about the history of the RSPB land at Arne Moors. The discovery of this incredible wooden spade really brings that history to life as you imagine someone fashioning and using it 3,500 years ago.

"We have looked after the site, near to our RSPB Arne nature reserve, for more than 25 years and are excited for the project to help protect bird species including Redshanks, Avocets, Common Terns and Sandwich Terns. Without this work, this unique coastal landscape and its wealth of protected species could be lost in the future."



The spade is one of the oldest wooden tools ever discovered in Britain.

Construction Cost

£44,000,000

Project stats
180 Ha site
78 Ha intertidal
Aggregate 150,000m^3
2.7 Km embankment
7.5 Ha Archaeology
300 Boreholes
83 Bird nests (2025)
157 Adders
2,500 Reptiles moved
Turf translocate 15Ha
Aquatic botany saved
8 Sand lizard bunkers
250 Tubes of Pringles



What can we learn from this transformation?



- Adaptation to rising sea levels is essential for people and habitat
- Making way for the sea can be challenging in reclaimed areas
- Finding more sustainable ways to work with natural processes is key
- Urban communities need to learn why the Moors at Arne took place
- Project like this take a long time to come to fruition

Thankyou!

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The answer: ‘Why so many Pringles?’

