A SUSTAINABLE VISION FOR HOYLAKE BEACH

DRAFT ONLY: FOR COMMENT

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Cover photo: December 2014. Mechanical lowering of sand levels at the promenade wall. Ongoing sand accretion threatens to block groundwater drainage. ©HVL

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A beach in limbo... a beach without a plan?
© HVL

INTRODUCTION

Hoylake has so many great assets. Its wide expanse of sands, sand dunes and offshore islands are surely its greatest. Indeed Hoylake is world renowned because of them.

Yet there is a sense that our local beach is not achieving its natural potential nor its potential as a place that people can enjoy. There is growing evidence that this part of our foreshore is suffering as a result of a lack of positive management and its quality is in decline. It feels like a beach in limbo… a beach without a plan.

In the past it was a thriving place, with donkey rides, deckchairs, a wonderful swimming pool; lots of activity, lots of enjoyment. A lack of investment and competition from overseas saw all of these things, along with the visitor numbers, disappear.

We think it is time to think again about what we can be done to revive the quality and popularity of our local beach and waterfront; how can we create a public amenity fit for the 21st century; a beach and promenade that connects positively with the high street; a more natural, beautiful place that is a safe, pleasant public space to use. A beach that is better for wildlife. A beach that is safe for our children.

"View near Hoyle-lake, Cheshire" by William Daniell 1769–1837. The artist would have been standing close to what is now the corner of Kings Gap and North Parade © HVL

A MIRROR OF FORTUNES

For centuries, Hoylake's wealth was dependent on the sea. The presence of a permanent navigable channel known as the Hoyle Lake from which the modern town takes its name was its key economic asset. The 'lake' provided a safe haven for local fishing boats and a safe anchorage and a sheltered passage for merchant ships into the ports of Chester and Liverpool. It was an important embarkation point for Ireland famously used in 1690 by King William of Orange and his troops on their way to fight the Battle of the Boyne.

The advent of sea bathing and the opening of the Royal Hotel in 1792 opened up a new chapter. Hoylake's sands, dunes and lake provided for safe sea bathing, riding, horse racing, rabbit shooting and walking. Hoylake developed initially into a small but prosperous seaside visitor resort and later as a residential resort for Liverpool's wealthy mercantile classes.

Hoylake's fishing and farming families lived alongside prosperous ship owners and traders who were soon joined by the aspirant middle classes, a process greatly accelerated by the coming of the railway from Birkenhead in 1866.

Sailing and golf clubs were established, and the dunes gave way to promenades, gardens and houses.

Today, the Hoyle Lake is long gone with the moorings at Meols the only reminder of its existence and, whilst 'day trippers' still poured into Hoylake as recently as the 1970s, the closure and eventual demolition of the outdoor bathing pool in 1984 marked the end of Hoylake's period as a traditional seaside visitor resort.

But not all is lost: Hoylake has an international sporting profile. Its wide expanse of sands hosts international sandyachting and kite buggying competitions whilst its remaining dune-lands form the celebrated and historic Hoylake links. These glorious links, the second oldest in England, have provided a world class venue for international golfing competitions for over a century.

Moreover, Hoylake's shoreline with its sandstone outcrops, dunes and islands are equally renowned as wildlife habitats designated as internationally important for waders and wildfowl, a stopping point for rare migrant birds and a rich source of invertebrates. We have so much to celebrate. And much to make more of.

The dune system at Red Rocks looking out to Hilbre;
a haven for willdlife and a draw for visitors © HVL

ENVIRONMENTAL FACTORS 1

In the 10,000 years since the last Ice Age, the wide mouthed Dee Estuary has naturally silted up due to a lack of tidal scour. During the 19th century, efforts to preserve a navigable channel to Chester included canalising the Dee in the upper estuary and moving the main channel away from the English to the Welsh shore.

By 1909 a sea wall was also built along the whole of Hoylake's north coast. This wall has removed the natural conduit for blown beach sand to create and feed a sand dune ecosystem and affected the general profile of the beach.

Prior to this, the North Wirral Coast consisted of a long line of low dunes built up from blown sand and with a profiled sandy beach all the way from Hoylake to Wallasey. Evidence of this remains at Leasowe Bay at a point where there is a gap in the man made revetment walls.

All these changes, both natural and man-made, affected Hoylake's offshore channels and tidal currents to deliver a substantial raising of beach levels over the last century. However, it is the construction of seawalls that has had the most impact on the natural beach form in Hoylake.

Today, the beach is 'managed' to prevent wind-blown sand engulfing the promenade and to discourage the development of saltings (marshy growth). The result is that we have a flat and wet upper beach which is rarely washed clean by the tide.

Sand dunes and wet 'slacks' near Red Rocks (opposite) have developed gradually over the last century. Initial saltings in front of the older dunes are first shown on the 1927 OS map.

Some 80+ years later these saltings have been succeeded by fresh water slacks and a low dune ridge fronted by a narrow band of saltings upon which a new line of embryo dunes are establishing themselves as the coast moves slowly seaward.

However, this area, designated as a SSSI, a Site of Special Scientific Interest, has been downgraded by Natural England to a classification of 'unfavourable declining'. This means a 'lack of investment and positive management or a period of wilful neglect' requires imminent intervention to prevent further, more serious decline and to conserve the special wildlife and geological features of this site.

Current classifications in the areas adjacent to Hoylake beach include:

- Dee Estuary RAMSARsite
- Dee Estuary Special Protection Area(SPA)
- Mersey Narrows and North Wirral ForeshorepSPA (potentialSPA)
- Dee Estuary possible Special Area of Conservation(SAC)
- North Wirral Foreshore Site of Special Scientific Interest(SSSI)
- Meols Meadows SSSI
- Red Rocks SSSI
- Dee Estuary SSSI
- Hilbre Island Local Nature Reserve (LNR)

These designations clearly indicate that we live in a very special coastal environment; one worth conserving and improving where there is evidence of decline.

Look at the picture opposite, then again at the picture of Hoyake beach on page 4.

Between 1980 and 2000, the whole beach rose by 60cms as a consequence of sand accretion.
At this rate, by 2050, Hoylake beach will have risen by over two metres from 1980 levels © HVL

ENVIRONMENTAL FACTORS 2

In recent years, concerns about global warming have come to the fore. Global sea level rise averages 30mm per decade as our oceans warm and expand, and the ice caps melt. This is clear cause for concern for us all, and in 2019 the Leader of Wirral Council acknowledged that we are now in a state of climate emergency.

But it is not just sea level rise that gives cause for concern at Hoylake. As a consequence of sand accretion, the beach itself is rising, at a much higher rate. In fact, the beach is rising at ten times the rate of sea levels, and this is happening evenly across the foreshore. According to a report commissioned by Wirral Council in 2000, called "*The Beaches At West Kirby And Hoylake: Options For Managing Wind Blown Sand And Habitat Change*"[1], the whole beach rose by 600mm between 1980 and 2000.

At this rate Hoylake beach will have risen by more than two metres above 1980 levels by 2050. In 1999 alone, more than 70,000 cubic metres of wind blown sand was added to the foreshore between Stanley Road and Hoyle Road, an area of just one square kilometre, exacerbated by the extreme weather events of that year.

This does not mean that Hoylake will enjoy improved coastal defence. Because the beach is so flat, very high storm tides will still reach the promenade and cause damage, as happened in 2014. All indications suggest extreme weather events are set to increase in frequency. Groundwater drainage will be compromised as the storm drains that empty on to the beach will eventually become blocked by sand. Escaping groundwater will back up in the drains system; a likely outcome being damaged drains, releasing water into the surrounding soil, washing away the subsurface of roads, causing potholes or even more extensive road collapse (sink holes).

Vegetation will become more widely and rapidly established as the beach becomes muddier and eventually drier as it is much less frequently 'washed' by the tide. This process is already clearly evident in parts. Wind blown sand will reach roads and private gardens more frequently and in greater quantity than at present, requiring more frequent clearing, at ever increasing cost.

In its Executive Summary, the report said: "*the rising beaches on this part of Wirral are part of the natural evolution of the coast. As beaches get higher and the coast becomes more sheltered from wave action there will be a natural succession of habitats inducting the formation of salt marshes and sand hills…*

"The Report concludes that the existing approach to managing rising beach levels and the wind blown sand problem is not sustainable in the long-term. Continuing with the existing reactive management measures on its own is not a realistic option because the wind blown sand problem is going to get worse. Costs will continual to spiral upwards and the number of complaints received by the Metropolitan Borough of Wirral (MBW) from residents and visitors will also increase . The wind blown sand issue is not the result of coast defence works by MBW but crucially is connected with the geomorphological evolution of Liverpool Bay and the Dee Estuary since the last glaciation."

It went on to propose a series of field trials that have never taken place. Further, up until the date of the survey, Wirral Council conducted annual Bulk Analysis Surveys to record data on beach levels and sand accretion. To our knowledge, that monitoring work has not been undertaken since; we do not know how much further sand accretion has occured.

Many people agree there is a disconnect between Market Street and the beach.
How can this be addressed? © HVL

PUBLIC CONCERNS

It is understandable that the longer term coastal processes described on the previous pages are less evident to the casual observer on a day-to-day basis. There are other, more visible problems that arise and public concern tends to focus on these. Whilst they are also pertinent, we should not lose sight of the bigger picture, as these may also benefit from a longer term view.

They include the problem of dog fouling; the lack of a café or refreshment facilities, and concerns that such developments might attract anti-social behaviour. People also say that our local beach isn't evident enough from the high street – there is an inherent disconnection. But undoubtedly, the most widely expressed concern is the spread of Spartina and other vegetation.

DOG FOULING

Whilst most dog owners are responsible, it remains a sad fact of life that some are clearly not. Blue Flag beaches have dog-free zones. There, it is considered a reasonable and equitable arrangement. But would it be practical or even welcomed here? Recent proposals by the council to introduce limited bans on dog walking on certain beaches resulted in considerable and widespread objection. This is part of a separate conversation that affects the whole town, not just the beach.

PHYSICAL DEVELOPMENT AND ANTI SOCIAL BEHAVIOUR

The proposed development of a café prompted concerns from some people about licensing on the seafront. Other licensed premises exist, such as the sailing club and the Community Centre: with appropriate management and careful monitoring of activity, surely such concerns about new development could be allayed?

Are we to hold back from developing the beach for a non-evidenced fear of anti-social behaviour? Or can we design it out from the outset? Can we develop a beach that will not be attractive to those who would spoil the enjoyment for others but will be a destination for those who love nature, the environment and want child friendly facilities. Would you like to enjoy a glass of wine whilst watching one of the greatest sunsets in the world?

CONNECTING WITH THE HIGH STREET

In Hoylake, the high street and the beach are great assets, but over time they have both been suffered neglect and decline, and many people in the community have lost their relationship with both. HVL are continually exploring ways to improve the high street and engage the wider community. By way of example, HVL created a Neighbourhood Planning Forum, Hoylake Vision, and the Hoylake Beacon project; a new cinema and arts centre. It is now time to bring this passion back to the beach too, and make sure the community cherishes it, learns from it, and loves it.

GRASS ENCROACHMENT

The concerns about management of the common cord grass [*Spartina Anglica*] on the 'main' beach prompt many people to comment on the situation at Parkgate, where the grass has taken over the estuary, where transitions to swamp vegetation occur, dominated usually by common reed [*Phragmites australis*] and sea club-rush [*Bolboschoenus maritimus*]. But Parkgate is a very different estuarine environment to the exposed intertidal coastline of Hoylake. There are strict limitations on control techniques; Spartina growth is aggressive, and to date, no permanent removal method has been identified. What does this mean for Hoylake foreshore over the longer term, and how would we find out?

Spartina Anglica growing on Hoyake beach: chemical treatment and digging has consistently failed for over 50 years © HVL

CONTROLLING SPARTINA 1

The spread of Spartina, and the control methods employed over many years, have been cause for much debate and a growing polarisation of opinion. It is important to clarify that Spartina is only one of a range of species becoming established at Hoylake.

Any control techniques must also be licensed by Natural England, who are responsible for the management of the UK coastline.

It is true that all around the British coast, its spread beyond such areas has proved notoriously difficult to predict and control. The 2004 English Nature report "*Spartina anglica: a review of its status, dynamics and management*" holds a wealth of important information about this issue. The report states: "*Of the cord-grass species found in England, the common cord-grass, Spartina Anglica, is most frequently encountered and it is clear that this species is now a permanent feature of saltmarsh ecosystems.*"[2]

Spartina alterniflora was originally introduced via the ballast water of ships travelling from North America to Southampton around 1870, and was first found on mudflats near Hythe. Its crossing with the native small cord-grass *Spartina Maritima* resulted in the appearance of the common cord-grass *Spartina Anglica*.

Initially, Spartina Anglica spread naturally, but by the early 20th century it was being widely used in reclamation and coastal defence projects. One of these was near Parkgate in the Dee Estuary in 1928.

In Lindisfarne throughout the 1970s, attempts to reverse the spread of Spartina have ultimately failed. Methods have included digging, rotoburying, hand picking and herbicide application.

By contrast, by the early 2000s at Bridgwater in Somerset, Spartina spread had ceased and even dieback was recorded, without the application of any control techniques.

These two environments are completely different, and despite much study there is still no clear consensus among experts on the reasons for spread in one place and dieback in the other.

Moreover, Spartina appears to be halting its spread in the South of England but is continuing to spread in the North West and North East. A clear understanding of why this is happening remains elusive, as is a universally effective control method.

However, local evidence does suggest that digging Spartina serves only to disrupt and spread the rhizomes. For this reason, digging at Hoylake is not licensed by Natural England.

Rotoburying has consistently proven effective for only two or three years before the grass returns. Sediment conditions also greatly affect the efficacy of this technique. For this reason, rotoburying at Hoylake is also not licensed by Natural England.

Since 2010, the only approved control method at Hoylake has been the annual application of a herbicide; Monsanto's *Roundup* (Glyphosate). Some call for more frequent spraying, but this would be more costly and still needs to be approved by Natural England.

Finally, raking is used closer to the promenade wall in an effort to clean and improve the aesthetic appearance of the beach, but its impact is very short lived indeed. It also appears to exacerbate the problem of meadow and other grasses spreading.

May 2013; After spraying earlier in the year wind blown sand quickly accretes around clumps of 'dead' spartina, creating an artificial, man made embryo dune system. Within two years, the grass was back and as strong as before this spraying. © HVL

CONTROLLING SPARTINA 2

Whilst herbicide control appears to be the most effective method, it is also true that Spartina has consistently returned after each annual spraying. It is also a controversial control method, perhaps as a result of growing environmental awareness and inevitable concerns about the application of chemicals in the environment.

It should be noted that the EU classification of glyphosate (Roundup) is "R51/53 Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment"[3] , whereas Monsanto's own description is "Roundup is non-residual and does not harm animals, birds, fish, insects and other wildlife."[4] This apparent contradiction is because the EU classification refers to actual *toxicity* whereas Monsanto's description would appear to refer more to *risk*; and it is the risk level in a particular environment, not its toxicity, that determines whether it will be licensed for use.

For example, when an adverse impact of Roundup on invertebrates at Lindisfarne came to light in 1989, its use was ceased in 1994[5] . A 2005 study found at concentrations one-third of the maximum concentrations expected in nature, Roundup still killed up to 71 percent of tadpoles raised in outdoor tanks.[6]

Environmental and consumer rights campaigners brought a case against Monsanto in France in 2001 for presenting Roundup as biodegradable, claiming that it left the soil clean after use. In January 2007, Monsanto was found guilty of false advertising.[7]

The safety of glyphosate – widely used commercially, privately and by local authorities – has been under mounting scrutiny since 2015, when a scientific body of the World Health Organization (WHO) concluded that it is "probably carcinogenic" to humans.[8]

However, many other studies disagreed and some question the integrity of that report.[9] Indeed, in November 2017, the European Commission granted a five-year extension on the use of glyphosate in the EU amid fierce arguments between member states.[10]

But it remains contentious. French President Emmanuel Macron said immediately after the decision that he had asked the French government to ban the product within three years. In January 2019, a French court banned the sale of Roundup.[11] These concerns inevitably give rise to a number of questions.

Given the adverse impact on invertebrates at Lindisfarne leading to the halting of the use of Roundup, should not tests on invertebrate populations been conducted at Hoylake? If not, how will we know for sure that there has been no impact here?

Or, can an alternative, non-toxic herbicide be tested, that may have broader public support? Could a field trial simultaneously take place where Spartina is allowed to grow in a limited area, to understand how it reacts to the natural elements, in particular how sand accretes when high winds blow sand in large volumes across the beach, as well as its impact on birds and invertebrates?

Rather than the whole beach level rising flat, would an emerging, managed dune system be more attractive, providing a home for native fauna and flora? Remember that in 1999 alone, more than 70,000 cubic metres of sand accreted on the foreshore.

This vast resource could be feeding a valuable 'soft' coastal defence, reducing wave energy in storms, better protecting roads and private property. Can we be more creative and work with nature?

World class sporting events include International Sandyachting Championships © HVL

A BEACH FOR THE 21ST CENTURY

There exists a commonly held, but unproven view that if Spartina were no longer controlled in Hoylake, the foreshore would "go like Parkgate". Whilst it is true that Spartina was originally introduced near Parkgate, the environments and contexts are entirely different. Spartina is only one of a number of species here.

Evidence suggests that a dune system with slacks, more akin to that between Red Rocks and West Kirby, would be more likely to develop. Where windblown sand gathers around obstacles, it accretes. Where there is a lot of wind, the sand accretes quickly, eventually forming dunes. Slacks also form, a haven for wildlife.

Would this impact positively or negatively on habitat for invertebrates and feeding grounds for the birds? Could there be limited and reversible field trials to find out what that might look like over a period of time?

Perhaps this research could be funded in part by the Burbo Bank Windfarm Community Benefit Fund? Could a managed dune and slacks system along part of Hoylake's main beach evolve into an attractive, enjoyable area for both local people and visitors whilst simultaneously retaining areas of cleaner amenity beach?

Could we begin to return the beach to a more natural form and develop a more profiled beach which would gradually 'move' seawards as the current siltation of the Dee Estuary area continues.

A profiled and less flat beach would certainly help reduce wind blown sand reaching the promenade, the road and drainage systems, which in 2000 was reported to cost circa £70,000 to clear.

To create a natural ecosystem and beach profile could transform Hoylake for residents and visitors alike in a positive way. It could be a nationally renowned ecosystem restoration project.

Boardwalks; hides for birdwatchers; viewing platforms for sand yachting and other beach-based events, cycle hire, even some colourful beach huts used by artisan entrepreneurs, attracting both footfall and revenue?

Could Hoylake have a leisure beach, not a pleasure beach?

A beach for those who love nature, who care about the environment... a beach that attracts an further abundance of wildlife… a beach that certainly does not attract those who would spoil the enjoyment of others through anti social behaviour?

Could we have a café, visitor centre or restaurant along the promenade, overlooking all this increasingly beautiful, naturally evolving landscape and important habitat?

If this happens, we would be better placed to encourage more 'niche' shops to Market Street, selling beach and outdoor related goods: clothing; birdwatching and sand yachting equipment; a modern chandlery; cycling and beach sports shops; books about the natural environment and wildlife; artists supplies...?

National visitor trends show that more and more people are choosing to take short breaks in the UK, seeking natural habitats, fresh air and specialist activities. The opportunity is clearly there for Hoylake to become a destination for all these types of activities.

Could a modern version of the traditional beach hut provide opportunities for artisans to run small businesses? © istock

COME ON BOARD…

Is the current stalemate with nature sustainable? Or is it a costly approach, ultimately damaging the environment, as well as the local economy and community cohesion?

HVL support a project proposal by Hoylake Vision Community Planning Forum, in conjuction with the University of Liverpool, to undertake an initial research project which will revisit the report referred to earlier. This will look at which, if any, of the recommendations made in that report in 2000, are still relevant and could be undertaken, as well as any new activities that would prove helpful now. We certainly need more data and evidence to support any decision making about the future of Hoylake beach.

We hope this research project will be supported by the wider public as well as by our ward councillors and officers of the council.

Do you agree with us that we all need more information? Do you agree that we need a longer term vision? Do you agree that the ongoing, seemingly endless battle with Spartina is only a small part of the story, while the bigger picture of long term coastal processes is "hidden in plain sight"? Have you got other ideas?

One thing is clear: it's time for a conversation; time for ideas and, importantly, it's time for the facts.

HVL have consulted with specialists in coastal management, design and planning with a view to inviting them to join in the conversations and help us to better understand our beach and what we can do with it in a more sustainable and positive way forward.

This is not an academic research document; rather a proposal for a more joined-up approach to beach management. Will you join in the conversation? Email us at info@hoylakevillage.org.uk.

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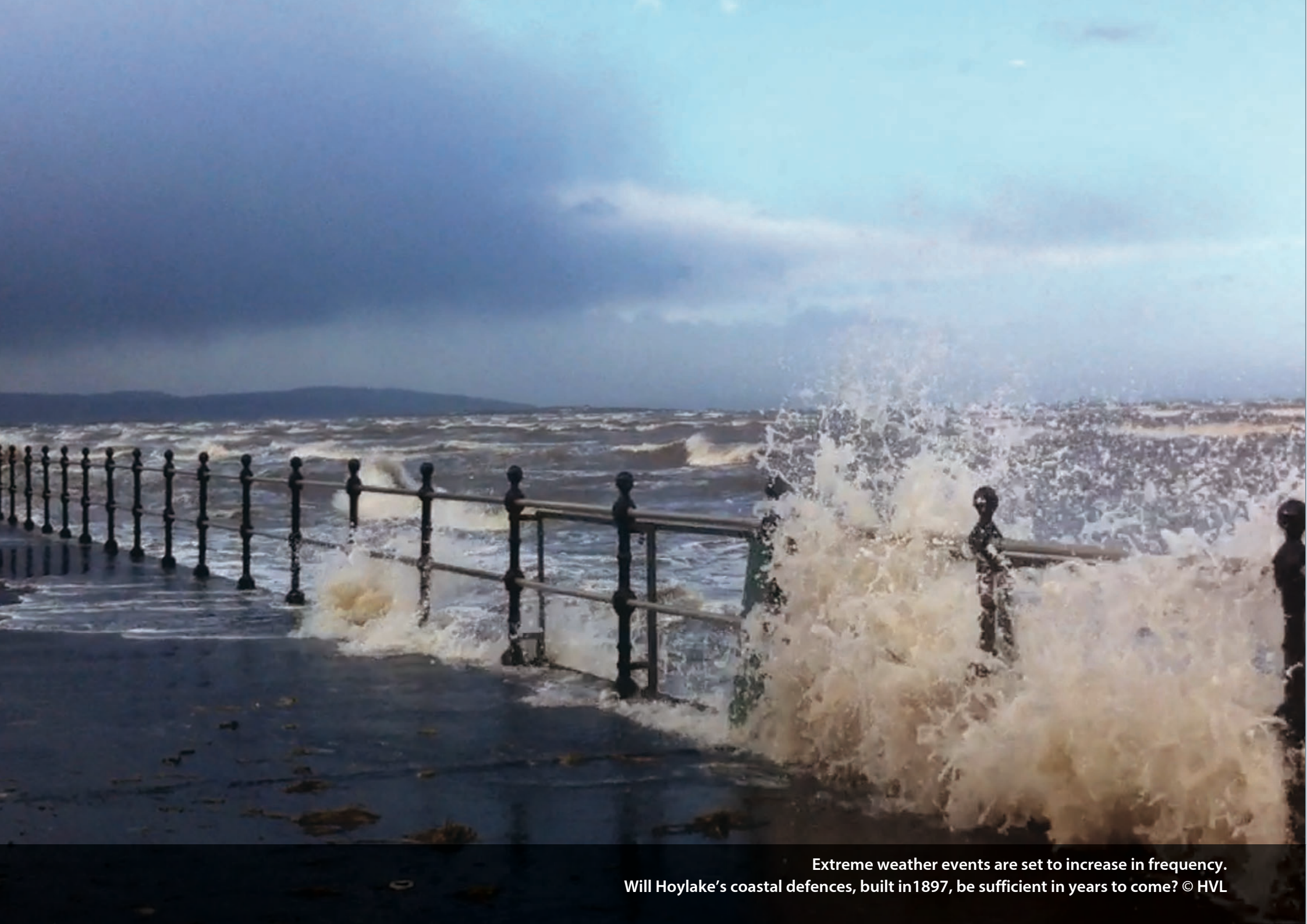
To find out more or to join the community planning forum, go to www.hoylakevision.org.uk/membership-join/



Extreme weather events are set to increase in frequency.
Will Hoylake's coastal defences, built in1897, be sufficient in years to come? © HVL

FOOD FOR THOUGHT

In 1999 alone, more than 70,000 cubic metres of wind blown sand was added to the foreshore between Stanley Road and Hoyle Road, an area of just one square kilometre.

To put this in context, that equates to 7,000 truckloads of sand.

- 140 per week
- 28 per day
- 4 per hour
- one every 15 minutes

Consider digging 10 cubic metres of sand and loading it onto a truck in just 15 minutes. Then do it again, and again… *ad infinitum*.

Nature can be very, very powerful…

(data source: Wirral Council's Wirral Council annual Bulk Analysis Survey 1999)

REFERENCE ENDNOTES

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The best of both worlds: note the dry sand in the foreground – a product of wind blown sand accreting at the foot of a young dune system, providing a distinct and clean amenity area © HVL