BEXHILL WILD DOMESDAY END OF YEAR REPORT 1ST JUNE 2023 TO 31ST MAY 2024 YEAR 1



Dear Town Clerk and Town Councillors

Introduction

The contract for Year 1 required a comprehensive scientific evaluation phase, identifying the types of landscape and ecology we have with the town's nine wards. The assessment of Bexhill's plant and wildlife and natural environment was divided into four seasonal tranches, covering thirty aspects set out below.

This report includes the final three-monthly report for Spring 2024 as part of contract supply.

Executive Overview:

- The Year was very successful in researching details of the thirty areas of research.
- A CIC with bank account was set up with four directors to obtain grants and all grant bids so far completed have been successful.
- Our CIC successfully worked with fifteen Hastings & Rother conservation groups to set up Stand Up for Nature.
- Anti-drought water storage and transport for it is being arranged for the Down area.
- Sophisticate bird and bat tracking equipment has been purchased and used to great advantage with a potential map of 100 resident and migratory bird species for Bexhill overall.
- Two species of very rare mining bees have been observed at Galley Hill.
- An expert plant survey of Sidley Woods has been completed and one for Galley Hill is underway.
- A very wide range of contacts has been made with relevant organisations.
- Rother District Council has given full backing for all projects subject to final planning consent.
- East Sussex County Council has offered £5,000.00 in match funding.
- Sussex Police Chief Constable has given £1,000.00 towards one project.
- The Bexhill Wild CIC attended the Big Green Day event and gave out fifty packets of free pollination seeds.
- Bexhill Town Council has booked St Barnabas Church for a Climate Day on 13th July, during which ward volunteers will be called for.
- The project manager's contract insurances were renewed.
- The project website and email contracts were renewed.
- A new series of projects for the town were investigated. They are set out below.
- A meeting for the public will be held on 13th July at St Barnabas Church.

Recommendations have been made (below) in this report for consideration by the Town Council.

Project Research areas 2023/4:

Mammals

The mammals of Bexhill's wards directly observed and known to exist include foxes, badgers, hedgehogs, dormice, harvest mice, moles, voles, brown mice, rats, grey squirrels, rabbits, deer, seals and bats. Unfortunately, there have been sightings of invasive American mink in Combe Valley and people have been tampering with dormouse refuge boxes in woodland areas of Bexhill. The seals now often seen at Galley Hill are Common Seals (*Phoca vitulina*) rather than Grey Seals (*Halichoerus grypus*). Stoats have been seen in Fore Wood at Crowhurst which is a little way from the Bexhill boundary. The bat population is extensive with every type of British bat known to exist in our area. Furthermore, in addition to the known 18 species of bats in Sussex, there is a newcomer from Poland and Lithuania that is being tracked. This is Nathusius' Pipistrelle.

Birds

Bexhill has a remarkable number of bird species, possibly around one hundred but some of the residents and migrants are at risk, being on the Red (see below) and Amber national lists. A Blue Heron (Great blue heron - Wikipedia) has also been seen in Combe Valley recently. This is a North American bird which does come to England as a vagrant from time to time – but to see it in a Bexhill ward is a remarkable event.

The project manager uses the bird track PUC AI cross-checked with Merlin app to evaluate the bird species of Bexhill. This equipment belongs to Bexhill Wild CIC. The CIC has two PUC AI configurations worth £300.00 each. These are powered by rechargeable batteries. When in operation and sited in the area of St Barnabas Church, the tracking device known as PUC 3801 WILD CIC can be seen online using the Birdweather Map at PUC-3801 WILDCIC::BirdWeather and the other PUC, named Wild Rover 4698 is for random woodland searches and long distance patrols around Bexhill including Combe Valley. On Tuesday 21st May 2024 the project manager completed a full survey of Combe Valley. A sample bird track for Combe Valley covering five hours from 06.30 to 11.30 and showing 51 species is at Appendix 1. The early morning bird count is always higher because the atmosphere has more moisture and this encourages the birds to sing.

The 3801 PUC gives the birds heard within one kilometre of the town from its base in Sea Road. There is another accessible PUC known as Birdnet PI Bexhill-on-Sea, privately-owned and based at Pebsham which records free-to-air so that we can track bird calls on the edge of Combe Valley. In the town centre area survey, more than 50 species of birds were recorded over a seven-day period. Many of these were resident every day and some were flying through.

During the recent months since the PUC equipment was obtained, the, coastal, woodland and parkland locations that have been surveyed are: Galley Hill, Cooden Moat Wood, Cooden Ancient Wood, Sidley Woods, Highwoods SSSI, Gillham Wood, Collington Wood, Manor Barn Gardens, Combe Wood, the Old Railway Track woodland owned by Rother District Council and Broad Oak Park. Survey work will continue during Year 2 until all publicly accessible woodlands in Bexhill have been surveyed. The results have been eye-opening, revealing the richness of Bexhill's avian species. Results of the ongoing Bexhill bird survey will be published on the project website.

Reptiles & Amphibians

Reptiles: Common Lizards, Slow Worms and Grass Snakes have all been observed in the Bexhill area but there have been no reports of adders or any types of newts.

Amphibians: The Common frog and Marsh frog have been observed.

Fish

Freshwater. The main fish seen in the Combe Haven are red-tailed Rudd. *Marine*: Although fishing takes place from Bexhill's beaches and local and Hastings boats continue to fish, there have been no local entries into Sussex iRecords of fish in the sea off Bexhill. Reliance must be placed on the commercial catches made.

Insects that are butterflies or moths

Bexhill's butterflies include those that are migratory. Many species of butterflies are seen in the town, park and woodland areas. A database of Year 1 sightings will be placed on the project website.

Other insects, spiders

Bexhill has a good but declining population of insects but with some bright spots in that two rare species of mining bee have begun to tunnel at Galley Hill. There are over 220 types of bees in Sussex. Spiders seen include orb web, long-jawed, woodlouse eater and garden spiders and the false black widow. The greatest spider find is that the exceptionally rare Great Raft Spider (*Dolomedes plantarius*) seems to have established itself in the Combe Haven River near the 1066 trail crossover point. This milestone event is being closely watched.

Molluscs, terrestrial land freshwater crustaceans, seashore crustaceans, other terrestrial and freshwater invertebrates, other seashore invertebrates

The project manager has carried out an extensive photographic study of the seashore on many occasions through the year.

Trees and shrubs

Bexhill has some superb oak trees, many Turkey oaks with gall wasps, but also some trees within the Bexhill boundary that are suffering from Ash die-back.

The categorisation of 'Ancient Woodland' is controversial. Normally it means natural woodland that was existing before 1600 and therefore over 300 years old. However, the category has been broadened to include old woods that have some replanting – for example Penland Wood. All publicly accessible woodlands in the town are being progressively surveyed by Bexhill Wild CIC.

Wildflowers, Grasses, rushes, sedges, lower plants, fungi

Bexhill has a very good selection of wildflowers and has a rich landscape of other types of plants including reeds and rushes, sedge, ferns, lichens and fungi. A professional survey of Sidley Woods has been completed by an expert and that expert is now working on the area of Galley Hill. The survey results for Sidley are set out at Appendix 2. The plant experts of the Hastings & east Sussex Natural History Society are also providing information on vegetation types to Bexhill Wild CIC.

Climate overview

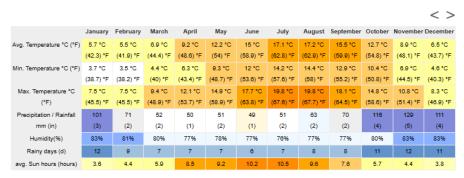
The Met Office states that 2023 was provisionally the second warmest year on record for the UK, with Wales and Northern Ireland having their respective warmest years in a series from 1884.

- Following last year's record-breaking year, 2023 is provisionally the second warmest year for the UK according to mean temperature.
- Both Wales and Northern Ireland had their warmest years on record, meaning they've had consecutive warmest years on record.
- 2023 is provisionally the warmest year for the UK for minimum temperature.
- Human-induced climate change has made the UK's 2023 mean temperature significantly more likely compared to a pre-industrial climate.
- Northern Ireland had its third wettest year in a series from 1836, and wettest since 2002.

UK mean temperatures have been shifting over the decades because of human-induced climate change. The trend in UK climate observations is consistent with that observed globally: 2023 is on track to be Earth's warmest year on record, while carbon dioxide concentrations in our atmosphere are at their highest for at least 2 million years. The five warmest years in the UK series from 1884 include 2022, 2023, and 2020 and the ten warmest years have all occurred since 2003. 2023's provisional mean temperature of 9.97°C puts it just behind 2022's figure of 10.03°C and ahead of 2014's 9.88°C. 2023 was also ranked as the second warmest for Central England Temperature (CET), the world's longest instrumental temperature series from 1659.

The climate.org chart shows the Bexhill averages over the ten years 1999 to 2019.

WEATHER BY MONTH // WEATHER AVERAGES BEXHILL



Data: 1991 - 2021 Min. Temperature °C (°F), Max. Temperature °C (°F), Precipitation / Rainfall mm (in), Humidity, Rainy days. Data: 1999 - 2019; avg. Sun hours

The precipitation variance between the months with the lowest and highest levels of rainfall is 80 mm | 3 inch. Throughout the year, temperatures vary by 11.7 °C | 21.0 °F.

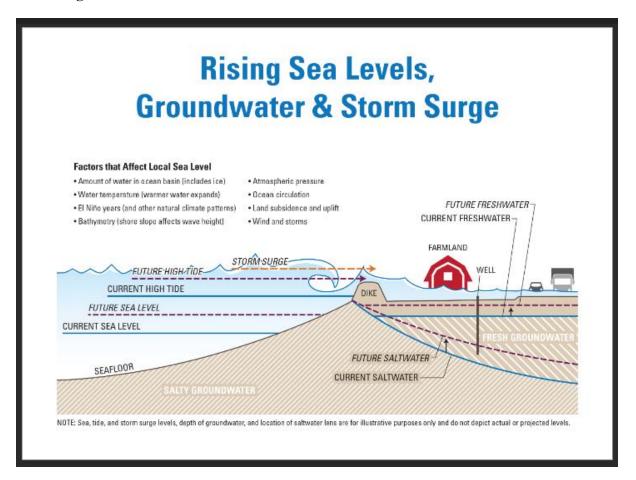
The month with the highest relative humidity is January (83.45 %). The month with the lowest relative humidity is July (76.08 %). The wettest month is November (16.40 days). The driest month is June (8.23 days).

Sea Levels, Tidal and Coastal Conservation

The global average sea level has risen about **250 millimetres (9.8 in)** since 1880. Between 1901 and 2018, average global sea level rose by 15–25 cm (6–10 in), an average of 1–2 mm (0.039–0.079 in) per year. This rate accelerated to 4.62 mm (0.182 in)/yr for the decade 2013–2022. The current risk to Bexhill is from storm surges.



The Environment Agency's giant stack of shingle at Cooden Beach Hotel is for use along the coast to prevent sea flooding. Storm surges - the threat to Bexhill's sea front homes.





Bexhill and Hastings in 2100. Picture: Surging Seas

Coastal assets

The coastal defence assets specified by the Environment Agency are 'shingle only' plus 'repair groynes'.

Where does shingle defence come from?

The south coast of what was to become England was formed after the Ice ages. The great rivers now called Thames, Seine and Rhine all flowed into an embayment that was eventually to form the English Channel. England was still joined to Europe via Doggerland and a 21-mile-long chalk ridge, one hundred feet high that connected our white cliffs to those of Cap Griz Nez.

After the last Ice Age began to melt some 600,000 years ago, a giant lake built up behind the Weald-Artois Ridge connecting what was to become England and France. After 150,000 years the pressure became too much for the chalk ridge and it became a giant waterfall that thundered down and finally burst, throwing the remnants of its moraine in the form of millions of tons of shingle and flints into the centre of the English Channel.

Another source of shingle is from cliff collapses and erosion both in sandstone and chalk areas. The calcium chalk of Beachy Head slowly releases hard flint nodules, and the sedimentary sandstone areas give smaller brown pebbles, usually angular. Millions of tons of shingle sit in the centre of the English Channel and these assets must be extracted and sprayed or bucketed onto the seashores of our coast. The process is necessarily endless and expensive.

What moves the shingle along the coast?

The shingle is moved down the coast naturally by what is called longshore drift. This usually moves from Eastbourne towards Rye. Occasionally the wind from the east is strong enough to turn the waves to the opposite direction, but this is unusual. The artificial movement of shingle is enabled or contracted by the Environment Agency. They stack up the shingle at various points, for example the huge mound seen at Cooden Beach Hotel (see photo above) and then this is distributed by tractor vehicles between the wooden groynes. When the groynes are worn or damaged by storms then if they are not repaired, the shingle moves faster along the coast. So, on top of the cost of dredging shingle from mid-Channel to place on our beaches there is also the cost of repairing the groynes. Most groynes are made of wood, but some are of stone. The sea is so powerful that either of these beach interval types can be damaged.

Who is responsible for coastal defence?

Back in medieval times, there was a constant battle to save farmland. Many areas were repeatedly flooded, so a system called 'bisket and trisket' was developed to ensure that Pevensey Marshes recovered farmland was saved from the sea. This meant that every farmer had to ensure their land had a wall against the sea's incursions and if that wall was not properly maintained then neighbouring farmers would do the work and charge the cost to the 'lazy' or 'ill' farmer who had somehow failed in his duty. However, there were some storms that no man could counter. For example, the two *Grote Mandrenkes* (Great Drownings of Men) of 16th January 1219 (36,000 dead) and 1362 (25,000 dead) and both on the Feast of St Marcellus.

Now in 2024 we rely completely on the Environment Agency (EVA) to help the local councils and the coastal road and railway authorities.

The distribution of legal responsibility for the coast from Rye Harbour to Eastbourne is as follows:

- From Rye, Pett and Winchelsea Beach Thames & Foreland EVA Division.
- The rest of Rother District Council area Rother DC with help from EVA
- Hastings & St Leonards excluding Combe Valley HBC with help from EVA
- Combe Valley EVA only
- Bexhill-on-Sea Rother DC with help from EVA
- Eastbourne to Cooden Beach Hotel Eastbourne Division of EVA

What are the Environment Agency strategies?

The Flood and Water Management Act 2010 places a statutory duty on the Environment Agency to develop a National Flood and Coastal Erosion Risk Management Strategy for England. This strategy describes what needs to be done by all risk management authorities (RMAs) involved in flood and coastal erosion risk management for the benefit of people and places. This includes:

the Environment Agency, lead local flood authorities, district councils, internal drainage boards, highways authorities and water and sewerage companies.

A new policy has been developed called the 2020 Flood and Coastal Erosion Risk Management Strategy. This strategy's long-term vision is for: a nation ready for, and resilient to, flooding and coastal change – today, tomorrow and to the year 2100.

What does the future look like?

The Environment Agency reported in 2019 'that over 5.2 million homes and properties in England are at risk from flooding and coastal erosion. In the Eastbourne to Cooden sector the number of homes at risk is ten thousand. Yet only a third of people who live in areas at risk of flooding believe their property is at risk. Many more people are affected when transport services, energy or water infrastructure are damaged or disrupted. For every household directly affected during a large flood, about 16 people suffer knock-on effects from losses of utility services.'

One sign to look for is the erosion of the concrete platform under the Mary Stanford Memorial Lifeboat House, where the sea is wearing away the land daily. There are many cliff falls along the coast and the Eastbourne Martello Tower base is being undermined as can be seen in the photos.





Another area of concern is the foot and cycle path between Bridge Way, St Leonards and Glyne Gap where the sea regularly throws shingle onto the railway tracks and walkers and trains are hit by huge clouds of sea spray. This a dangerous winter and storm area where people could be hurt.

So, we need to understand that global warming and climate change does have implications not just for far-off countries with low-lying land but for us here in the UK where once the sea lapped the edges of early Cambridge and Northeye, Rye and Old Winchelsea were islands in a vast and troubled sea.

Shingle and groynes are the only defence so far proposed. If Eastbourne authorities decide to use concrete as a solution, then because no shingle comes round Beachy Head, the beaches along to Hastings will be stripped by the longshore drift. We also have taken away all our natural flood plains into pipes that enter the sea and so Hastings has had to have pumps installed to save the Priory Meadow Shopping Centre which was built over the top of a river.

Inevitably we will have to use pumps more and more as the ground becomes supersaturated. This has already happened at Cooden Moat and Cooden Ancient Wood fields, which are 'squelchy' under foot because of the almost permanent raised water table. Let us hope that any future government gives the Environment Agency the funds it needs to keep us all safe from rising tides on our beautiful seacoast.

Rainfall trends

The most recent decade (2011–2020) has been on average 4% wetter than 1981–2010 and 9% wetter than 1961–1990 for the **UK** overall. For the most recent decade (2011–2020) UK summers have been on average 15% wetter than 1981–2010 and 17% wetter than 1961–1990. UK winters have been 11%/19% wetter.

The narrative for the rainfall trend is as follows:

Recent Trends:

- When it comes to storm activity in the UK, we can consider two major components: wind and rainfall
- According to the 2018 State of the UK Climate Report, there is no compelling trend in maximum
 wind gust speeds recorded in the UK since 1969. However, changes in observation methods and
 instruments mean that this data should be interpreted with caution.
- On the other hand, there is a discernible trend in rainfall across the UK:
 - Annual trends show small increases relative to variability between years. For instance, the decade from 2009 to 2018 was, on average, 5% wetter than the 1961-1990 average and 1% wetter than 1981-2010.
 - o When we look at summers and winters separately, the picture becomes clearer:
 - UK summers during 2009-2018 were on average 13% wetter than the 1961-1990 average and 11% wetter than 1981-2010.
 - For winters, the figures are 12% wetter and 5% wetter, respectively.
 - These trends are sensitive to the start and end dates used due to inter-annual variability, and some historic data is subject to uncertainty. Therefore, caution is advised when interpreting these trends.
 - o It remains unclear how directly these trends can be linked to climate change¹.

Future Projections:

Predicting the effect of climate change on storm activity in the future is crucial for effective adaptation and mitigation.

 While there is no compelling evidence of trends in maximum wind gusts, the associated storm systems are likely to bring more rain, contributing to the observed increasing trend in rainfall.

Humidity records

The Met Office specify the humidity of Bexhill on a continuous basis at the Bexhill Weather site: Bexhill (East Sussex) weather - Met Office

Since the rainfall trend seems to be increasing (see above – Rainfall trends) the humidity if often high. This will lead to higher levels of black mold in poorly ventilated and/or poorly cleaned buildings.

Ground Water levels and flooding risks

Bexhill Flood Map (getthedata.com)

Landscape types and definitions

Bexhill has many types of landscape – low tide sands, shingle beach, cliff, open meadow, pocket meadow, reed bed, fen, hillside, woodland, ancient wood, river and stream, arable farmland, beef herd grazing land, annual winter flooded fields, urban recreation areas, ditch land, urban and town centre building areas

landscape-character-assessment.pdf (publishing.service.gov.uk)

The intention is to recruit 18 volunteers who will work in pairs in the nine wards to report on the environmental health of these habitats so that Bexhill Wild CIC can update the town council.

Farming

The main farms in the Bexhill area are situated on high ground, for example Aston's Farm and Hillcroft. However grazing livestock use the lower meadows for grass. The project manager has photographed and recorded the natural winter flood in Combe Valley for each year since 2013. It is obvious that the flood water is staying longer and the water table is high and the ground is more saturated. This can have the effect of preventing beef cattle herds from being put to pasture after winter feed stocks are used and so pasture grass is sometimes not available in the normal season because of flooding. Rainfall patterns show an increase of about 5% more per year. If this is cumulative, then Combe Valley will remain flooded for much longer and eventually the grass will begin to die from the roots.

Roads and streets per ward

Bexhill-on-Sea Maps - Interactive and Static Maps of Bexhill (discoverbexhill.com)

<u>List of Streets in Bexhill-on-Sea, Borough of Rother, East Sussex, South East England, England, Google Maps and Photos Streetview, England, List of Streets, Google Street View, Geographic.org</u>

Parks and Gardens

Most of the green spaces managed by Rother District Council are found in Bexhill and an RDC overview of the main ones is given below.

Egerton Park, Egerton Road

Just a short walk from the seafront and town centre, this is Bexhill's most popular park. It offers a variety of activities and facilities including tennis, boating, a children's play area and outdoor bowls. Parking and toilets available. Find out more about <u>Egerton Park</u>.

Manor Gardens, De La Warr Road

A beautiful, peaceful garden situated in Bexhill's Old Town. The Gardens take their name from the ruins of a Manor House built there for the Bishop of Chichester in the 1100's. Visitors can enjoy the rhododendrons in spring and the rose garden in the summer. Parking and toilets available.

Broad Oak Park, Badger's Mount

Broad Oak Park has a countryside feel and is ideal for leisurely walks trees and fields of long grasses and wildflowers. There are also beautifully tended allotments. Parking is available and the site links to Little Common Recreation Ground where there is additional parking.

Collington Wood, Westcourt Drive

A delightful small woodland popular with dog walkers. In the spring it is carpeted with white anemones. Walk through the trees to find a lovely grassy space and children's play area. On-road parking.

Barrack Hall Park, Belle Hill

With views of the sea in the distance, this is an ideal, enclosed place for families to enjoy the outdoors. Children can enjoy the well-equipped play area whilst teenagers will find a basketball hoop and 5-a-side goal. There is very limited parking available so if arriving by car, consider parking in the nearby Manor Gardens car park.

Galley Hill, East Parade

A large grassy open space with a children's play area, skateboard ramp, basketball hoop and picnic benches at the top. Enjoy wonderful views across Bexhill to Beachy Head and Hastings. Parking available.

The Down, Down Road

A large grassy and wooded site for walking, horse-riding and informal recreation including children's play. Facilities are also available for football and cricket. On-road parking.

Little Common Recreation Ground, Green Lane

A large open space bordering Broad Oak Park and edged with woodland and fields. This Recreation Ground has facilities for cricket, football, tennis, basketball and children's play. Toilets and car parking are available.

Polegrove Recreation Ground, Brockley Road

Situated next to Egerton Park, the Polegrove is home to Bexhill United and Bexhill Town Youth. Facilities include a grandstand, changing rooms, club house and toilets. Cricket and outdoor bowls are also played here.

Seabourne Road Recreation Ground, Pebsham

Situated behind the Co-op in Pebsham, the site offers play facilities for children aged 8+, a basketball goal, kickabout goal and an open space for informal recreation. The neighbouring play area provides play opportunities for younger children.

Bexhill Seafront

Green space and gardens can be found along the length of Bexhill's beautiful seafront. West Parade lies to the west of the De La Warr Pavilion and is modern in style featuring planting suitable for the coastal environment with individual items of play equipment at intervals along its length along with plentiful seating where views of the sea can be enjoyed. To the east of the Pavilion, the seafront is more traditional in style with large expanses of open grass alongside the promenade and colourful seasonal flower beds.

Sidley Recreation Ground

The site provides a range of facilities for outdoor sport, play and general recreation including a children's play area, BMX track, bowls green and football pitch.

St. Mary's Recreation Ground

This recreation ground situated on the outskirts of town is a large, quiet tree-edged green space used for casual recreation. Ideal for dog walking and informal ball games. Parking available.

Natural water courses

The principle water courses are the Combe Haven, Watermill Stream, Powdermill Stream, Egerton Park Stream and Pevensey Marshes drainage system. There are some small springs and rivulets. None of these watercourses enter the sea in a natural way – they have all been constrained by building development and forced into beach outlet pipes that can only be opened when the tide is low enough to prevent saltwater entering freshwater areas. Their natural flood plains have been ruined by housing and a giant leachate rubbish tip some 80 feet high and almost a mile across. Since sea levels are rising and the climate is more turbulent, then we can expect problems with flooding far into the future.

Sewage and drainage

The sea is being polluted. This is a politically controversial area and politics is not in the scope of Bexhill Wild Domesday. Rother District Council is in correspondence with water companies.

Private Gardens

In arrangement with Sussex Wildlife Trust a PDF has been made available for anyone wishing to know what to plant in their front garden to help with be and hoverfly pollination. A free issue of seeds is being made available to private gardeners on a first-come-first served basis – one per household.

Dark Skies & Light pollution

A Town Councillor is working on a strategy and policy for the town.

Food chain survival water

Arrangements are in hand with Bexhill Environmental Group and Friends of Bexhill Down to provide around £700.00 worth of drought water container equipment. Bexhill Wild CIC has the funds available.

Drought and Cyanobacteria

This is one of the most serious risks for wildlife and landscape in Bexhill. Drought affects egg-laying creatures like dragonflies and all wild creatures need water to be available all year round. The public needs to be aware of the dangerous of swimming in or allowing pets into water where anaerobic organisms may develop during drought. East Sussex County Council has stated that all the lakes it provided alongside the Bexhill to Hastings bypass are for flood attenuation only and that no fishing is permitted. It is not prepared to intervene to save illegal fish. However, police reports give to Bexhill Wild CIC and its CIC own photographic survey has shown that criminals are stocking these lakes and the lakes are being fished illegally. Rubbish such as lost torches, food, plastic bags and cans and fishing kits are being left on banks. Fences and padlocked gates on the bypass have been cut with bolt cutters. When cyanobacteria forms then all the fish die. They are mostly golden carp and can be see flapping and gasping at the water's edge. This is a sad and unnecessary sight. Crowhurst Lake, just outside the Bexhill town boundary has gone from a wildlife-rich area to a dead lake in which many fish have died through lack of oxygen.

Air Quality

Bexhill, East Sussex, United Kingdom Air Quality Index | AccuWeather

Air quality is measured using the **Air Quality Index (AQI)**. Think of the AQI as a thermometer that runs from 0 to 500 degrees, but instead of showing changes in temperature, it reflects changes in the amount of pollution in the air. Here are some key points about air quality measurement:

- 1. **Air Quality Index (AQI)**: The AQI is a standardized way to assess air quality. It takes into account various pollutants and provides a numerical value that indicates the level of pollution. The scale ranges from 0 (good air quality) to 500 (very poor air quality).
- 2. Major Air Pollutants Tracked by AQI:
 - Ground-level ozone
 - o Carbon monoxide
 - o Sulphur dioxide
 - Nitrogen dioxide
 - o Airborne particles (aerosols)

3. Ground-Level Ozone and Airborne Particles:

- o Ground-level ozone and airborne particles pose the greatest risk to human health in the United States. They are also key components of smog, which reduces visibility.
- o Ground-level ozone forms when sunlight reacts with chemical emissions from sources like industrial facilities, car exhaust, and gasoline vapours.
- o Airborne particles include solid and liquid droplets suspended in the air, originating from construction sites, smokestacks, car exhaust pipes, wildfires, and other sources.

4. Communication of Air Quality:

- o The AQI has six categories, each represented by specific colours:
 - 1. **Code Green and Yellow**: Generally safe for everyone.
 - 2. **Code Orange**: Unhealthy for sensitive groups (children, senior citizens, and people with heart and lung diseases).
 - 3. **Code Red and Purple**: Unhealthy for everyone.
 - 4. **Code Maroon**: Emergency conditions.
- o Air quality is reported in AQI values.

5. Data Sources:

 Instruments on the ground and satellites collect information about air quality. Ground monitors use sensors to detect specific pollutants, while satellites measure energy reflected or emitted by the Earth².

Remember, monitoring air quality is crucial for our health and the environment. Clean air contributes to overall well-being and reduces the risks associated with pollution.

Landscape pollution and Fly Tipping

Action on pollution is taken by an environmental officer of Rother District Council. The Bexhill Wild Domesday project manager has reported fly tipping to RDC.

BBC: Fly-tipping in England had to be cleaned up 1.08 million times by local councils in 2022-23, the latest government figures reveal. Clearing the largest illegal tips cost £13.2m, but the number of court fines dropped by 17%, raising just £785,000. Newly-released figures from Defra show that there were more than 100,000 incidents of fly-tipping on public land in the South East in just 12 months.

Fly-tipping: council responsibilities - GOV.UK (www.gov.uk)

Bathing Water Quality

Huw Merriman has now retired from being the MP for Bexhill and Battle, there have been boundary changes and a General Election is forthcoming. However, Huw's most recent report is relevant:

'Last August, during a similar heatwave to the one we are currently experiencing, Bexhill beach was closed due to a sewage spill incident from the Galley Hill pumping station. This was devastating news for residents, visitors and businesses who were enjoying a great summer season.

This pollution incident came on top of regular reports of sewage discharges into the Sussex sea from Combined Sewer Overflows (CSOs). CSOs release sewage mixed with surface water into seas and rivers during times of heavy rain to prevent the sewerage system from being overloaded and backing up into properties.

On behalf of all Sussex MPs, I immediately called for action and a meeting with Directors of Southern Water and the Environment Agency to find out what went wrong and what they were doing to put it right.

It is really important to me, and local residents, that our bathing water is clean and safe. That is why, in 2022, I initially voted against the Government's first draft of the Storm Overflow Reduction Plan as I felt the targets for ending the use of CSOs were not ambitious enough. The Government amended the Plan with more challenging targets and, for the first time, the country has a clear plan to end the use of CSOs. Due to the nature of our sewerage system, it requires major infrastructure investment to separate surface water from mains sewers. This has begun, but it cannot be achieved overnight.

Following the Galley Hill pollution incident, I applied for an urgent debate in Parliament on sewage pollution. This was successful. I used my speech to urge water authorities to test Bexhill bathing water quality throughout the year and from more locations. In Bexhill, we had what I considered to be a fairly unique and unusual situation where our bathing water quality was graded as 'sufficient' compared to the 'excellent' neighbouring beaches. I strongly felt that not enough work was being carried out by the relevant authorities to establish why Bexhill beach had poorer water quality.

Following the debate, Southern Water committed to a 'shadow' water testing regime and launched a separate project to investigate potential contamination entering the Egerton Park stream. The outflow of the stream onto Bexhill beach is adjacent to the bathing water testing point for the Environment Agency so it seems likely there is a link with the bathing water results.

Earlier this year in Parliament, I organised and chaired a meeting with all Sussex MPs and the senior management from Southern Water and the Environment Agency to get an update on progress and keep the pressure up.

Just over a week ago, I held one of my regular meetings with Southern Water for an update on their progress. They told me that their 'shadow' testing regime takes frequent water samples across 14 sites in Bexhill, including the Environment Agency's official testing point at the Egerton Park stream outflow. Coastal samples are prioritised, but inland and upstream water samples are also taken. The results are looking positive. All Southern Water samples taken in the week commencing 29 May were in the 'excellent' water quality category.

The Environment Agency's own regular water testing of Bexhill bathing waters since 5 May, also show 'excellent' water quality from 3 samples and are far better than the equivalent samples from the last two years.

The project to investigate pollution entering Egerton Park stream involves testing all entry points into it. Whilst no significant pollutants have yet been identified, some results have led to further investigation. The project will continue until the whole area has been mapped and analysed.

These latest test results show that Bexhill's bathing water quality is better than may have previously been thought and this is good news for the town. I hope these results will continue and will provide reassurance for those who will be making the most of the sea in these sunny days.

However, very heavy rainfall can still result in CSO releases into the sea to prevent homes being flooded and it's important to be aware when this happens. The live CSO monitoring data on Southern Water's Beachbuoy webpage helps inform sea users of these events.

We have a lot of outflow pipes on Bexhill beach and it's not clear what role they play. Last year, I joined Southern Water, Environment Agency, Rother District Council and East Sussex County Council on Bexhill beach to look at the outflows. I asked the organisations to provide clear information about each pipe. Southern Water has since launched an 'Outfall Awareness' project. Once completed, it will clearly identify all 11 outfall pipes along Bexhill beach and better inform the public about what they do and what comes out of them.'

Bathing water profile (data.gov.uk)

This site show what is happening in Bexhill. It is not encouraging and shows no sign of consistent improvement.

Contact and Liaison Work

Contact between the Bexhill Wild Domesday project manager and the following organisations is ongoing:

East Sussex County Council

Rother District Council

Bexhill Town Council

Bexhill Environmental Group

Bexhill Beach Garden

Representative of Sidley Community

Sussex Police

South East Rivers Trust

Bexhill OSM - Mapping

Dark Skies

De La Warr External Affairs Manager

Environment Agency Headquarters (EV)

Friends of Combe Valley

Groundwork South

Combe Valley CIC Managing agent

Hastings & East Sussex Natural History Society

Hydrodynamics Project Manager, Channel Coastal Observatory, National Oceanography Centre

Minister of Transport Huw Merriman MP (now retired)

National Biological Network

Natural England

Pevensey to Eastbourne EV Coastal Management Service

Safe Sea Water Swimming

Southampton University
Southern Water
Strandliners
Standing Up for Nature Hastings & Rother
Studio Brio Environment Consultancy
Sussex Wildlife Trust
United Nations Climate Committee
Upper Wilting Farm
Wetland Trust
Woodland Trust

We have a formal letter from Rother District Council confirming that we may plan and implement our work in Bexhill with their full support subject to planning regulations.

YEAR 1 CONCLUSIONS

Considerations for Councillors

MONITORING RARE WILDLIFE AND SPECIES UNDER THREAT

The following rare creatures and plants set out below are existing within the Bexhill boundary. The Town Council does not have a policy or strategy for conservation of these rare creatures inside the town boundary. This may be because the Council views Rother District Council as being fully responsible along with Sussex Wildlife Trust, the Environment Agency and local farmers.

This report puts forward the idea that there should be three-monthly meetings between interested parties so that the Town Council can feel it has a clear understanding of the conservation issues involved. I therefore propose a **Joint Nature Committee for Bexhill.**

Wildlife

Ramshorn Snail (Anisus vorticulus)
Great Raft Spider (Dolomedes plantarius)
Northern Wheatear (Oenanthe Oenanthe)
Early Colletes Mining Bee (Colletes cunicularius)
Grey-backed Mining Bee (Andrena Vaga) (believed to be extinct in UK but now at Galley Hill)
Great Silver Water Beetle (Hydrophilus piceus), and several other rare water beetles.

Example rare plants are:

Sharp-leaved pond weed (Potamogeton acutifolius) Narrow-leaved Water Plantain (Alisma lanceolatum).

There are concerns that the management of the ditches in Pevensey Marshes is incorrect and that is killing rare species. It may be significant that the exceptionally rare Great Raft Spider has begun to migrate to Combe Valley.



Pevensey Marshes forms part of Bexhill's town land.

Red-listed birds in Bexhill

Bexhill's landscape contains huge areas for wild birds including a large part of Pevensey Marshes, a large part of Combe Valley, the coast, ancient woodlands and other woodlands. The species variety of birds is very rich – just in the town centre alone, in a one-kilometre circle centred on St Barnabas Church there are at least 50 species, In the whole of Bexhill town land there are probably 100 species constantly changing through winter and summer with migration. These include the important component of around 200 Lapwings and 300 Shoveler Ducks – a nationally significant figure. We should be proud of this, but the public has no idea. With the help of the Town Council, these important facts could be better known.

These Red-listed birds of greatest concern and known to be declining in numbers are present in Bexhill and have been recorded in the last 12 months.

House sparrow, Spotted flycatcher, Turtle Dove, Mistle Thrush, Skylark, Nightingale, Cuckoo Linnet, Pochard, Swift, Lapwing, Curlew, Black-tailed Godwit, Herring Gull, Merlin, Willow tit, House martin, Wood warbler, Starling, Mistle thrush, Tree sparrow, Greenfinch.

Many Amber list birds are also present in Bexhill – a list can be supplied on request.

At present there is no local discussion about how to conserve Bexhill birds at risk and no action to form any Bexhill group interested in doing anything to help.

The full Bat, Small Mammal and Amphibian tracking report will be available for the council in August 2024.

It is possible to help ground-nesting birds such as Lapwings to lay eggs successfully if areas have anti-fox and badger fencing. This has been done successfully at Rye Harbour Nature Reserve. It could be done in Combe Valley in one field where Lapwings repeatedly try to nest with little success. Bexhill Wild CIC would like to discuss this with the Town Council as a possible future project. It would be a headline-hitting project that Bexhill could be proud of. The Bexhill Wild Domesday project manager offers to take any councillors to see the Lapwing nesting area and explain the problems.

BEXHILL WILD DOMESDAY PROJECTS

Town Councillors are encouraged to discuss with Bexhill Wild CIC and the council project manager, the project work being done on behalf of the town. These are set out below:

GALLEY HILL

The protection of the rare bees (Early Colletes (Colletes cunicularius) and Vaga (Andrena Vaga)) and migratory birds and other wildlife and plant life of Galley Hill and its beach. The Six-belted clearwing moth needs its food plants protected. Green Tiger beetles and migratory Northern Wheatears are present. This is a vital and rare beach landscape.

The Town Council is about to approach the Secretary of State in this matter as Natural England has failed to respond to repeated requests to extend the current Combe Valley SSSI to cover Galley Hill. The General Election on 4th July will determine who that Secretary is.

EGERTON PARK

The reduction of persistent mass flooding of Egerton Park by installing leaky dams and dragonfly pools and scrapes in Sidley Woods on the Egerton Stream. A Crowdfunder page has been set up online. The aim is to raise £10,000.00. However, East Sussex County Council have stated in writing that they back this project and will give £5,000.00 in match funding as soon as the Crowdfunder reaches £5,000.00. The Town Council is asked to consider if it can give a grant towards the £5,000.00 total to help the project win the other £5,000.00.



The first section of path in Sidley Woods. Egerton Park stream is on the left.

The project narrative is:

Bexhill Wild CIC plans to help Sidley and Bexhill. At present the so-called Sidley Stream which runs through the woods is the Egerton Park Stream. When this is in full spate and the tide gate is shut, flooding occurs in Egerton Park. To reduce this extensive flooding, the South East Rivers Trust in cooperation with advice from the Environment Agency, will enable leaky dams and dragonfly-friendly pools to be developed in the stream bed to slow the flow of water. An expert-level survey of plant life has already taken place. To supplement existing flora, more planting of bird-friendly hawthorn and blackthorn bushes and the planting of black poplars that need conservation, will enhance this small but beautiful woodland. Eventually when funding is available, Bexhill Wild CIC would like to see the woodland path improved to permit people with disabilities to use wheelchairs safely. This project is for and by the people of Sidley who can volunteer to join the team and all volunteers will be covered by public liability insurance. The Chief Constable of Sussex has already donated £1,000.00 to this project and we now hope to raise the rest by crowdfunding.

BEXHILL'S ANCIENT WOODLAND

All ancient woodlands (over 400 years old) will be specially protected from drought by volunteers using trolley-born water containers paid for by Bexhill Wild CIC. Some ancient woodlands originating over 400 years ago are: Cooden Wood, Gillham Wood, Collington Wood, Penland Wood, St Mary's Wood and Highwoods SSSI. The north of Bexhill has a long line of woodlands that have been partially managed but originated in ancient woodland and so are important for conservation. The definition of 'ancient woodland' is controversial even for government and some government maps list woods that are not on other maps. However, to make sense, it is best to consider all woodlands in Bexhill as worthy of preservation.

BROAD OAK PARK

This area of woodland and extensive pocket meadows has a proportionally low bird species count because berry food bushes hardly exist in the area. Compared to other woodlands there is less food available. This can be remedied by peripheral planting without affecting the natural layout of the mixed meadow landscape.

THE DOWN

The planting of one kilometre of mixed hedging (blackthorn/hawthorn, beech, holly, ivy etc) to assist bird refuge and nesting in Bexhill's Down area. Bexhill Environmental Group and Friends of the Down are doing wonderful conservation work in this area.

TOWN TREESCAPE

Individual trees will be able to receive water at critical drought times.

TOWN HEDGESCAPE

There is new law on hedges limiting the times when they can be cut. The town does not have sufficient dense hedging in some areas that can be used for nesting birds. Intensive double row planting will be required. A good example of double row planting can be found at the Discovery Centre, Freshfields, St Leonards. Once these hedges are established, they can be layered and this will increase their density, giving additional protection to nesting birds being preyed on by foxes. This project can be a joint one between Bexhill Environmental Group and Bexhill Wild CIC.

TOWN BIRDSCAPE

There are a remarkable number of bird species in Bexhill and the total could reach least 100. I am compiling a list of all the bird species as I map each woodland with PUC AI cross-checked with Merlin. Data will be placed on the Bexhill Wild Domesday website so that the public can be pleased with the state of most of the town's avian wildlife. Data will also become available as the digitised records of the HESNHS archive is analysed. It is hoped to encourage a university PhD student to do some of this work.

TOWN BATSCAPE

Sussex is the only county in Great Britain to have all 18 species of bat mammals. Now a 19th is coming here and needs to be tracked. This is Nathusius' Pipistrelle migrating from Poland and Lithuania. Bexhill Wild CIC has a top-quality bat and mammal tracker. The bat tracker also tracks small mammals and amphibians. Here is a test result of our equipment carried out in the Pannell Valley. Tests in Bexhill will begin in August and go on through the year.

Some Other Recommendations for Councillors

It would be helpful if councillors were to take part informally in public information sessions and help to set up a Bexhill Nature Group that looks at the whole picture of biodiversity in Bexhill. We need a town vision.

Rainfall and humidity continue to be higher than normal so some advice to householders about how to deal with black mould would make sense.

Final Thoughts

We are now entering an exciting and information rich second year for Bexhill Wild Domesday. We are looking forward to answering any questions and carrying out further research.

Kind regards to all

David EP Dennis BA (Hons) FCIPD AFRHS LCGI RAF

Project Manager and Managing Director Bexhill Wild CIC

11th June 2024

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Appendix 1 – Combe Valley bird activity sample

Appendix 2 – Sidley Woods expert plant survey

APPENDIX 1	24 May – Combe Valley
Barn Swallow	51 Species
Black Redstart	
Blackbird	
Blackcap	
Black-headed Gull	
Blue-Tit	
Carrion Crow	
Cettis' Warbler	
Chaffinch	
Chiffchaff	
Collared-Dove	
Coot	
Cormorant	
Curlew	
Dunnock	
Fieldfare	
Fulvous Whistling Duck (3 escapes)	
Goldcrest	
Goldfinch	
Great Spotted Woodpecker	
Great Tit	
Greater Whitethroat	
Greenfinch	
Green-Winged Teal	
Greylag Goose	
Grey Heron	
Herring Gull	
House Sparrow	

Jackdaw

Lesser Whitethroat

Linnet

Long-tailed Tit

Magpie			
Moorhen			
Mute Swans (pair with 8	3 cygnets)		
Nightingale			
Nuthatch			
Reed Bunting			
Reed Warbler			
Robin			
Rook			
Sedge Warbler			
Siskin			
Skylark			
Song Thrush			
Stonechat			
Swift			
Whitethroat			
Willow Warbler			
Wood-pigeon			Park Wood
Wren	3 2 2 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3	7 Crowhu	Chapel Wood Chapel Wood Tel 10 Monkham Wood

APPENDIX 2

PLANTS

SIDLEY WOOD 23rd April 2024

Ash (Fraxinus excelsior)

Bay (Laurus nobilis)

leaves only, no flowering

Bluebell (Hyacinthoides non-scripta)

Cow Parsley (Anthriscus sylvestris)

Creeping Buttercup (Ranunculus repens)

Cuckoo-Pint (Arum maculatum)

Daisy (Bellis perennis)

Dandelion (Taraxacum officinale agg.)

Dog Rose (Rosa canina agg.)

Elder (Sambucus niger)

Garlic Mustard (Alliaria petiolata)

Germander Speedwell (Veronica chamaedrys)

Goosegrass OR Cleavers (Galium aparine)

Great Willowherb (Epilobium hirsutum)

Greater Stitchwort (Stellaria holostea)

Hawthorn (Crataegus monogyna)

Hazel (Corylus avellana)

Herb Robert (Geranium robertianum)

Hogweed (Heracleum sphondylium)

Holly (Ilex aquifolium)

Ivy (Hedera helix)

Lesser Celandine (Ficaria verna)

Maple (Acer campestre)

Oak (Quercus robur)

Ramsons OR Wild Garlic (Allium ursinum)

Red Campion (Silene dioica)

Ribwort Plantain (Plantago lanceolata)

Spanish Bluebell (Hyacinthoides hispanica)

Stinging Nettle (Urtica dioica)

Sycamore (Acer pseudoplatanus)

Three-Cornered Leek (Allium triquetrum)

Wavy Bittercress (Cardamine flexuosa)

Wood Anemone (Anemone nemorosa)

Wood Avens (Geum urbanum)

Wood Dock (Rumex sanguineus)

GRASSES

Annual Meadow Grass (Poa annua)

Meadow Foxtail (Alopecurus pratensis)

in small quantity only here

one clump only

mostly near houses

v.common, may possibly out-compete bluebell

FERNS

Soft Shield Fern (Polystichum setiferum)

SEDGES

Pendulous Sedge (Carex pendula)

MITE GALLS (Aceria sp.)

Aceria cephalonea galls on Sycamore leaf

Cecidophyes rouhollahi galls on leaf of Galium aparine

RUST GALL (fungal)

Uromyces muscari rust on Spanish Bluebell

LEAF MINES: Lepidoptera

Stigmella aurella larval leaf mine on Bramble

LEAF MINES : Diptera

Phytomyza chaerophylli larval leaf mine on Cow Parsley

Phytomyza ilicis larval leaf mines on Holly

BIRDS

Blackbird (Turdus merula) singing
Blackcap (Sylvia atricapilla) singing

Blue Tit (Cyanistes caeruleus)

Chiffchaffs (Phylloscopus collybita) singing
Dunnock (Prunella modularis) singing

Great Tit (Parus major)

House Sparrow (Passer domesticus)

Robin (Erithacus rubecula) singing

Wood Pigeon (Columba palumbus)

Wrens (Troglodytes troglodytes) singing

A further survey in late summer will be completed to compare species.