The 2013 Tidal Surge – lessons & implications for future management of the natural environment

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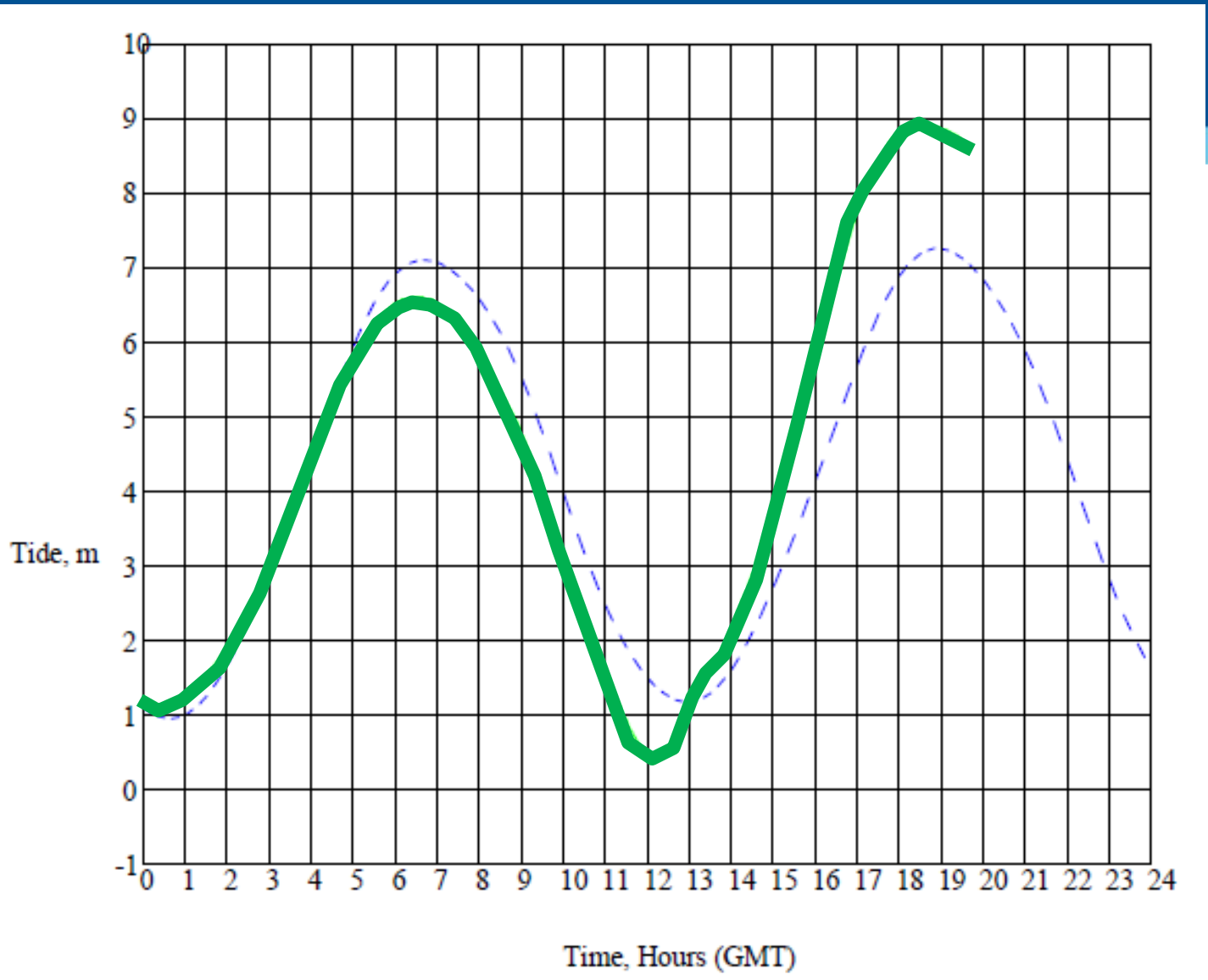
Introduction

- What happened – Humber, Norfolk & Suffolk
- Impacts on Wildlife & Geomorphology
- Damage to Infrastructure
- Wildlife impacts – do they matter?
- Adaptive Responses
- Learning lessons

Predicted + Actual Tides at Spurn 5 December 2013



The dashed blue line and blue text shows the Predicted Tide.


Spurn – 09.08hrs 6 December 20
(High tide was 07.32)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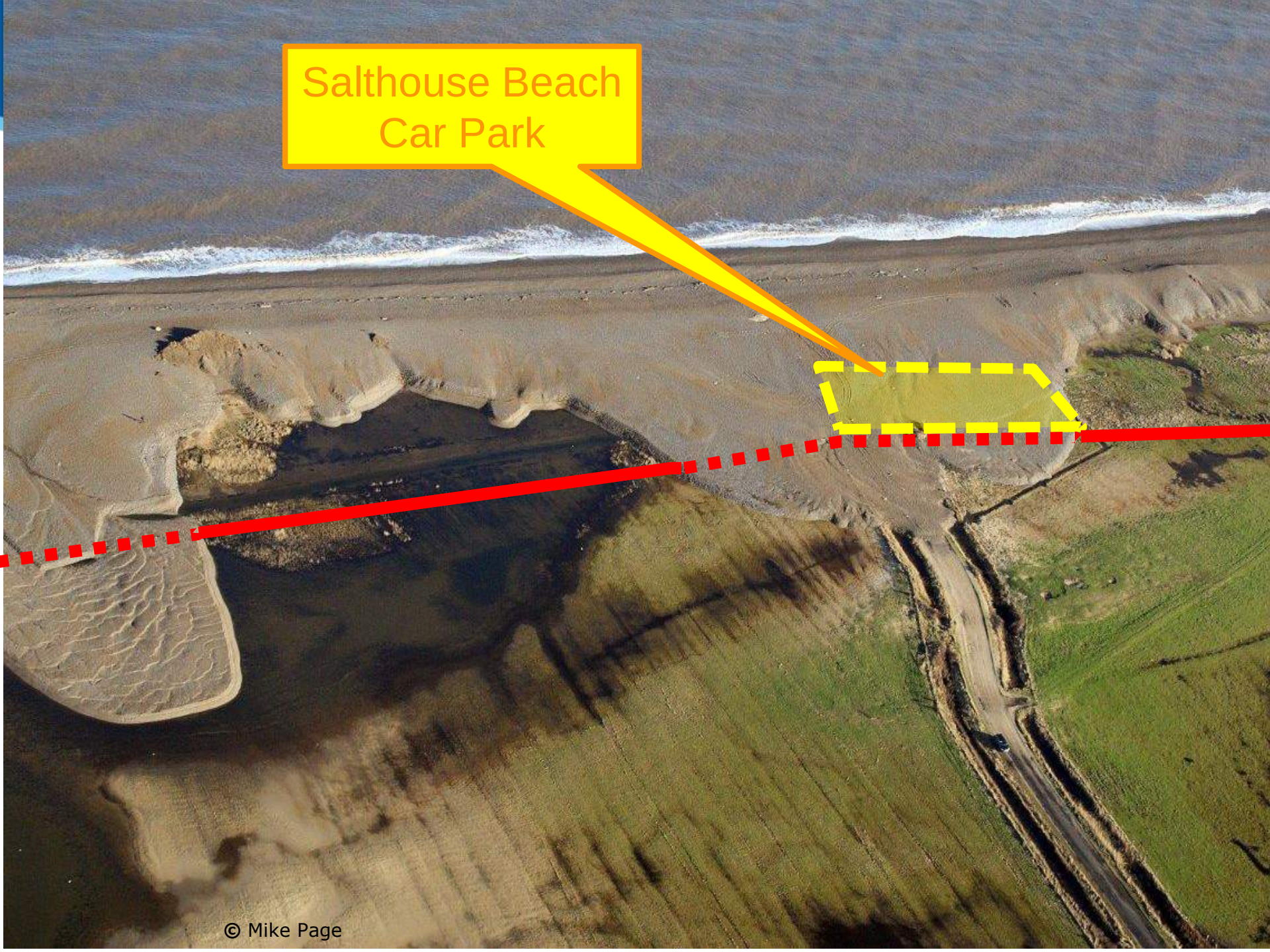
Concrete seawall limited seal pup movement in to dunes


Salthouse Beach
Car Park
© Mike Page


Yorkshire Wildlife Trust
Spurn National Nature Reserve
HIGH TIDE WARNING!
Under certain conditons of tide and weather, the sea will wash over the peninsula past this sign. At these times the route is extremely dangerous and do not be cross over the sand. Never walk through waves or standing water.
www.ywt.org.uk
Love Yorkshire, Love Wildlife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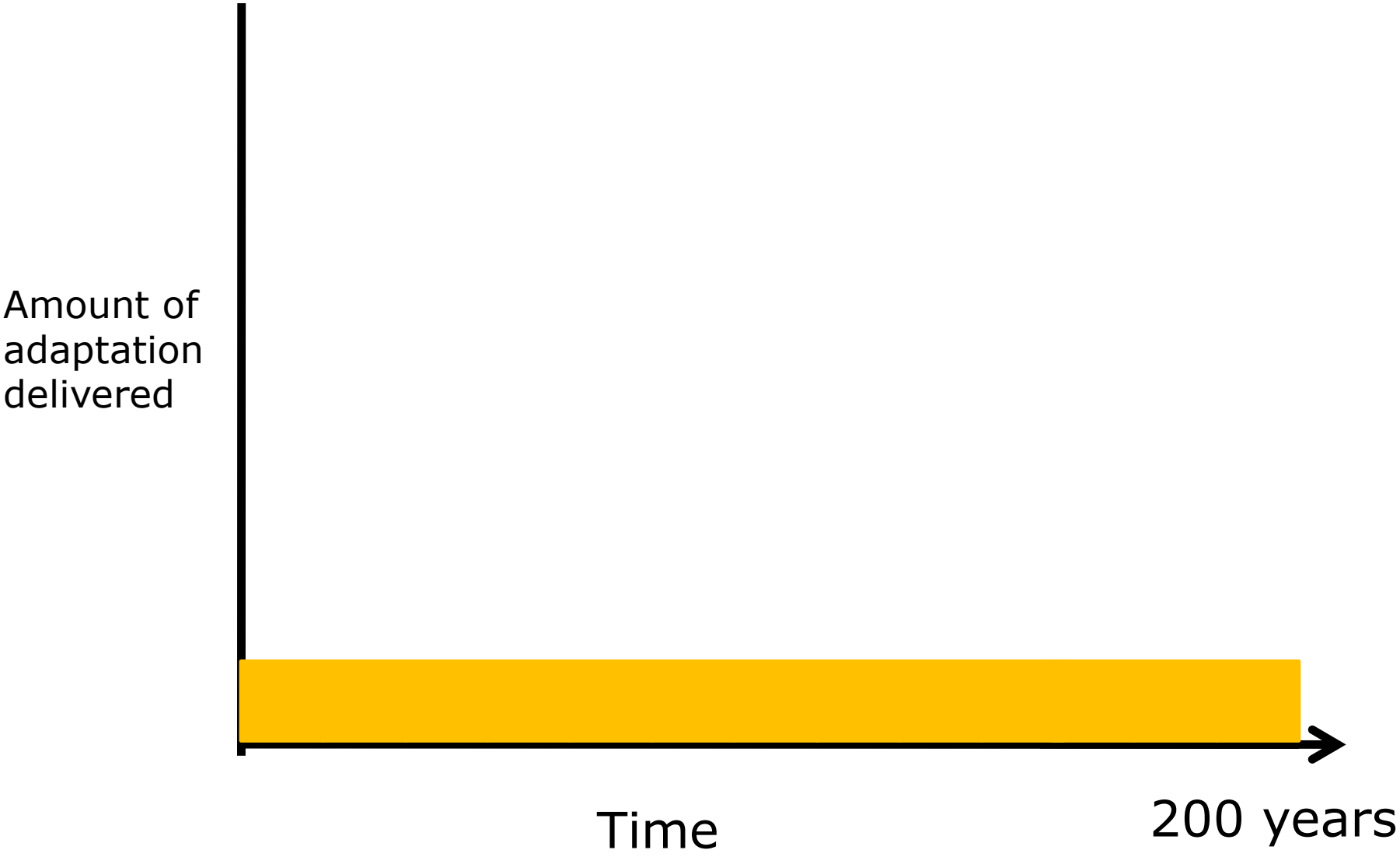
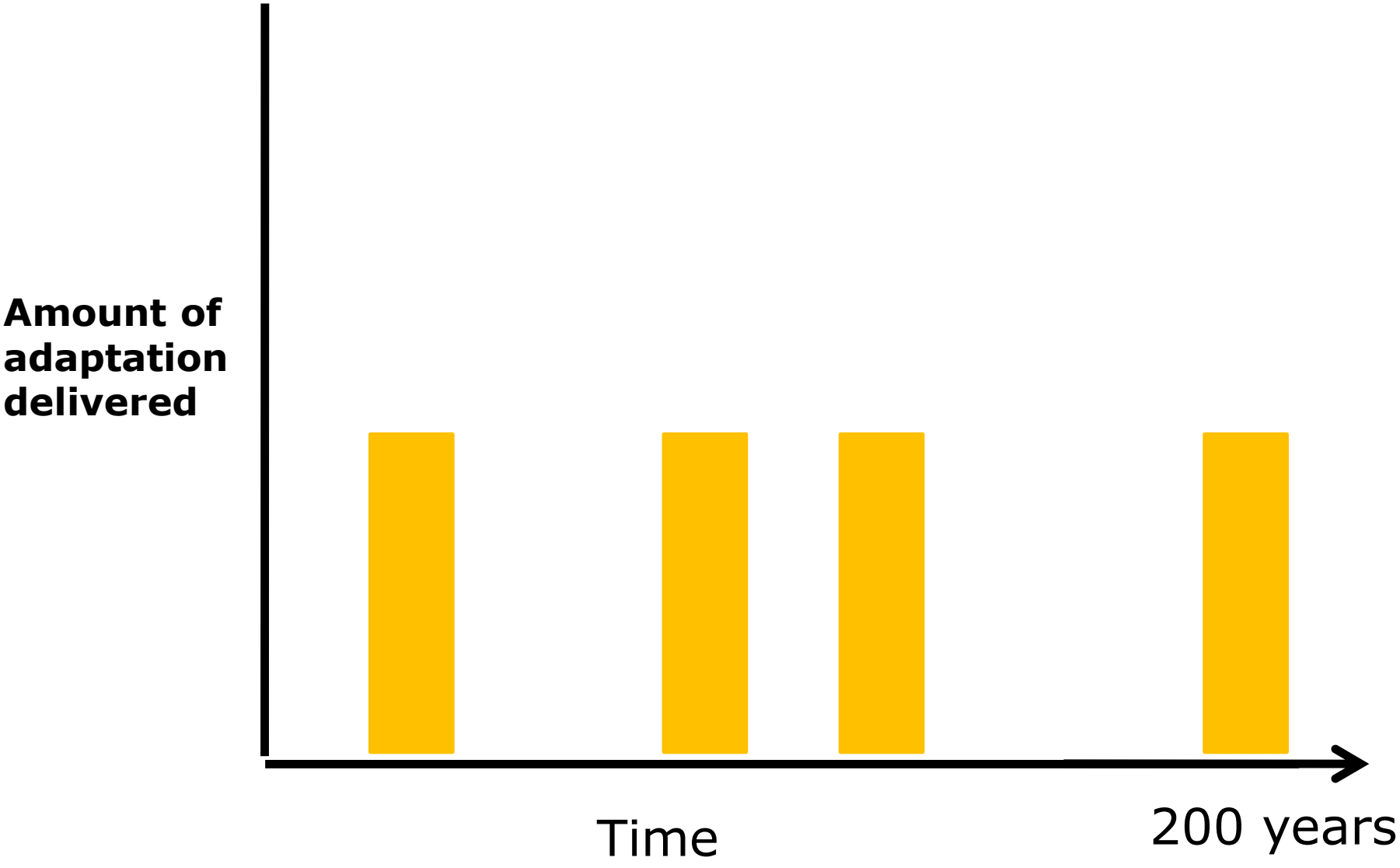
CAT
CAT

Adapting Seawalls for Wildlife Sites

- Will alternative approaches work?
- Will they have community/landowner support?
- What's the best way to do this?
- What's the most cost effective approach?
- Lower the whole wall or simple redesign the sections subject to damage and/or breaching?
- Drainage capacity (to remove flood waters)
- Value in freshwater 'flushing' to help ecosystem recovery


Amount of adaptation delivered
Time
200 years


Amount of adaptation delivered
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200 years

Conclusions

- Conservation staff need to be more risk aware & have an emergency response plan for tidal surge warnings
- Nature reserve infrastructure and visitor facilities need to be more resilient
- Wildlife is resilient to flood events – understand recovery times and event return frequency – embrace evolution
- Accept big flood events will cause significant disruption to reserve management
- Plan long term reserve management to embrace climate change and future tidal surge events

Key Learning Point

- Plan now (and agree !) site specific adaptive options for responding to the changes that may arise from future tidal surge events

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