

Brightlingsea Harbour Commissioners

Stakeholders Meeting

1830hrs Colne Yacht Club 19 Nov 2024

Chairman A Scott
Harbour Master J Thomas
6 x Commissioners D Nicholson, D Stoker, K Lumbers, C Watkins.
24 x Stakeholders

Chairman welcomed those in attendance.

Comments on Brightlingsea
from early 1900s

- “I never could understand why Brightlingsea should be such a favourite resort of yachtsmen: if ever a place needed a harbourmaster”. (1906) FB Cooke
- “hordes of youthful ruffians who infest the hard and offer to “watch your dinghy for you, Guv’nor?” in exchange for a tip”. Should you fail to pay, you would inevitably find your dinghy afloat and well beyond wading distance”.
- “Brightlingsea cannot be recommended, my advice is to shun the place as you would the plague” (1928)

And of Clacton

- “With a shudder we turn our backs on Clacton and hasten away down the Wallet”. (1928)

BHC is a Statutory Harbour Authority

- Established by Act of Parliament in 1927 as a ‘Trust Port’, an Independent Statutory Body
 - Overseen by the Secretary of State for Transport
- Trust Ports are.
 - **“a valuable asset presently safeguarded by the existing board whose duty it is to hand it on in the same or better condition to succeeding generations. This remains the ultimate responsibility of the board and future generations remain the ultimate stakeholder.”**
- Required to operate on a commercial basis.
- Surpluses reinvested in the Harbour for benefit of stakeholders.
- All Commissioners, other than the Harbour Master, are unpaid volunteers.

BHC responsibility is Brightlingsea Creek

Appendix A Statutory Harbour Limits



Following the closure of Colchester Port, an Act of Parliament transferred some responsibilities from Colchester Council to Brightlingsea.

- The Local Lighthouse Authority for the River Colne.
 - Responsible for specific buoys with the River
- The Pilotage Authority for the River Colne and Brightlingsea Harbour
- Colchester City Council remain responsible for the management of the River Colne
 - CCC make and enforce bylaws
- **The Role of the Commissioners**
 - Safety,
 - Setting strategic aims,
 - Ensuring that the necessary financial and human resources are in place to meet those objectives,
 - Reviewing management performance in meeting those aims.
 - Challenging, constructively, and helping to develop proposals.
 - The Chief Executive / Harbour Master has executive responsibility for running the business and is a Commissioner.
 -
- The Chief Executive / Harbour Master has executive responsibility for running the business and is a Commissioner.
- Commissioners are not the Chief Executive / Harbour Master's boss.

Looking for a new Commissioner from January 2025

- Initially for a 4-year term
 - Commissioners often serve two terms
- Applications by 25th November
- Application packs from Harbour Master

Boat Park and Jetty

- BTC are taking over the operation of their Boat Park in late February 2025
- BHC and BTC have agreed a 50-year lease for BHC to operate, maintain and replace (when needed) the jetty,
 - Expect to sign the lease shortly,
 - All maintenance and replacement costs will be BHC's responsibility.

2025 fees

- Normally aim for a fee increase close to CPI (1.7%).
- However, the budget has substantially increased both our employment costs and business rates.
- 2025 fees will increase by 3.4%
- Harbour dues will increase by 15%, partially reflecting the increased cost of running the jetty.

Finances Year ending 31st March 2024

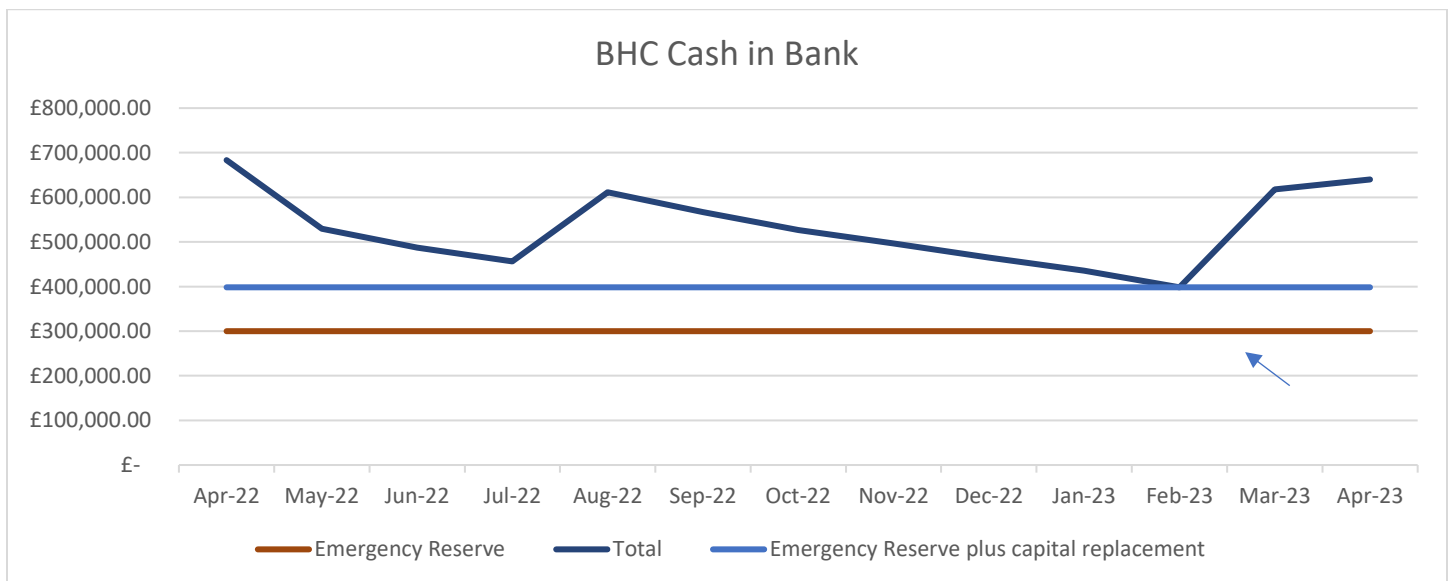
- Turnover £784,296
- Surplus £75,542
 - 9.6% of turnover.
- That surplus is reinvested for benefit of stakeholders

- Mainly in replacing assets which have reached the end of their life
 - Eg piles, pontoons, boats, etc.
- BHC has around £1.36m invested in those assets
- HM calculates that BHC need to put aside each year, on average, around £60,000 so that we can replace those assets as required.

Main sources of income

- Colchester City Council (14%)
 - Fee to BHC for taking on the local lighthouse authority and pilotage responsibilities
 - Following the closure of Colchester Port
 - Pays for buoy maintenance, work / pilot boat depreciation,
- Fees from commercial shipping Pilotage (3.6%)
 - Pays pilot fees, work /pilot boat depreciation, work / pilot boat crew, associated harbour costs, etc
- Harbour dues (7%)
 - Low compared to other harbours.
 - Maintenance of harbour navigation aids, removing hazards, harbour monitoring and information, wreck removal, dredging, Hydrography, staff, River Patrols, etc.
- Berthing fees (36%)
 - From BHC owned moorings and marina
 - Some of lowest on the East coast
 - 6,000 to 9,000 boating visitor nights
- Ferry, Tours and Water Taxi (8%)
 - Makes a small surplus
 - Ferry and Tours enables around 18,000 people to see the harbour and Colne from a boat
- Fuel sales (21%)

Monthly Spend



Cash in bank

- April bank account contains all the mooring fees paid in February and March. Total about £672,000 on 31st March 2024.

- The cash then steadily drops as BHC uses that income throughout the season.
- Around July, Colchester pay their fee.
- Lowest point is February, when funds are around £400,000.
- Then the bank cash increases as mooring fees for next season are paid.
- BHC holds a £300,000 reserve, to enable continued operation if there is a severe interruption.
- We put funds aside to replace assets as they wear out.

Port Marine Safety Code

Environmental Projects

Upcycling boats – 2 at the moment, process.

Destroyed 2 – It is expensive

Essex University environmental project.

Saltmarsh and Carbon sequestration research.

DREDGING

Main Channel

- The deepest part is approx 10m west of leading line with depths above 1m all way down, we will correct this over the year.
- The Town pontoon to Oliver's Wharf and Fuel Barge, maintaining a depth of 0.75m below CD, we continued to achieve and will run down again this year.
- Area of the Fuel Barge, maintaining a depth of 0.75m below CD, once again achieved.

Leisure Harbour

- The pontoons and some moorings in the South channel dredged to a depth of 0.75m below CD.

Leisure Marina

- The Marina Depth, mud will always be kept in suspension.

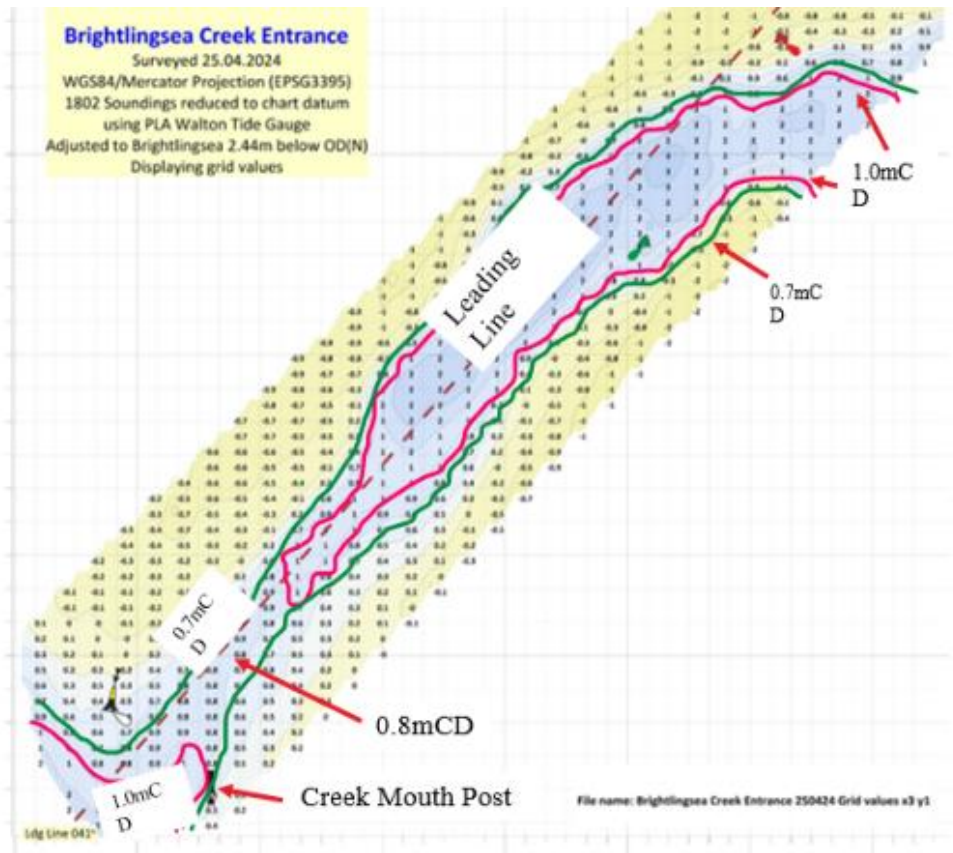
PRE-DREDGING SURVEYS

CONTENTS

- Creek Mouth Channel.
- Main Channel and Point Clear Spit.
- Main Channel and Oyster Beds.
- North Creek Pontoon Depths.
- South Creek.
- Conclusions.

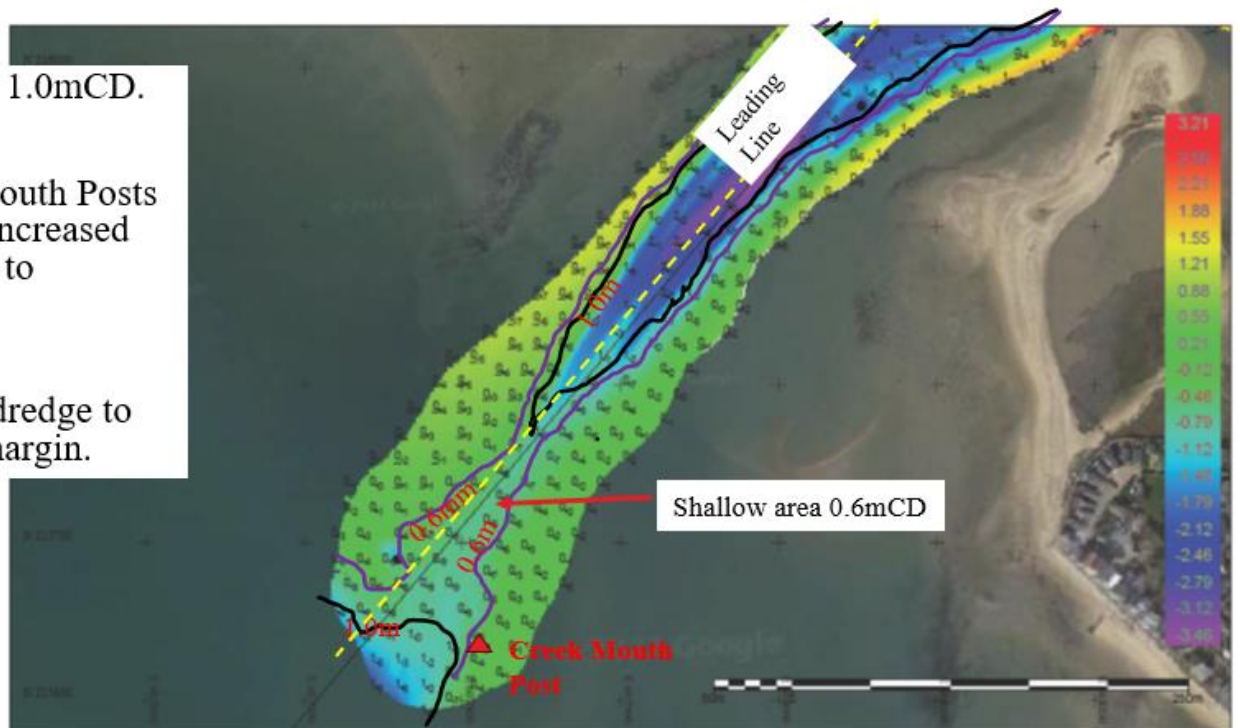
Creek Mouth 04/24 Post Dredging

- High spot = 0.8mCD.
- General level dredge level is 1.0mCD.
- Harbour agreed level = 1.0mCD.
- Bathymetric Survey by Roger Gaspar - Working with Harbour.



Creek Mouth Channel - 1/11/2024

- Target level is 1.0mCD.
- Near Creek Mouth Posts the bed level increased from 0.8mCD to 0.6mCD.
- Plan to try to dredge to 1.1mCD for margin.



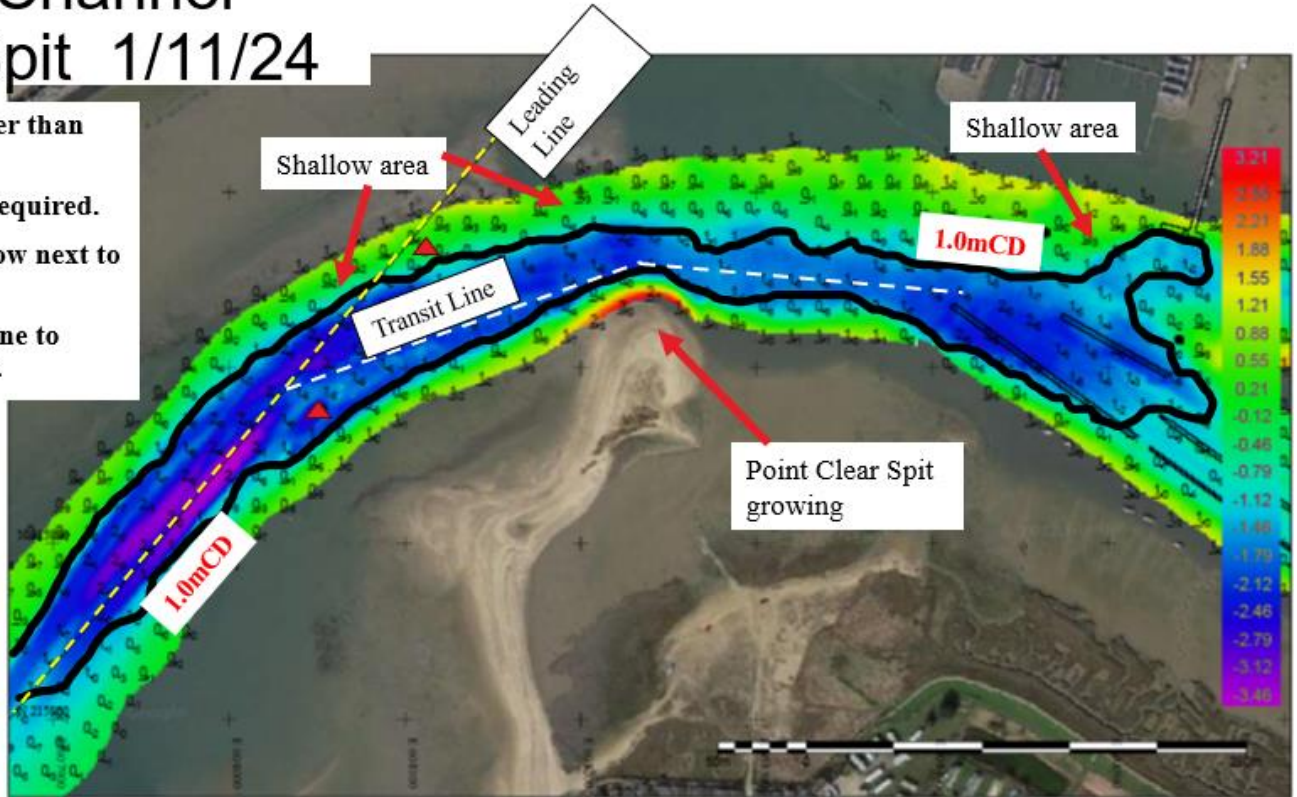
Brightlingsea Harbour-Approach Channel
 Client: RHC
 Coordinate system: OSG9 1996 (Ordnance survey)
 Date of survey: 01/11/2024

Map produced: November 2024
 Depth in mCD: 2.44m below CDN
 Project created in Qinsy 9.6.4 and Qimera 9.4.2



Main Channel and Spit 1/11/24

- Channel deeper than 1mCD.
- No dredging required.
- Channel narrow next to spit.
- New Transit line to enter harbour.



Brightlingsea Harbour-Main Navigation
 Client: BHC
 Coordinate system: OSGB 1936 (Ordnance survey)
 Date of survey: 01/11/2024

Map produced: November 2024
 Depth in mCD: 2.44m below CDN
 Project created in Qimyo 9.6.4 and Qimera 9.4.2



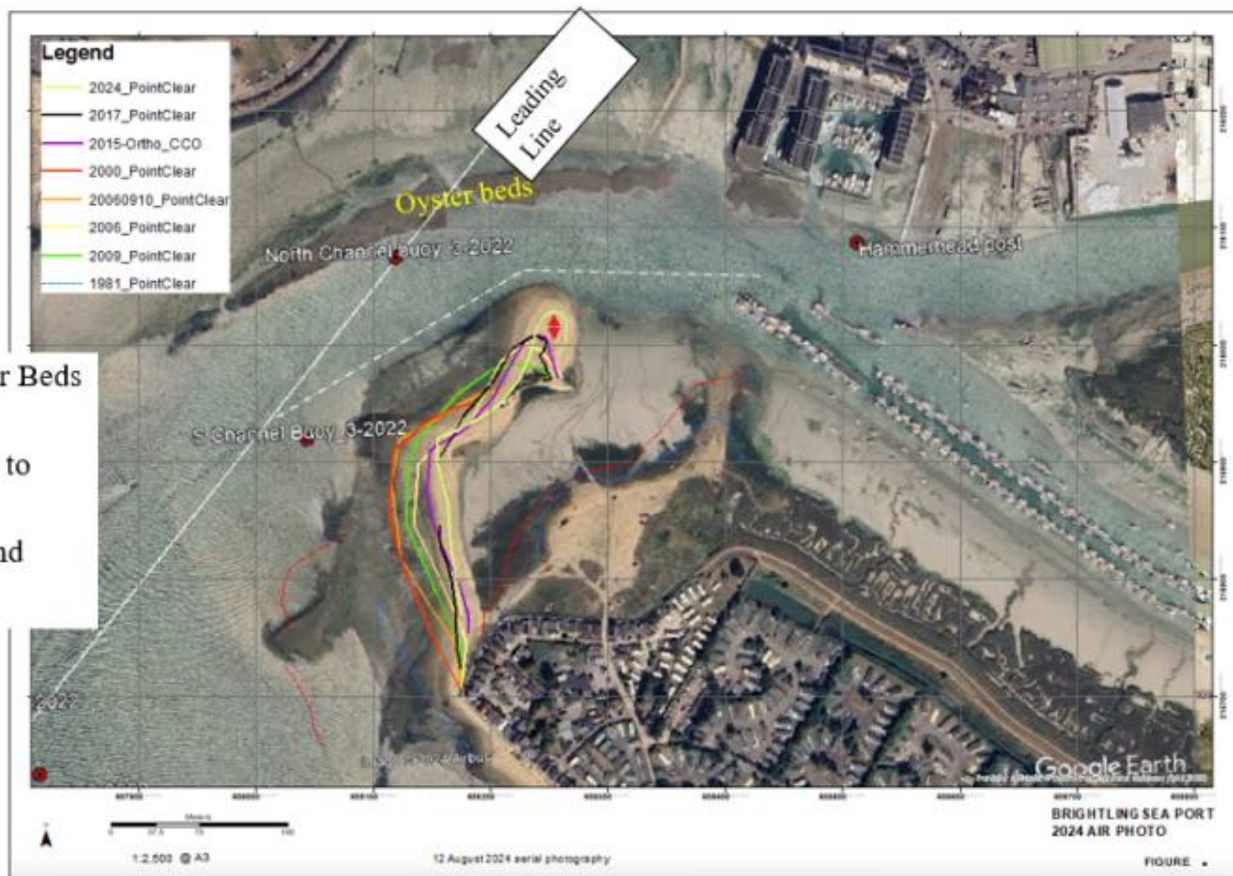
Main Channel and Oyster Beds

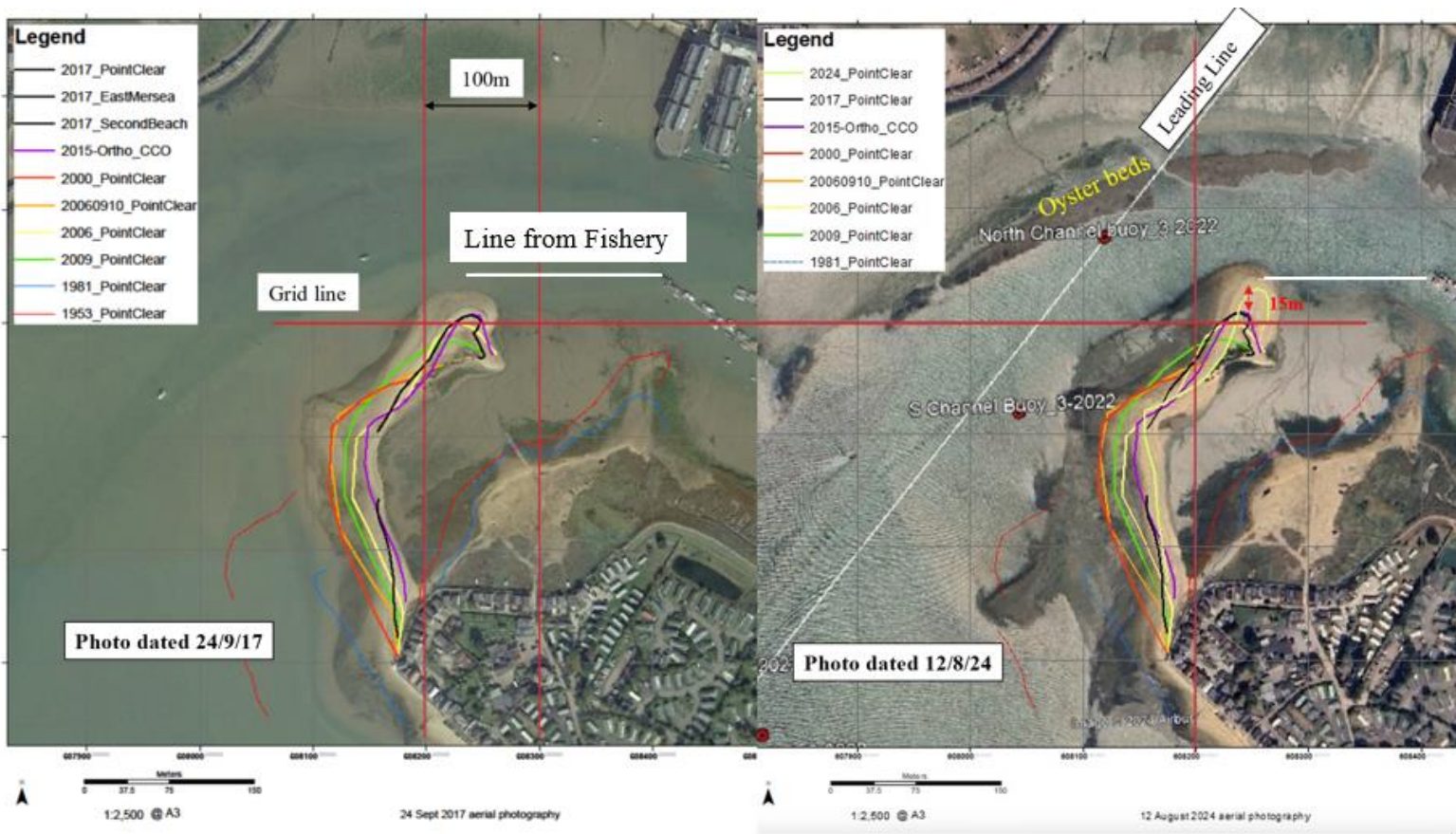
Photo on 12/8/24 at low tide.

Position of the Oyster Beds shown.

Channel narrow next to spit.

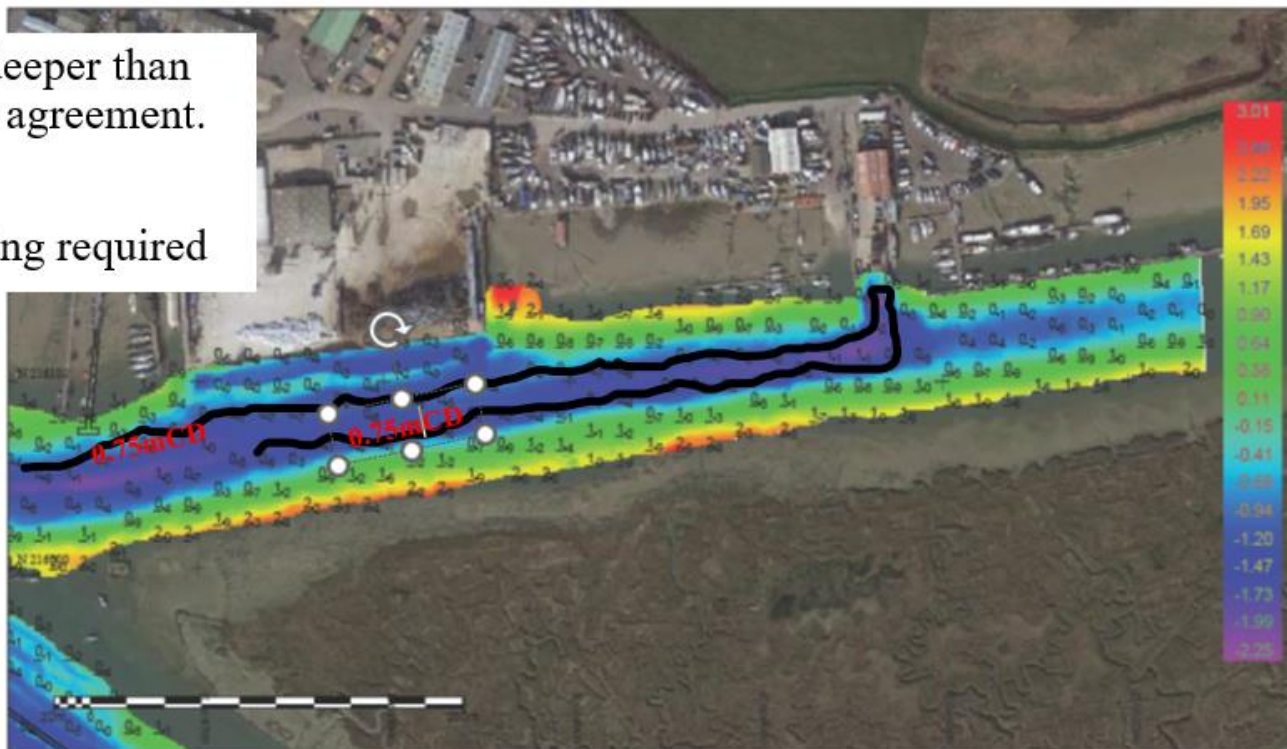
Spit moving North and East since 2017.





North Channel 1/11/24

- Channel deeper than 0.75mCD agreement.
- No dredging required



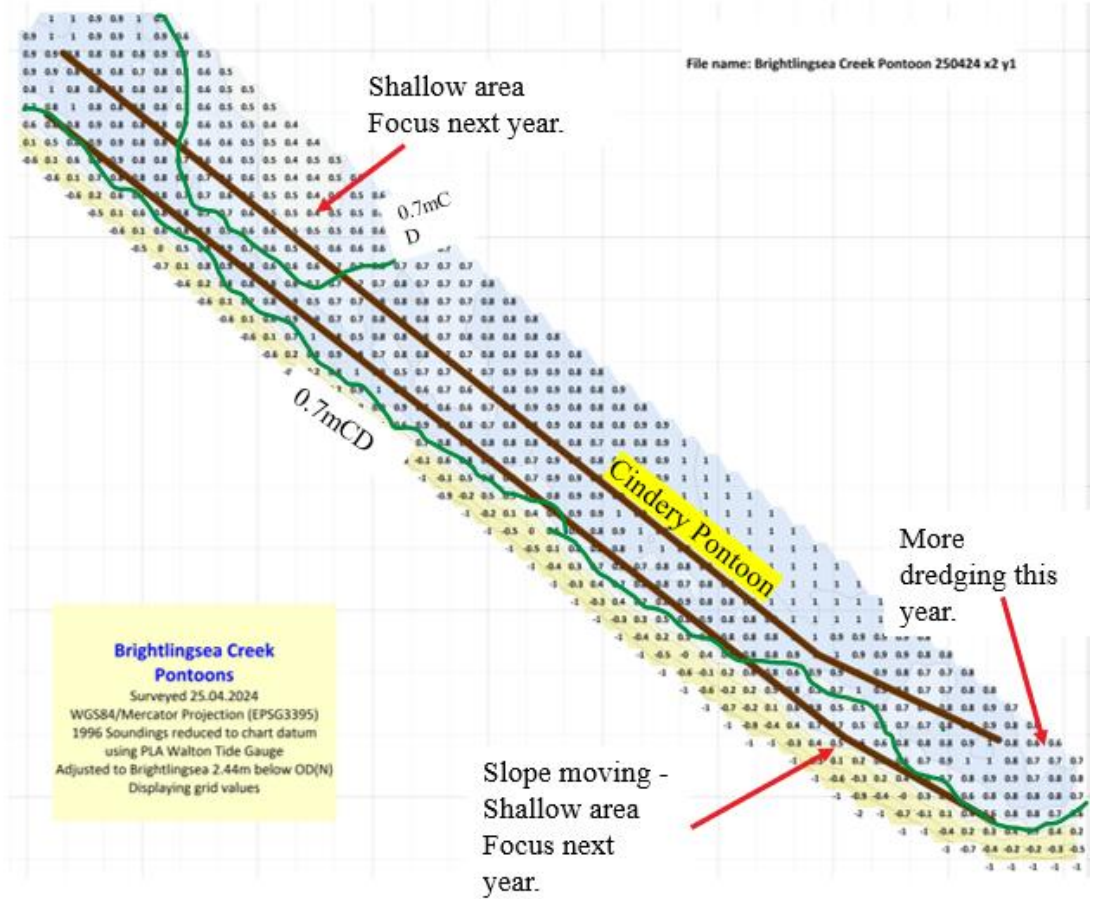
Brightonsea Harbour-North Channel
 Client: BHC
 Coordinate system: OSGB 1936 (Ordnance survey)
 Date of survey: 01/11/2024

Map produced: November 2024
 Depth in mCD: 2.44m below CDN
 Project created in Qinsy 9.6.4 and Qimers 9.4.2

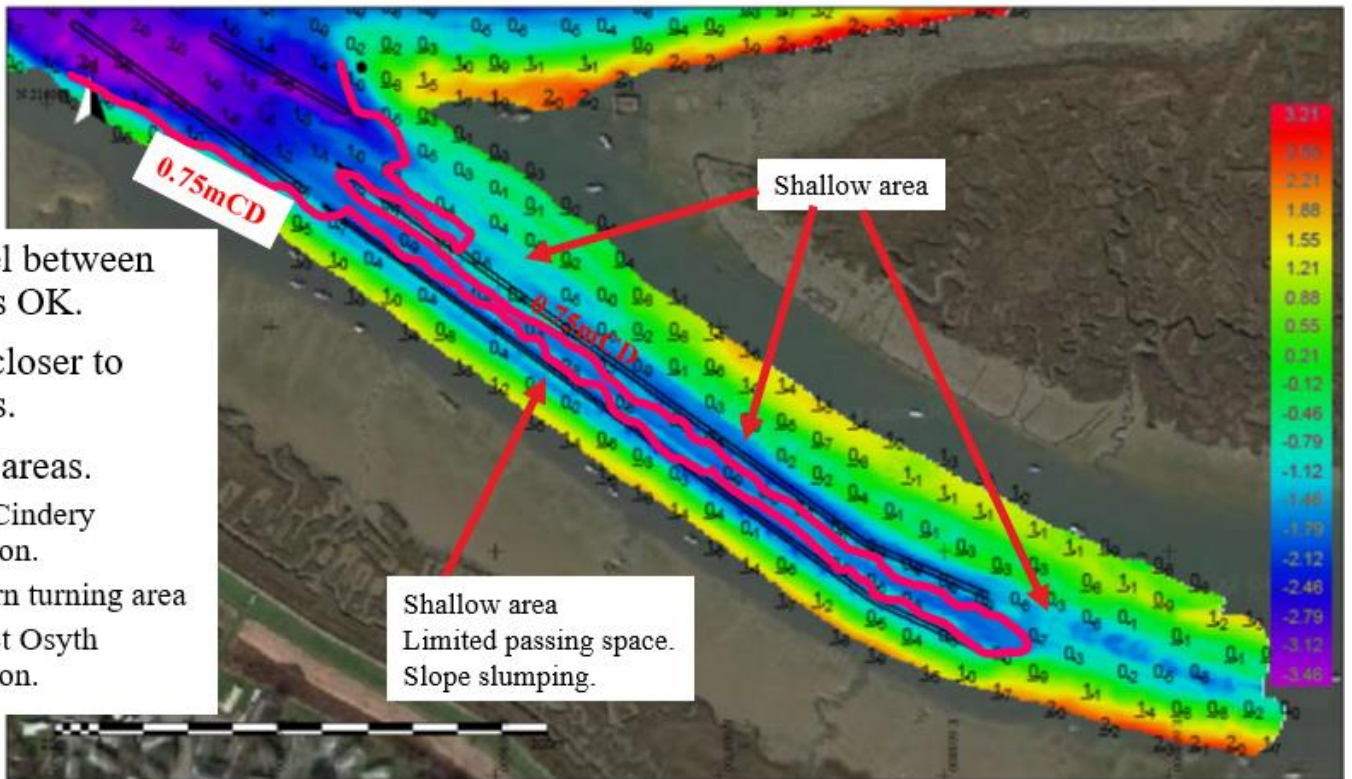


South Channel 25/4/24 Post Dredge

- Harbour target 0.75mCD.
- North of Cindery
 - Shallow next to Bumkin bay.
- Between pontoons
 - Dredged to 0.8mCD.
- South of St Osyth
 - Many areas shallower than 0.5mCD.
- East turning area
 - Dredged to 0.7mCD
-



South Channel - 1/11/24



- Bed level between pontoons OK.
- Dredge closer to pontoons.
- Shallow areas.
 - N of Cindery Pontoon.
 - Eastern turning area
 - S of St Osyth Pontoon.

Brightlingsea Harbour-South Channel
Client: BHC
Coordinate system: OSG3 1996 (Ordnance survey)
Date of survey: 01/11/2024

Map produced: November 2024
Depth in mCD: 2.44m below CDN
Project created in Qgis 9.6.4 and Qimera 9.4.7



Conclusions

- Creek Mouth Channel.
 - Dredge from 0.6mCD to 1.1mCD (if possible)
- Main Channel and Point Clear Spit.
 - Channel Depth OK.
 - Spit still moving North-North-East between 2017 and 2024.
 - Oyster bed location – (not changing).
 - Suggested transit lines.
- North Creek Pontoon Depths
 - 0.75mCD achieved.
- South Creek.
 - Between post 0.75mCD.
 - North of pontoons – shallow areas – more dredging.
 - South of pontoons - shallow areas but slumping from slope. - Dredging difficult.

Accidents

Collision x 16

- A vessel struck a number of vessels whilst attempting to get back into his berth in high winds, causing damage to at least two of them. The owner will be sorting and contacting owners.
- The work truck was manoeuvring back into the wreck house yard. The wingmirror was caught causing a section to snap off, wingmirror still works.
- Vessel collided with portside in taxi. Scuff marks left.
- Small vessel collided with Border force launch, no apparent damage.
- Vessel reported colliding with two marina berthed vessels whilst attempting to enter marina on one engine after second engine failure. Both owners informed and in contact with Vessel owner.
- Whilst manoeuvring a visiting yacht it collided with a moored yacht, after checking there were no apparent signs of damage, owner called.
- Vessel in collision with Minters point boy.
- Vessel Lifeboat tow with escalating concerns as to the wellbeing of the vessel owner. Owner escorted ashore.
- Small fire onboard of a commercial vessel. All fire put out, well-ventilated area, no concerns raised. Fire cause by combustible material left by small heater.
- Stern cleat South side Fisherman's pontoon pulled off under load by a Fishing vessel.
- A Sonata vessel sailed through harbour with no engine on stern of vessel in gusty conditions towards mooring (St Osyth south) the sea room was very tight and was tacking into the wind and as a result collided with two vessels on pontoon berths
- Vessel hit bow on Cindery pontoon when coming along side and have bent metal plate and smashed gel coat on bow.
- Vessel struck Town Jetty, pulled of half of the forward vertical fender.
- Training vessel when berthing on E pontoon in east basin marina, hit tap upstand and broke the tap fitting.
- Fire extinguisher box broken off Marina D pontoon (been hit with force).
- Sonata got caught up in anchor on the side of boat on Fishermans, he doesn't think they caused any damage but just making us aware in case of any further information needed.

MOB x 2

- MOB vessel owner Cindery South fell overboard from dinghy. Casualty recovered into Harbour launch. Escorted safely ashore. Dinghy retrieved and returned to owner at CYC jetty.
- Visiting yacht crewmember fell overboard and was recovered by other crew members, no further action.

Individual x 4

- Operator was assisting with cutting some steel in the yard when the steel broke free it hit him in the hand on his right index finger with heavy bleeding, first aid administered.
- Whilst removing old paint from a vessel a flake of paint went under operator's fingernail. It was removed using tweezers, cleaned and then bandaged.
- A vessel owner tripped up on the ramp on the right-hand side of the hammerhead. He got up immediately after when asked if he was okay and he said that he was fine.
- Vessel had run over a rope on buoy no 21 on cindery f&a, he has tied the ropes together as a temporary repair.

Incidents

Medical x 2

- Vessel was brought in by DHM after radioing needing a berth due to a poorly child (age 6) on board. The child & parent were brought ashore to the Harbour Office where help was called for immediately with suspected appendicitis. The child was taken to hospital to receive further checks.
- Staff member complained of chest pains, 999 called for suspected heart attack. First responders on scene and took over care, ambulance arrived casualty taken to hospital. Condition drastically improved.

Confrontation x 5

- Went to speak to two jet skis on point clear who sped into the harbour, verbally abused by the guy who launches over there, told me to f-off we have no power, and we are just making rules up, several jet skis joined in with him telling me to go f myself and clear off.
- PC security reported large black rib had been directed by a Local St O councillor (that day) to ignore the security, not to pay the harbour anything and to just drive past the security. Security took vessel and car details, chairman witnessed also.
- Owner of a Wivenhoe based vessel called on vhf 16 and 68 to report jetskis 'terrorising down through the moorings and barrier at Wivenhoe - asked for assistance - Colne leader stated we wouldn't be able to attend as patrolling the harbour which was extremely busy with jetskis from point clear and Brightlingsea. Police Rib Sentinel responded also unable to attend as they were at Clacton beach. Advised to send footage and evidence to the marine police unit.
- Abusive jet ski driver advised that he was on camera and that it wasn't wise to be doing stunts, (jet ski version of a wheelie between Fishermans and marina) very unpleasant response, car late model Black Defender, R1AYP. Spoke to him to advise that he was on camera and should be careful but just got abuse.
- Security reported a confrontational boat being launched that refused to pay, told them another boat would be coming shortly, and he was 'not a bloke you want to mess with' so best let him through. security let both boats through - both refused to pay. Car reg taken.

Anti-Social x 4

- Ship inbound - Two vessels rafted on Yacht club jetty (club boat plus a tender rafted) removed and placed alongside club jetty.
- Ring Throw buoy Missing from Town Jetty.

- Just off point clear in the mud some sort of gas cylinder mostly in mud but top is slightly sticking out, recovered.
- Vessel owner phoned/emailed to report a "Rat" running around the Marina today and asked if we could stop this.

Security

Police Prosecutions/ Investigations

3 x Police Prosecutions/ Investigations.

1 x Jet Skier reported 30kts in 8 Kts.

1 x PB reported Wivenhoe exceeding 8 Kts

2 x Campervans. Theft, one launch with outboard to PC. 3 x Jet Skis from PC. Make it tough for them don't leave out easy pickings. We may pick it up on CCTV, however prosecution is less than certain.

Security meeting with PFSO in compliance with the PFSP.

Next meeting in Jan 25.

Please report anything unusual, it maybe the key.

PWC

1. Orchards, St Osyth PC and Tower estates have engaged all skis now register and pay harbour dues.
2. Access will be controlled on PC side, method TBC.
3. The new problem is Foiling windsurfers, electric foilers.

Other

- Trinity House LLA Annual inspection compliant and still well above our requirement at 99.8%.
- Pre-season meeting with Clubs, continues, code of practice published by BSC.
- Waste – Commercial oil, Commercial waste, new area.
- Bins on pontoons – Then in Wreck house area.
- DP inspection report published, on website.
- New Strategy document 2025-30.
- Golden Anchor award 3 Anchors. (Update as of 20/11/2024 Now 4 Anchors)
- Servicing schedule on SOLAS, Lifejackets, Pilot Jackets, Life raft and other safety equipments completed now started.
- Commissioner recruitment closing date 25 Nov 2024.
- Ladder replacement.
- PPE Matrix in workshop now in place.
- Wreck Removal.

Harbour Development /Plans

STAKEHOLDERS

- Harbour Users,
- Anyone who thinks they are,
- Brightlingsea and local areas community of approximately 10000 people,
- Local businesses,
- Port employees,
- Interest groups.
- Councils; Town, District and County.
- The National economy.

Trust ports are independent statutory bodies run on a commercial basis by independent boards for the benefit of their stakeholders. Trust ports are accountable to those stakeholders. The interests of the wide community of stakeholders should at all times be the guide by which the board of a trust port sets the strategy and direction of the port. Trust port boards should consult stakeholders on **significant** decisions, where appropriate. Trust ports can and should consult and engage with stakeholders in a variety of ways including through an open Annual Meeting.

CAPITAL SPENDING

Equipment- Plan until 2050 **£1,362,819.50**

Replaced Charter Boat – Electric.

Capital Equipment Replacement 2019

Strategy endorsed, with aim to replace, as and when necessary, with more environmentally friendly equipment.

Pontoon Repairs Town Jetty.

One section connection to hammerhead.

Maintenance Dredging Harbour.

Website, booking platforms/IT/ App

Engines

Tide Gauge

We must transfer at least £63000 to reserves annually.

ACTIVITIES

The harbour is a commercial business and must be run as such. Trust port boards should reinvest surpluses to support the continuing and long-term success of the port for the benefit of its stakeholders.

Stakeholder Benefits:

Community Commitment Regatta Fireworks, Carnival + Hard Fireworks.

Local Businesses Lobster Hatchery, Engineering firms, Electrical provision, Dredging, Security CCTV and access, Cleaning, Marine service providers, Chandlers, Clubs.

Schools Engagement Schools week still very much engaged. We support and resource the Schools week in partnership with Pioneer Trust. They hold the activity licence, they engage with the schools and collect the contributions, the Harbour take no fees. We staff the event, provide transport, vessels and coxes, provide foul weather gear, lifejackets and management. This year in addition to labour and equipment we contributed £3167. Feedback from schools was that this year was the best ever school's week.

Employment 10 Permanent staff Bsea, 3 local, 7 Casual Bsea, 4 local.

Charitable Causes RNLI, Brightlingsea in Bloom, 1st Responders, Regatta, CYC Fireworks, Christmas tree festival, Museum.

Sea Change sailing Trust.

Apprenticeships Workboat crewmember apprenticeship moved on in September and now employed by Pontoon provider.

Second Workboat crewmember apprenticeship on track, YM Practical.

Business and administration Apprentice on track. Has moved on to a fantastic Job. New one required from Feb 2025.

Tourism Bringing visitors to town Boats/Ferry approx 24000.

Colne Navigation Trinity House: Independently inspected All in good order and subject to regular servicing.

Pilotage and vessel support

Leisure Moorings Pontoons full, some fore / aft remain and Swinging remain.

Marina Superfast Wi-Fi 100Mb.

Key fob for Showers, Toilets and Bins.

Taxi Popular still, Tokens £1.40, cash price £2.00, other moorings £3.00 or 2 x tokens. Dogs and Children still free. Taxi must be paid for, some don't use it, we are caretakers.

Boats

Visitors Annual **2019** 2205
2021 3174 33% increase on 2019
2022 3107
2023 3290

Year on year the visitor numbers have increased we still have the cheapest prices on the East Coast.
Feedback from Visitors on survey when asked did you enjoy your stay in Brightlingsea harbour the answer was 'Yes'.

Charters; There has been no enthusiasm from Brightlingsea Establishments. We would love to do Wivenhoe to Brightlingsea.

Rowhedge, to the Anchor for Pub Lunch.

St Osyth, to The boatyard for afternoon tea.

Ferry; Looking at groups' incentives, electronic booking rather than cash.

Wharf and commercial activity Continued activity.

Windfarm Project support vessels continue to use the harbour.

River Patrols Continued resourcing of River Patrols and security, including Commissioners on board.

Jetty Management, maintenance and control of the Town Jetty. Currently no one pays for use of the Jetty. We provide staff, equipment, and replacement items.

Boat Park Handover Feb 25. Re-registering will be with BTC.

Hard/Posts Management, maintenance and control of the posts, the cost of service is just above break even.

Staff Training General

Trg Permanent Cadre : x 13;
RYA Day Skipper x 4
Diesel Engine Course x 2
Petrol Engine Course x 2
Sea Survival x 4
First Aid x 4
Pilot Crew x 1
Firefighting x 1
RYA Intermediate x 2
Video production x 1
PPR x 1
Trg Non-Permanent Cadre : x 11;
RYA Day Skipper x 1
RYA Intermediate x 1

Induction Training

Provision of such to 2 employees.

Internal Role Training

Canva and AI

Provision of Fuel

It appears that we still provide some of the least expensive fuel;

	Commercial	60/40
BHC	0.95 Inc 5 % VAT	1.37 Inc VAT
Bradwell	0.95 Inc VAT	1.22 Inc VAT
Woolverstone		1.57 Inc VAT
Chatham		1.36 Inc VAT

This Year

- To Develop, run and maintain an electric boat. **Achieved**
- Run a Charter service to the Anchor at Rowhedge and to St Osyth. **Achieved**
- To continue to ensure that BHC investigates emerging technology and where benefits are identified it considers adding them to their inventory as equipment is replaced. **Achieved**
- Following the evidence gathered from anti fouling project in the last 12 months, BHC agreed that further consideration should be given to the environmental impact of current use and ways to mitigate this. We are now taking part in a university research programme on anti-fouling. **Achieved short presentation to follow.**

The Jetty

Management, maintenance and control of the Town Jetty. Currently no one pays for use of the Jetty. We provide staff, equipment, replacement of items.

Why? To ensure access to the water in Perpetuity for Stakeholders.

How? We will use Harbour dues which will be supplemented by users contributions, in the next period discussions and consultations will happen to meet the requirements.

The Boat Park

Boat Park Handover Feb 25. Re-registering will be with BTC. Representatives from BTC confirmed they would be writing to Space holders to advise on the takeover, HM reiterated they would support the handover.

Strategy 2025-2030

- Background
- Review process
- Key Highlights



Following a period of consultation where we listened and you told us, we now have a Strategy for 2025 – 2030. Details can be found on the Website at https://www.brightlingseaharbour.org/documents/478/Five_year_Strategy_2025_-_2030_Website.pdf

Questions from Stakeholders

1. Hi folks

Hopefully we will be getting an update on the tide gauge and windometer tonight. And I would like to repeat my suggestion that you consider reducing the charges for the half tide moorings up near where Rosie IV is in the season to make it less expensive for starter boaters (and pensioners!) to get on the water. There were a good few unused moorings around me this year.

Thank you in advance.

The **HM** responded explaining that the Tide Gauge and Weather station would be working again soon, they are part of the same system so everything will work.

In addition, he responded that following the same question put to him by the originator earlier in the year, the harbour would indeed select some half tide moorings and reduce the charges considerably. If successful they would continue, if that failed to attract customers alternative actions may have to be considered.

2. Perhaps the Harbour could consider something like a season ticket for the water taxi as I find it difficult to have tokens with me at all times. The **HM** responded by stating that this matter had been considered a number of times however there are a number of flaws in any system that might be implemented, this is very much subject to misuse. In the future as technology improves there may be an option however it will be subject as usual to consultation.

3. When having read minutes where you discuss a meeting with St Osyth Parish Council you say that you will need to work out the protocol for accessing point clear. What is that protocol, what does it mean? The **HM** responded although it is clear that to use PC for launching watercraft the protocol is to register, pay your Harbour dues, attach your sticker and to get whatever access control solution that is in place. The other users i.e. those not using PC to launch watercraft would need access, the protocols for those would be different and would be best managed by the Parish council or Orchards.

LEVERHULME
TRUST _____



Managing the environmental impact of antifouling biocides in recreational marinas through stakeholder engagement

Nick Aldred and Jacob Cook
School of Life Sciences, University of Essex

Introductions

Jacob Cook:

- Locally-based University of Essex BSc Marine Biology undergraduate.
- Relevant experience from final year undergraduate research project, supervised by Nick Aldred.
- Now registered for PhD studentship under the Leverhulme Trust Sustainable Transitions Program within the School of Life Sciences and Department of Government.

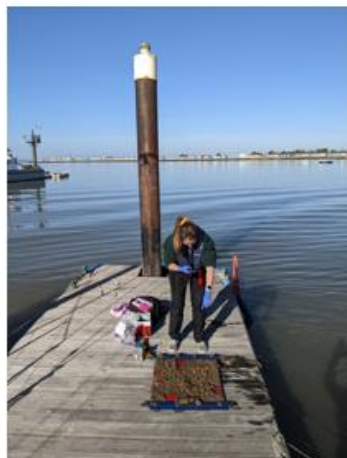


Nick Aldred:

- Senior Lecturer in Marine Biotechnology, School of Life Sciences, University of Essex.
- 20 years of experience working in research and development of marine antifouling technologies
- Working with the marine paints industry (International Paint), governments (MOD, US Dept. Defense), charities and other stakeholders.



Background

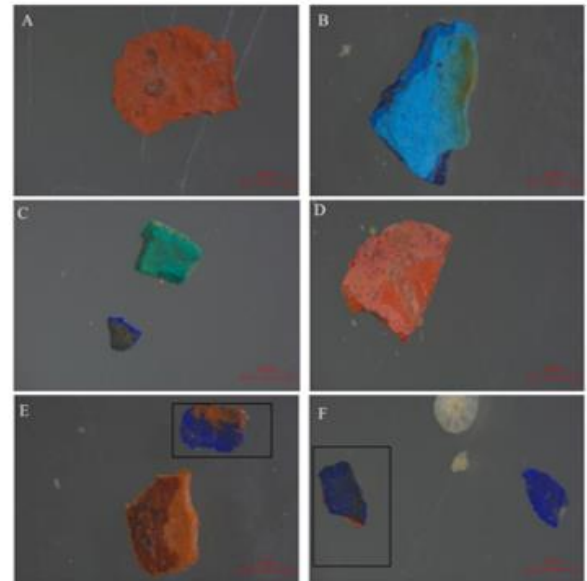


- September 2022: Initial tests of different paints performed in Brightlingsea:
 - *Epoxy primer control* (Hempel Light Primer)
 - *International Trilux 33* (Copper thiocyanate)
 - *International VC Offshore* (Copper oxide)
 - *Hempel Ecopower Cruise* (Non-biocidal)
 - *Coppercoat* (Metalic copper)
 - *Hempel Silic One* (non-biocidal FR)
- The aim was not to identify practical solutions, but may ultimately identify the best formulations for local use.



Environmental Concerns

- Antifouling coatings are toxic (mostly).
- Biocides released from coatings enter the environment during normal boating activity:
 - Less problematic with newer / more expensive formulations.
 - You get what you pay for in terms of (reduced) environmental impact.
- Paint particles (containing biocide) enter the environment during cleaning:
 - More persistent in particulate form.
 - May contain legacy coatings, unavailable today.
- Immediate effects may be local, but sediment moves.
- There is evidence that marine communities are affected.
- Paint particles are among the largest inputs of plastics into the ocean, and the only plastic designed to be toxic.



Study Design



- 3-Year project (immediate results unlikely...)
- **General aims:**
 - Identify the best / most effective products and best practice to improve outcomes for boat owners and also protect environmental health.
 - Build a scientific knowledge base about local impacts of antifouling practices from recreational boat use.
- **Approach:**
 - Collect samples from boat hulls and cleaning waste, from vessels with different operational cycles, maintenance practices and needs.
 - Environmental sampling in the local area. What is the current status?
 - Laboratory and field studies of paint effects. Should we be concerned?
 - Gather data from boat owners on opinions, priorities, costs and usage.
 - Engaging with boat owners to learn about challenges, opportunities and acceptable changes to routine practice.
- **First steps:**
 - We need your help!