

The Moors at Arne Project

Stakeholder Liaison Group
Meeting 3



giving
nature
a home



Environment
Agency

NATURAL
ENGLAND

Stakeholder Liaison Group

Agenda

1	Introductions	5 mins
2	Review of notes from last meeting	5 mins
3	Brief project update and discussion	15 mins
4	Feedback from Public Exhibition	15 mins
5	Purpose of lagoons	15 mins
6	Update on public access discussions	30 mins
7	Next steps	5 mins
8	Date of next meeting	

The Moors at Arne Project



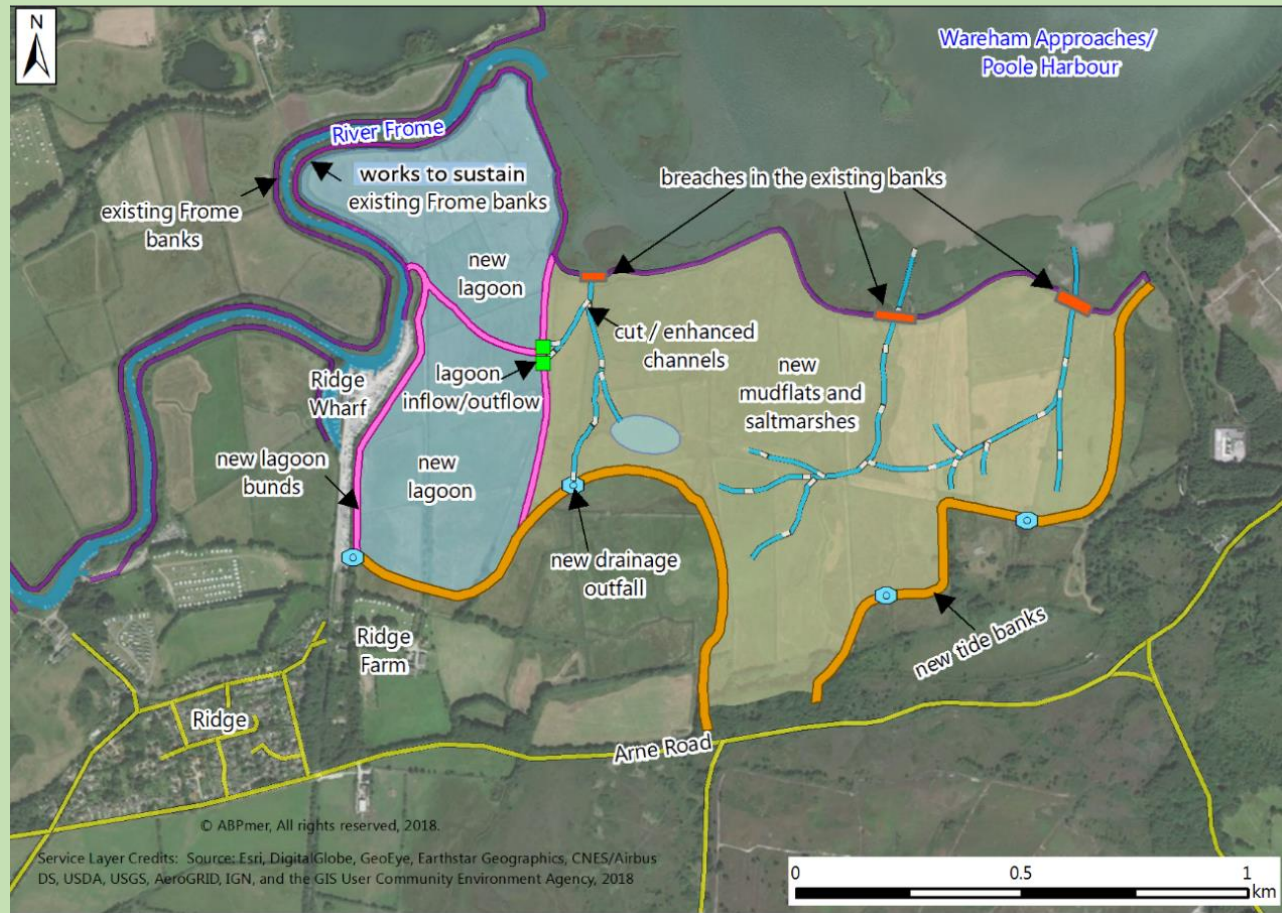
Brief Project Update

Ongoing work:

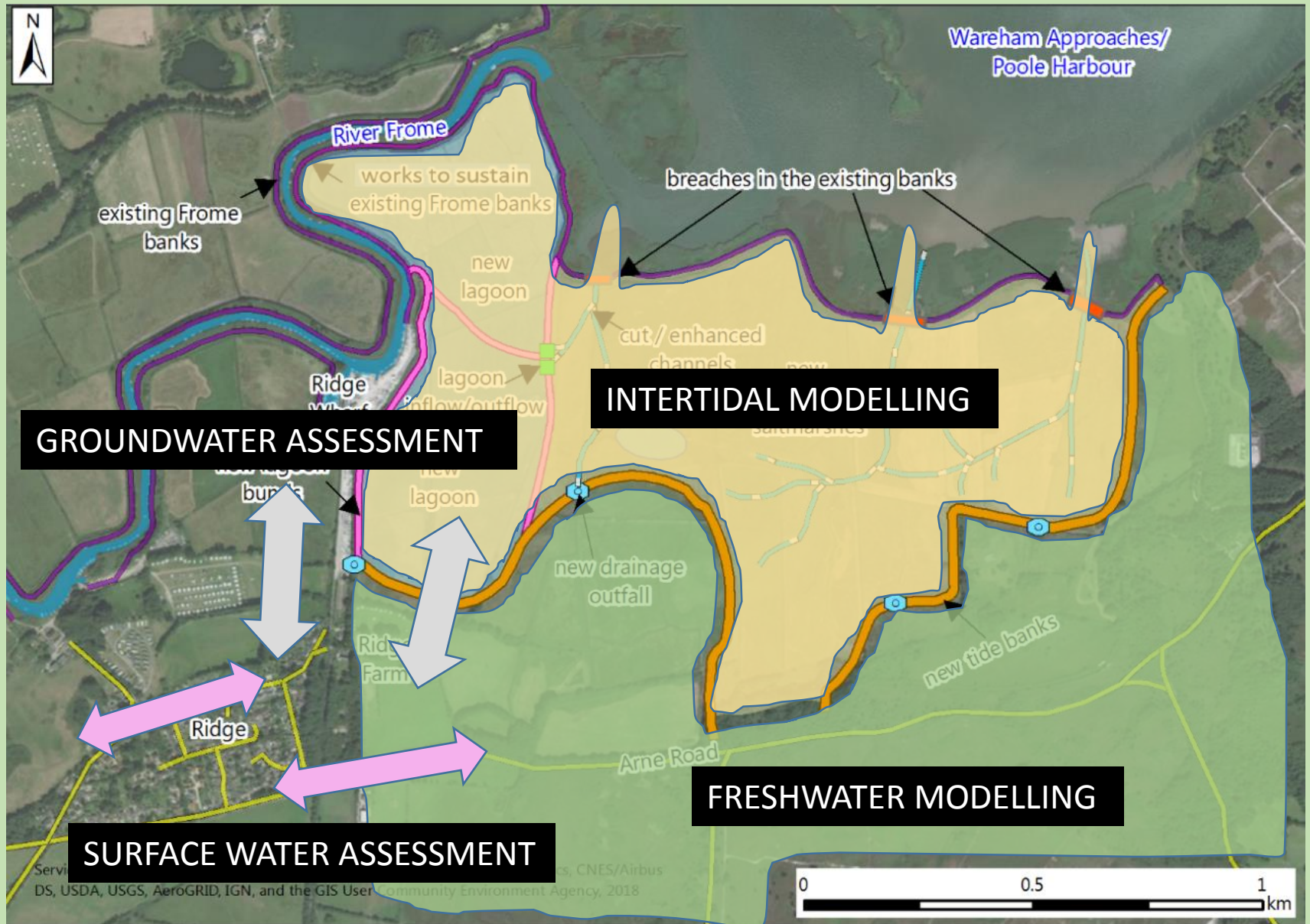
1. Continued monitoring of ground and surface water levels
2. Inter-tidal Modelling being checked
3. Freshwater modelling in progress
4. Ecological assessments – preparation of Habitat Regulation Assessments

Brief Project Update

No recent changes to bank alignments.



Brief Project Update – Flood Risk Assessment elements



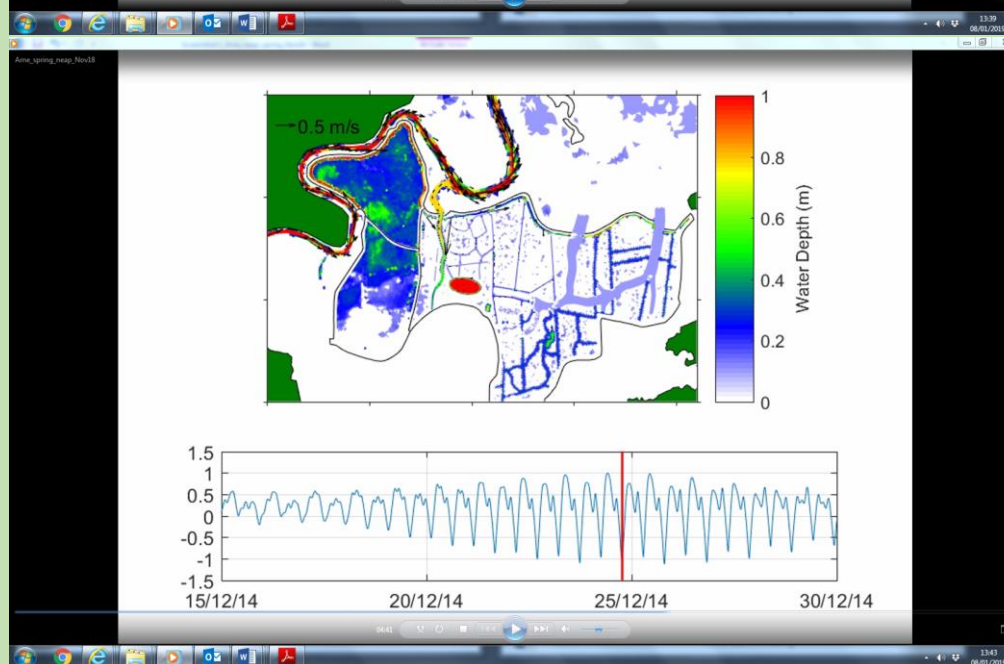
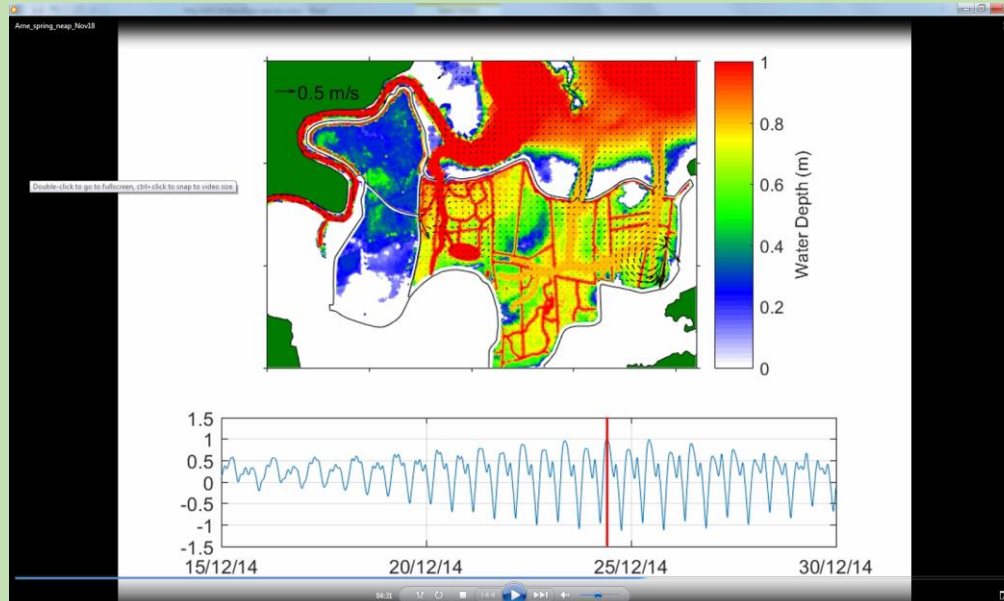
Project update – Intertidal model

Used for:

1. Flood risk assessment
 - combined with fluvial, groundwater and surface water information

2. Site design aspects
 - effect on River Frome – level and flow speed
 - likely habitat development (salinity)
 - erosion / deposition (bed shear stress)
 - tidal exchange – site and lagoons

Intertidal model visualisation



Intertidal model – input data

Tide		Poole Harbour Level (mODN)
1 in 200 year surge with climate change	(Future surge, 2125)	3.13
1 in 200 year surge	(Surge)	1.91*
Highest Astronomical Tide with climate change	(Future HAT, 2125)	2.42
Highest Astronomical Tide	(HAT)	1.2
Mean High Water Spring	(MHWS)	0.8
Mean High Water Neap	(MHWN)	0.3
Mean Low Water Neap	(MLWN)	-0.2
Mean Low Water Spring	(MLWS)	-0.8
* This is for 2008, an additional 0.035 m has been added to account for sea level rise between 2008 and 2018 (the assessment year for present day)		

Condition	Discharge (m ³ /s)		
	Frome	Piddle	Furzebrook
Mean	6.65	2.47	0.4
Q _{med} flood event	30.88	8.85	0.9
1 in 100 year flood event	74.10	25.96	2.38
Q _{med} flood event 2125	43.23	12.39	1.26
1 in 100 year flood event 2125	103.74	36.34	3.33

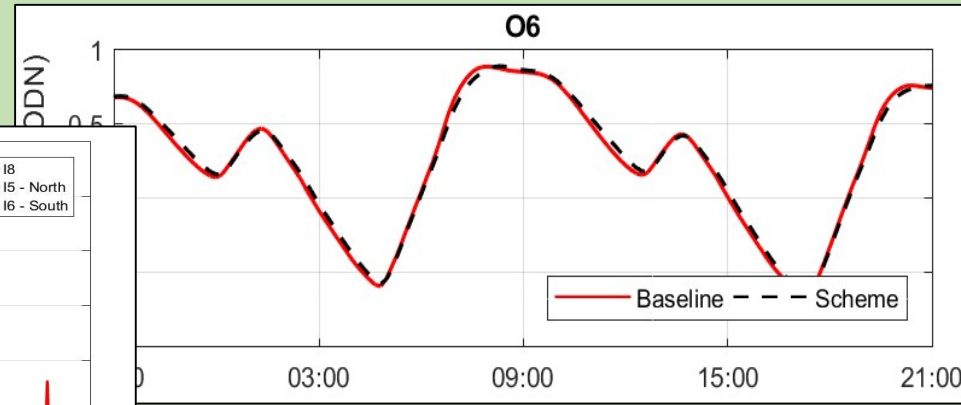
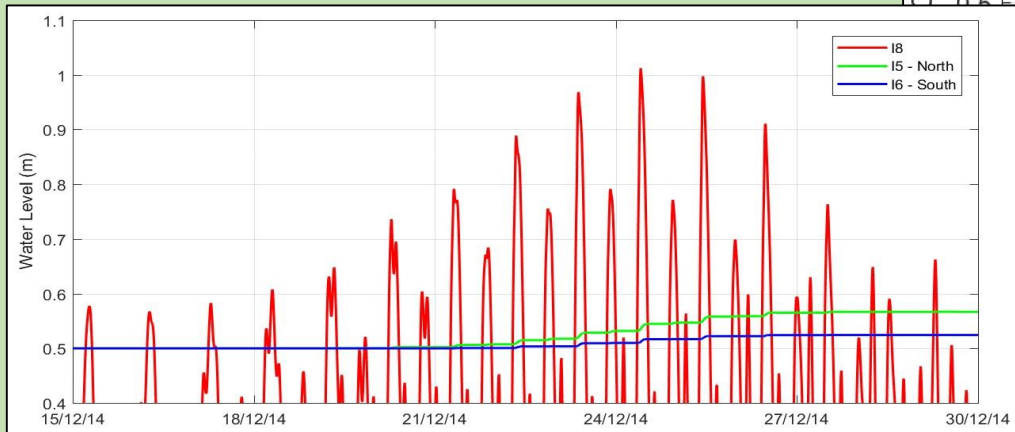
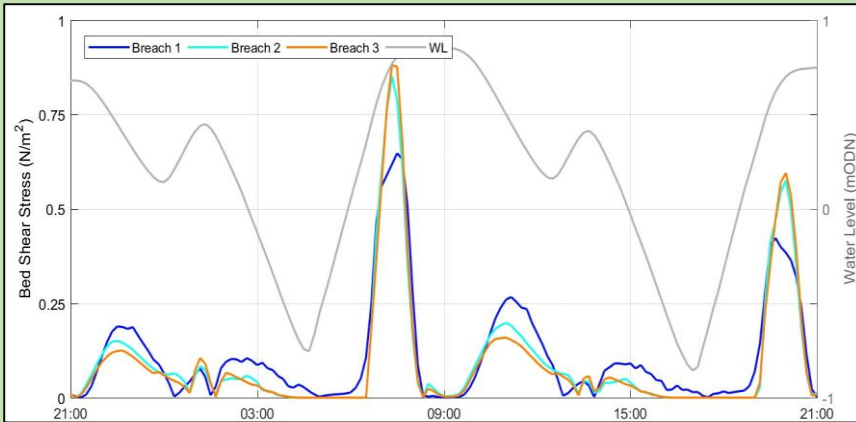
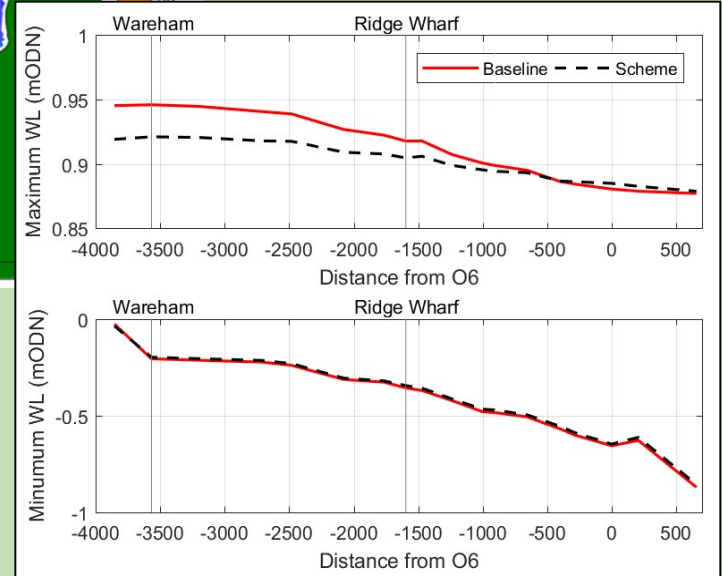
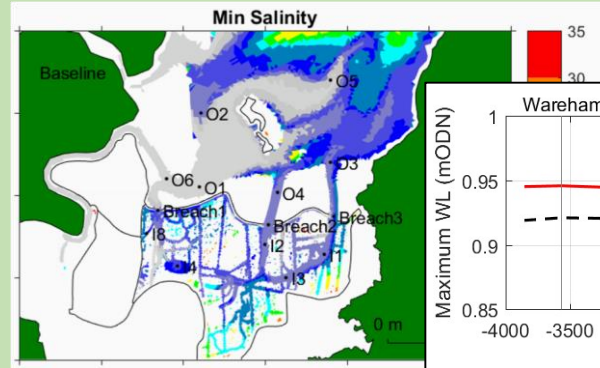
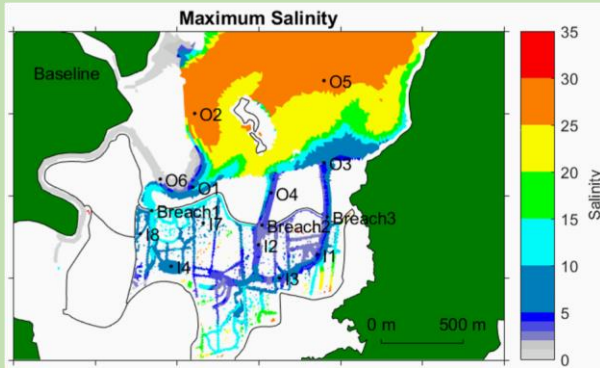
Tides		Projected Levels at Arne Moors (mODN)	
		No Freshwater	With Freshwater
Highest Astronomical Tide	(HAT)	1.29	1.29
Mean High Water Spring	(MHWS)	0.86	0.86
Mean High Water Neap	(MHWN)	0.34	0.34
Mean Low Water Neap	(MLWN)	-0.30	-0.25
Mean Low Water Spring	(MLWS)	-0.78	-0.68

Project Update – Flood Risk Assessment

Intertidal and Fluvial Model runs

No.	Run name	Model geometry	Fluvial inflows	Tidal boundary
1	1 in 5-year present day baseline	Baseline - as existing	1 in 5-year	HAT baseline
2	1 in 20-year present day baseline	Baseline - as existing	1 in 20-year	HAT baseline
3	1 in 100-year present day baseline	Baseline - as existing	1 in 100-year	HAT baseline
4	1 in 1,000-year present day baseline	Baseline - as existing	1 in 1,000-year	HAT baseline
5	QMED present day baseline	Baseline - as existing	1 in 2-year (QMED)	1 in 200-year baseline
6	1 in 5-year present day with scheme	With scheme	1 in 5-year	HAT with scheme
7	1 in 20-year present day with scheme	With scheme	1 in 20-year	HAT with scheme
8	1 in 100-year present day with scheme	With scheme	1 in 100-year	HAT with scheme
9	1 in 1,000-year present day with scheme	With scheme	1 in 1,000-year	HAT with scheme
10	QMED present day with scheme	With scheme	1 in 2-year (QMED)	1 in 200-year with scheme
11	1 in 5-year 2125 baseline	Baseline - as existing	1 in 5-year +40%	HAT2125 baseline
12	1 in 20-year 2125 baseline	Baseline - as existing	1 in 20-year +40%	HAT2125 baseline
13	1 in 100-year 2125 baseline	Baseline - as existing	1 in 100-year +40%	HAT2125 baseline
14	QMED 2125 baseline	Baseline - as existing	1 in 2-year (QMED) +40%	1 in 200-year 2125 baseline
15	1 in 5-year 2125 with scheme	With scheme	1 in 5-year +40%	HAT2125 with scheme
16	1 in 20-year 2125 with scheme	With scheme	1 in 20-year +40%	HAT2125 with scheme
17	1 in 100-year 2125 with scheme	With scheme	1 in 100-year +40%	HAT2125 with scheme
18	QMED 2125 with scheme	With scheme	1 in 2-year (QMED) +40%	1 in 200-year 2125 with scheme
19	Sensitivity +20% Manning's n	With scheme	1 in 100-year	HAT with scheme
20	Sensitivity -20% Manning's n	With scheme	1 in 100-year	HAT with scheme
21	Sensitivity +200mm DS level	With scheme	1 in 100-year	HAT with scheme
22	Sensitivity -200mm DS level	With scheme	1 in 100-year	HAT with scheme
23	Sensitivity +20% flow	With scheme	1 in 100-year	HAT with scheme
24	Sensitivity -20% flow	With scheme	1 in 100-year	HAT with scheme

Intertidal model – typical output data



Intertidal Model – draft results

- Flood Risk Assessment – outputs ready to be combined with freshwater modelling + groundwater and surface water
- River Frome flow speed
 - small effects from Turners Cove to Ridge Wharf – change $< 0.15\text{m/s}$
 - unchanged upstream of Ridge Wharf
- River Frome levels:
 - High tide: levels reduce by 2cm at Ridge Wharf
 - Low tide: levels increase by 1cm at Ridge Wharf
- Habitat development
 - salinities across site high during spring tide, low during neap tide
 - management needed to prevent control reedbed
- Erosion / deposition
 - existing River Frome deposition and erosion pattern are unlikely to be affected
 - average accretion rates within site approx 10mm/yr
 - some erosion protection may be needed at Turners Cove breach
- Tidal exchange
 - half of total tidal exchange will occur at Turners Cove breach
 - lagoon tidal exchange has scope to be increased

Feedback from Public Exhibition

Objective of the public
exhibition:

- We held the exhibition to update people on progress made on the project since we last met in 2018, and our next steps.
- We are also keen to gather feedback from the public, and listen to any concerns along with what they like about the project.
- 90 people attended the event, 13 feedback forms were completed. The date for returning feedback was 11 January.

Feedback from Public Exhibition

In summary, the
feedback showed that:

- 39% people felt we provided the information they were looking for and enough information on the project overall;
- 31% felt we have demonstrated how we have listened to concerns and suggestions raised since the last exhibition.
- 62% felt they know the project well, others getting to know it better with each event and only 8% feel they don't know the project in great depth

Feedback from Public Exhibition

The main concerns /
issues raised were:

- Concern over increase in traffic both during and after construction
- Visitor increase and the impact this will have on locals
- Drainage and maintenance
- Impact on property value

Feedback from Public Exhibition

At the last public exhibition held in October 2018, the main concern was flooding.

We have since carried out surveys on groundwater and surface water flooding.

The feedback received this time indicates a reduced level of anxiety, which is positive.

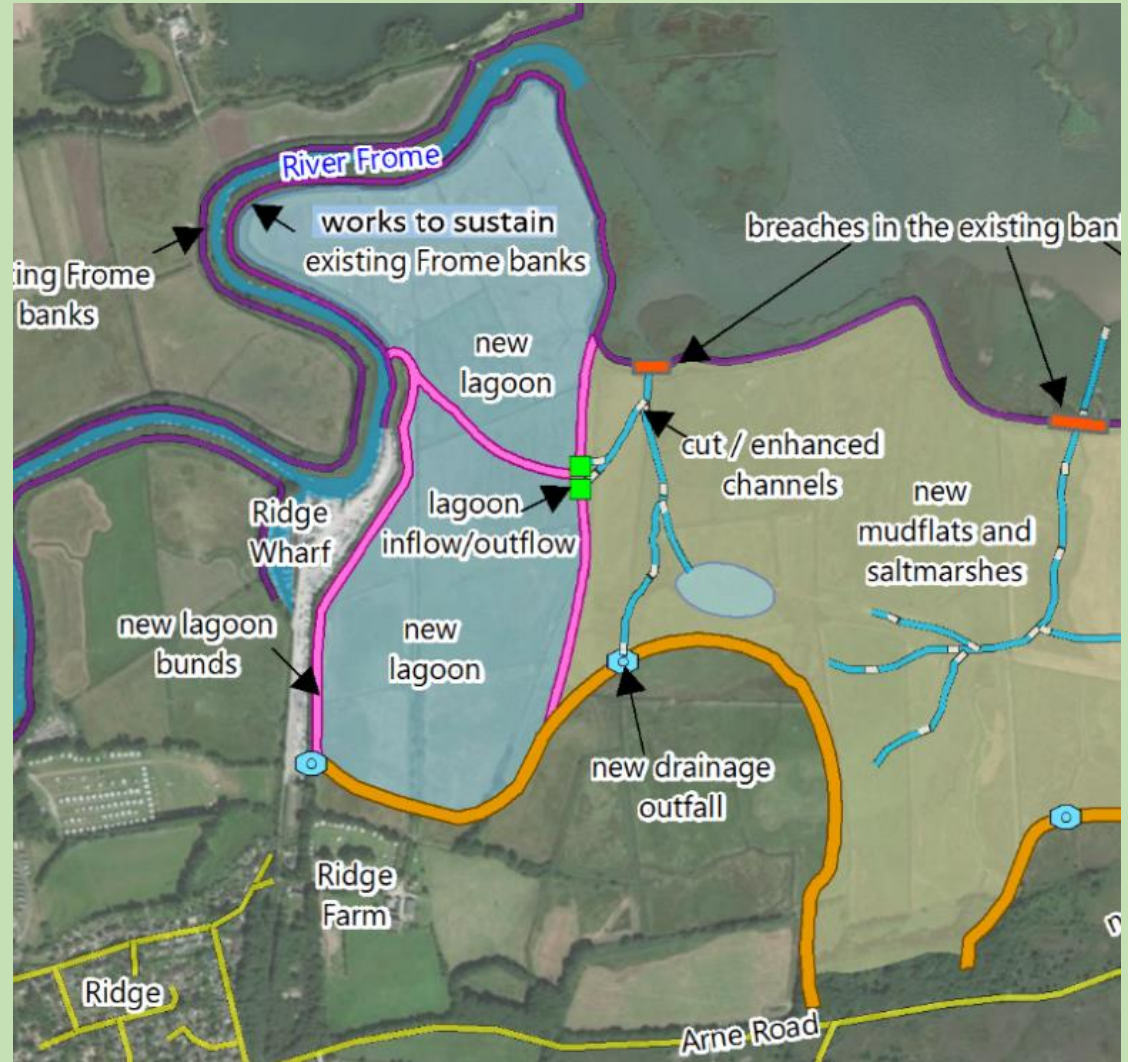
The main concerns raised this time were the impact of traffic and the increase of visitors.

Lagoons

Northern lagoon 19.2ha

Southern lagoon 19.5ha

Intertidal area 78ha



Visitor Access Update

1. Principles
2. Feedback from Workshop and Public Exhibition
3. Current Proposals
4. Other Considerations
5. Discussion

Visitor Access Workshop

Visitor Access Principles

We do want to provide access but:

We do not want access to have a negative impact on wildlife

We do not want access to have a negative impact on people, especially within local communities

Our initial expectations are that...

RSPB Arne will be the main focus of access

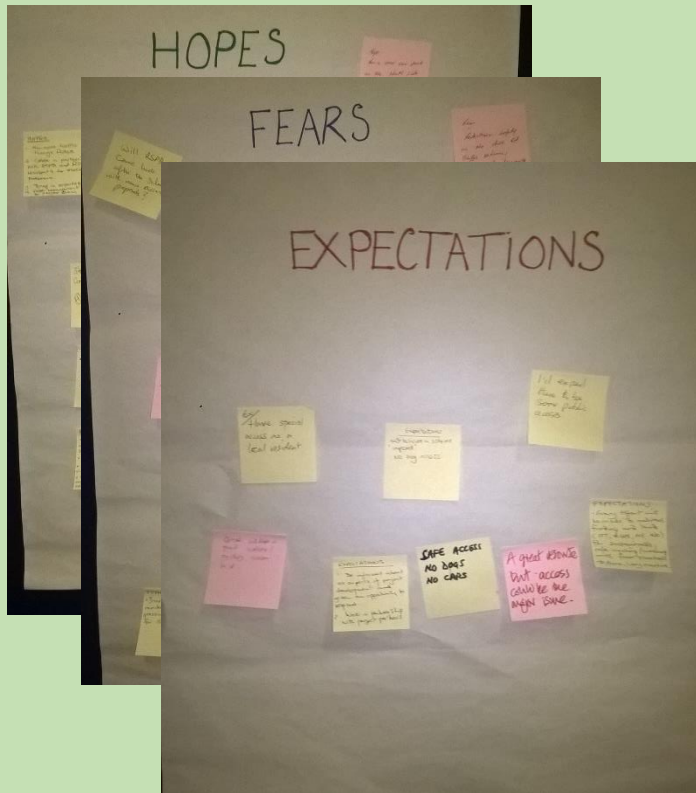
We are not proposing any significant infrastructure at Arne Moors

Enable 'non-car' access where possible

Limit access to permitted trails and viewing points

Access will be integrated into the scheme at the design stage

Visitor Access Update



Views on access

1. Range of views about access
2. Opportunities to improve, create sustainable access from Wareham through to Arne
3. Fear of being overwhelmed by visitors
4. Desire to see reduced traffic through Ridge – fear of increased traffic
5. Safety (pedestrians / cyclists)
6. Disturbance of wildlife – no dogs

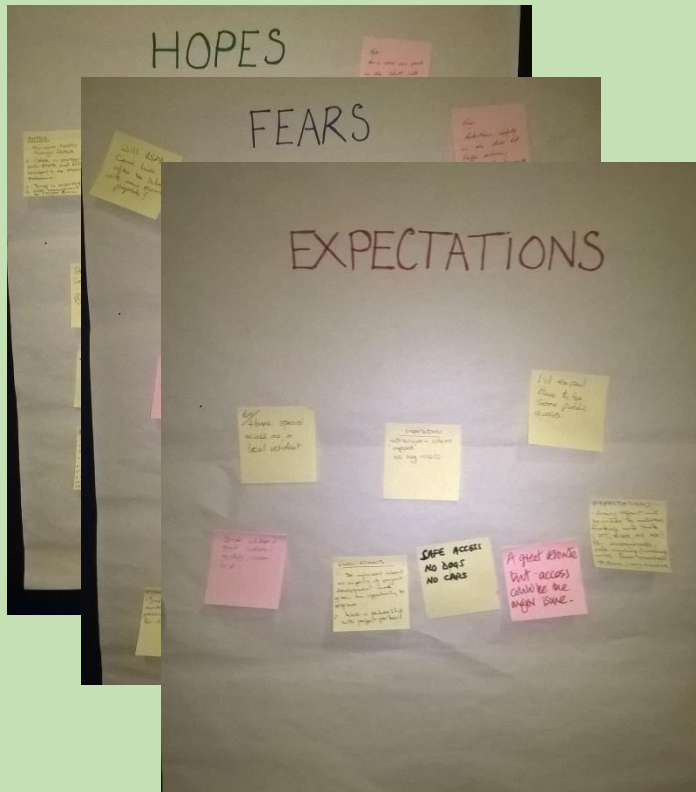
To be informed and genuinely consulted with

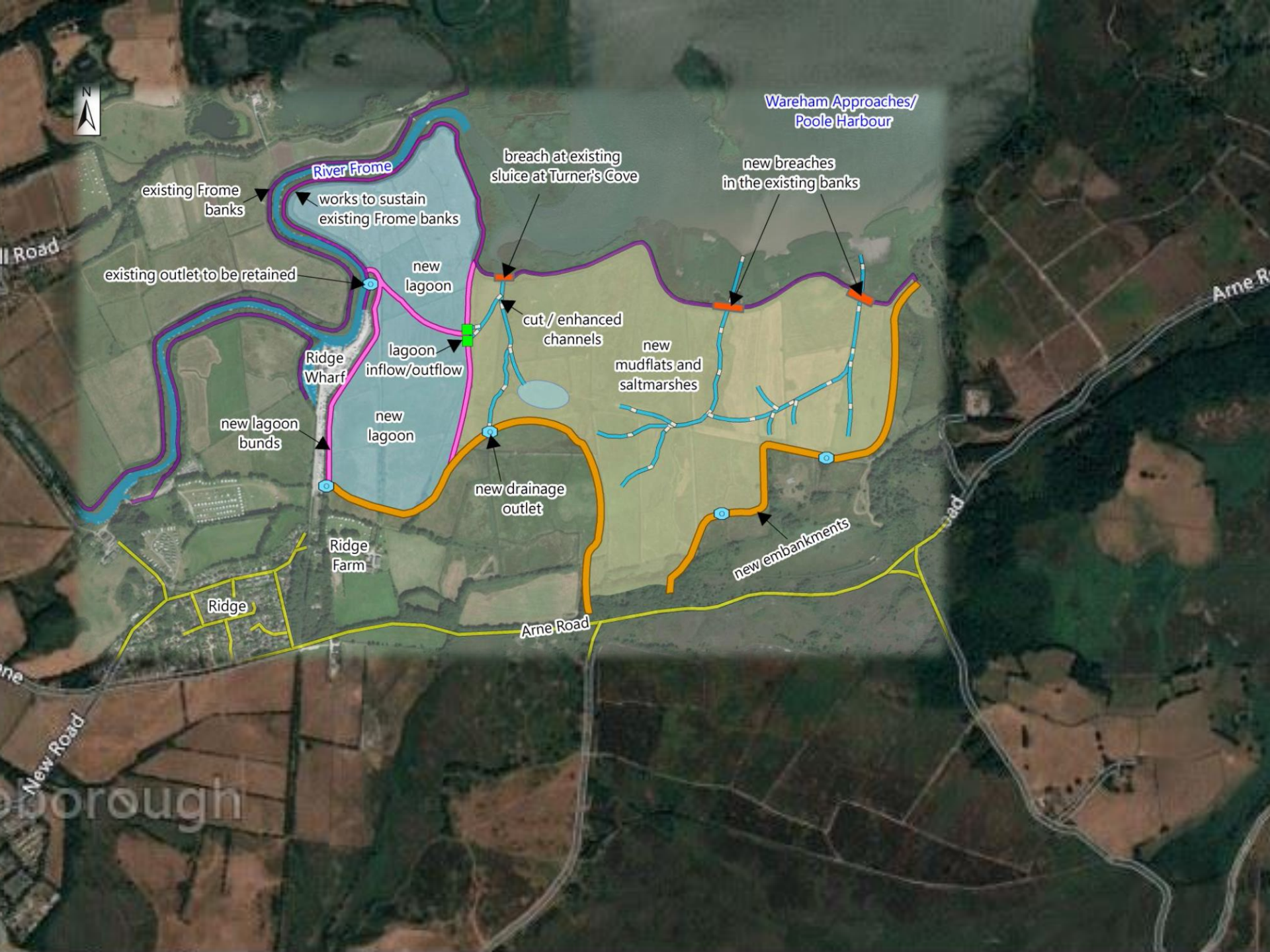
Visitor Access Update

Views on access

From the public drop in

1. Concerns about impact of traffic
2. Public access routes and facilities need to be designed in from the start





Wareham Approaches/
Poole Harbour

River Frome

existing Frome banks

works to sustain
existing Frome banks

breach at existing
sluice at Turner's Cove

new breaches
in the existing banks

existing outlet to be retained

new lagoon

cut / enhanced
channels

new
mudflats and
saltmarshes

Ridge
Wharf

lagoon
inflow/outflow

new lagoon

new lagoon
bunds

new drainage
outlet

Ridge
Farm

new embankments

Ridge

Arne Road

New Road

Borough

Current thinking ...



Current thinking ...



existing Frome banks

works to sustain existing Frome banks

breach at existing sluice at Turner's Cove

new breaches in the existing banks

existing outlet to be retained

new lagoon

cut / enhanced channels

new mudflats and saltmarshes

lagoon inflow/outflow

new lagoon bunds

new lagoon

new drainage outlet

Ridge Wharf

Ridge Farm

Wareham Approaches/ Poole Harbour

new embankments

Arne road

Ridge

New Road



borough

Visitor Access Update



Other projects in the area

Visitor Access Update

- RSPB office
- Coombe Hide
- Hyde's Heath
- NNR
- Grazing Unit



Next Steps

Visitor Access Update

- Existing traffic management
- Traffic Monitoring
- Visitor surveys of comparable sites



Next Steps

- Freshwater modelling
- Flood Risk assessment
- Ecological assessments
- Environment Agency Assurance (Outline Business Case Approval)
- Appoint Detailed Design Consultant

Stakeholder Liaison Group

- Thank You

The Moors at Arne Project

