HARBOUR MASTER'S REPORT TO HHAC 10 July 2013

1 Operational report

April

- Time line photography of the channel no change to risk assessment required
- Meeting with the Hayle Gig and Pilot Rowing Club Chairman re future events, use of Copperhouse Pool and new possible new location on the harbour.
- Damage to a vessel at Lelant Saltings
- Navigational Aids Availability report sent to Trinity House
- Replacement parts for the North Cardinal buoy ordered from Hydrosphere
- Suspicious activity in the vicinity of the Octel Units police informed
- South West Ports meeting
- Barrier arm broken on South Quay
- Western power cable day mark damaged
- New ladders for North Quay arrived on site

May

- Mr Hein Brand and directors on site
- Trinity House inspection of Navigational aids
- Contractor on site re permanent fence for the fishermen's Compound
- Mussel flesh testing for heavy metals
- Additional bolts and brackets ordered for ladders
- Disturbance Action Group meeting at the RSPB Office
- New tower top mark and light received for the North Cardinal Buoy
- Shell fish pontoon navigation light defective. New light ordered.
- Access to Miss Aspinal's provided over Lelant quay
- Body of Mr Jacob Cockle found in Carnsew Pool

June

- The AHM observed tombstoners diving from the landing davits on North quay and instructed them to move on car registrations given to PCSO Kevin Youngman
- AHM observed a male swimming in the navigable channel
- Topan Fencing on site to quote for the fishermen's compound.
- Chubb Fire safety on site inspection of extinguishers
- Navigation light on the shell fish pontoon replaced
- South West Ports meeting
- Time line photography of the channel completed
- Installation of the North quay ladders completed
- Internal audit of the SMS by the AHM
- Quarterly availability report of Navigational Aids sent to Trinity House
- HM attended as security briefing hosted by special branch at the Hayle Rugby Club

HM Report

1 Fatality

At 0700 on the morning of the 29th may I received a call from the Duty MCA operations officer informing me that a fatality had occurred as a result of an incident at Carnsew

pool Hayle Harbour on the evening of the 28th May 2013. A body had been discovered by a member of the public who alerted the emergency services then proceeded to give first aid. On the arrival of the emergency services attempts were made to resuscitate the casualty who was airlifted to Royal Cornwall Hospital Treliske but was subsequently pronounced dead. I have since provided the investigating police officer with a statement and informed the HSE.

2 Tombstoning

A group of young males were seen to be diving from the landing davits in the fishermen's landing area they had removed a fence panel to gain access, but were moved on by the AHM who provided vehicle registrations to PCSO Youngman. I have received a quote from a fencing company to erect a permanent fence which will hopefully help to improve the security of the site and which is also a requirement of the HFA Insurers.

3 Swimmer In The Harbour

The AHM observed a swimmer in the harbour and requested a slipway user who was launching his Jet ski to instruct the person to leave the water. The jet Skier challenged the swimmer and reported that the male was abusive and refused to comply. The AHM managed to gain the attention of the swimmer and signalled him to come ashore but he ignored the AHM and continued with his swim. Fearing for the man's safety the AHM contacted the police, Sergeant Dobson attended and between them they managed to catch up with the swimmer on the middle weir at which point he was informed that he was breaking byelaw 52 his name and address was taken and he was instructed to leave the harbour.

4 **Kite Surfing**

Two Kite surfers were seen in the navigable channel South of Chapel Anjou out side of the Kite surfing zone, they were challenged and asked to show their KKSC identification. One complied and apologised for surfing in the channel and walked back to the kite surf zone. The other stated he had left his in the car and continued to kite surf ignoring directions to leave the channel.

Contact was made with the chairman of the club who was instructing at Mexico Beach, he was made aware of the situation, but was unable to attend immediately and stated he would arrange for a club steward to attend.

Lech Kwiatowski, vessel owner of Myross Mist, a commercial fisherman was also attempting to enter the channel at this time, and contacted the harbour office as he was extremely irate and concerned for his safety and the safety of the kite surfers as they were coming far too close to his vessel while he was navigating the channel.

The authority has since met with Mr Townsend, secretary of the KKSC who had investigated the incidents. He confirmed he knew the person who would not show his identification and that he was not a club member. I asked Mr Townsend to invite him to contact the Authority as I wished to discuss his conduct and inform him that he was breaking the byelaws which is a criminal offence.

I have since spoken to the person concerned who has apologised he is now a member of the kite surf club and has assured me that he will in future comply with the code of conduct.

Investigation of the incident where the kite surfer came close to Myross Mist revealed that he had a line failure and dropped the kite which is why his lines were close to the vessel and why he was unable to turn away.

4. Pontoons

There is a requirement for me to forward my application for grant funding to provide pontoons on East quay to ING for consideration prior to its submission to FLAG which could take time. To ensure that we don't miss this opportunity to obtain the funding I have asked Peter Ghey to take it over and submit the application and business plan I have prepared on behalf of the HFA.

5 Moorings

The installation of ladders on North Quay is now complete and vessels will be moved over from South Quay for the duration of the development. While the authority has endeavoured to work with mooring holders especially the commercial fishermen and other commercial vessel operators regarding the allocation of moorings there are some that that could not be accommodated where they would prefer to be. As a compromise and to assist in their operational requirements I have agreed to limited vehicle access on the quay for fuelling and loading of equipment providing controls are in place to ensure public safety.

6 Mussels

The test results from the flesh sampling stage for heavy metal contamination has been completed for Carnsew Tunnels and creek, the results were all satisfactory which are attached. I have contacted the Cornwall Port Health Authority who advised me that testing is nearing completion and the next phase will be to apply for classification of the mussel beds.

7 Enforcement

With the assistance of a debt collection agency a long drawn out dispute with a harbour user has been settled and a substantial amount of money owed to the authority has been recovered.

It has become necessary for me to issue a formal written warning to a belligerent harbour user who has laid an unlicensed mooring and will not comply with the directions given by the authority. If this person continues to maintain their present stance the authority has made it clear that it will prosecute under the Harbour Act and Byelaws.

Analytical Report Code	Lab Sample Number	Client code	Client Reference
AR-13-WP-002923-01	405-2013-33002869	8/4/13	Carnsew Pool
AR-13-WP-002924-01	405-2013-33002870	SW55553733	Carnsew Pool
AR-13-WP-002925-01	405-2013-33002871	8/4/13	Carnsew Creek
AR-13-WP-002926-01	405-2013-33002872	SW55643743	Carnsew Creek

Please Find Enclosed

In Email	File Name	Size
1	A R: AR-13-WP-002923-01	670KB
1	A R: AR-13-WP-002924-01	670KB
1	A R: AR-13-WP-002925-01	670KB
1	A R: AR-13-WP-002926-01	670KB

AR-13-WP-002923-01
405-2013-33002869
Report No
Sample No
Page 1 of 2
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:
Terry Stanley
Cornwall Port Health Authority
Port Health Office
The Docks
Falmouth
Cornwall
TR11 4NR
To:
Status : 00 Satisfactory

Certificate of Analysis or Examination carried out under the Food Safety (Sampling and Qualifications) (England) Regulations 2013

I, the undersigned Public Analyst for Cornwall Port Health Authority
certify that at on the 1 May 2013
the sample marked:
Date sample Taken Reference Number, Description, etc Weight or Measure
8/4/13
Carnsew Pool
Carnsew Pool
Seal No: NoneFormal
08/04/2013
was received by me from you
I certify that the sample was analysed by me or under my direction and the results are as follows:

Elements

Copper 9.98 mg/kg

Toxic Elements

Lead 1.254 mg/kg
Dibutyltin (DBT) < 0.733 µg/kg
Dibutyltin (DBT) - Sn < 0.374 µg/kg
Dioctyltin (DOT) < 0.733 µg/kg
Dioctyltin (DOT) - Sn < 0.252 µg/kg
Monobutyltin (MBT) < 0.733 µg/kg
Monobutyltin (MBT) - Sn < 0.495 µg/kg
Monooctyltin (MOT) < 0.733 µg/kg
Monooctyltin (MOT) - Sn < 0.375 µg/kg
Tetrabutyltin (TTBT) < 0.733 µg/kg
Tetrabutyltin (TTBT) - Sn < 0.251 µg/kg
Tributyltin (TBT) 1.95 µg/kg
Tributyltin (TBT) - Sn 1 µg/kg
Tricyclohexyltin (TCHT) < 1.47 µg/kg
Tricyclohexyltin (TCHT) - Sn < 0.473 µg/kg
Triphenyltin (TPhT) < 0.733 µg/kg
Triphenyltin (TPhT) - Sn < 0.249 µg/kg

My opinion and observations are:

The Contaminants in Food (England) Regulations 2010 and Commission Regulation (EC) No 1881/2006 set maximum
limits for the lead content of certain foods. No specific limits are given for copper or for organotin compounds.

The limit for lead in bivalve molluscs is 1.5 milligrams per kilogram. Allowing for analytical uncertainty, the level found in
this sample complies with the regulations.
The Joint FAO/WHO Joint Expert Committee on Food Additives, JECFA, has set a Provisional Maximum Tolerable Daily
Intake (PMTDI) for copper of 0.05 - 0.5 milligrams per kilogram of body weight (mg/kg bw). Allowing for the amount of this
food typically consumed in a day, I am of the opinion that the copper level of this sample was satisfactory.
The European Commission's Scientific Committee on Toxicity, Ecotoxicity and the Environment (1988) set an Acceptable
Daily Intake for Tributyl Tin (TBT) of 0.25 µg/kg bw. An ADI was established by WHO, (1991) for Triphenyl Tin (TPT) and
derivatives (0.5 ug/kg bw). Allowing for the amount of this food typically consumed in a day, I am of the opinion that the
organotin level of this sample was satisfactory.
I am therefore of the opinion that the sample satisfied the tests applied.
I further certify that the sample had undergone no change which would affect my results, opinion or observations.

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405-2013-33002869
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Terry Stanley
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Certificate of Analysis or Examination carried out under the Food Safety (Sampling and Qualifications) (England) Regulations 2013

Signature
Official address
i54 Business Park
Valiant Way
Wolverhampton, West Midlands, WV9 5GB
T +44 1902 627200
F +44 1902 627296
Certified by me this 10 **day of** June 2013 **at** Wolverhampton
Status
Name in BLOCK LETTERS NIGEL PAYNE
Public Analyst
Email NigelPayne@PublicAnalystServices.co.uk
Public Analyst Scientific Services Ltd

AR-13-WP-002924-01
405-2013-33002870
Report No
Sample No
Page 1 of 2
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Terry Stanley
Cornwall Port Health Authority
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I, the undersigned Public Analyst for Cornwall Port Health Authority
certify that at on the 1 May 2013
the sample marked:
Date sample Taken Reference Number, Description, etc Weight or Measure
SW55553733
Carnsew Pool
Carnsew Pool
Seal No: NoneFormal
05/03/2013
was received by me from you
I certify that the sample was analysed by me or under my direction and the results are as follows:

Elements
Copper 12.9 mg/kg

Toxic Elements
Lead 1.382 mg/kg
Dibutyltin (DBT) <1 µg/kg
Dibutyltin (DBT) - Sn 0 µg/kg
Dioctyltin (DOT) < 0.629 µg/kg
Dioctyltin (DOT) - Sn < 0.216 µg/kg
Monobutyltin (MBT) < 0.629 µg/kg
Monobutyltin (MBT) - Sn < 0.425 µg/kg
Monooctyltin (MOT) < 0.629 µg/kg
Monooctyltin (MOT) - Sn < 0.322 µg/kg
Tetrabutyltin (TTBT) < 0.629 µg/kg
Tetrabutyltin (TTBT) - Sn < 0.215 µg/kg
Tributyltin (TBT) 2.36 µg/kg
Tributyltin (TBT) - Sn 1 µg/kg
Tricyclohexyltin (TCHT) < 1.26 µg/kg
Tricyclohexyltin (TCHT) - Sn < 0.406 µg/kg
Triphenyltin (TPhT) < 0.629 µg/kg
Triphenyltin (TPhT) - Sn < 0.213 µg/kg

My opinion and observations are:
The Contaminants in Food (England) Regulations 2010 and Commission Regulation (EC) No 1881/2006 set maximum
limits for the lead content of certain foods. No specific limits are given for copper or for organotin compounds.
The limit for lead in bivalve molluscs is 1.5 milligrams per kilogram. Allowing for analytical uncertainty, the level found in

this sample complies with the regulations.
The Joint FAO/WHO Joint Expert Committee on Food Additives, JECFA, has set a Provisional Maximum Tolerable Daily
Intake (PMTDI) for copper of 0.05 - 0.5 milligrams per kilogram of body weight (mg/kg bw). Allowing for the amount of this
food typically consumed in a day, I am of the opinion that the copper level of this sample was satisfactory.
The European Commission's Scientific Committee on Toxicity, Ecotoxicity and the Environment (1988) set an Acceptable
Daily Intake for Tributyl Tin (TBT) of 0.25 µg/kg bw. An ADI was established by WHO, (1991) for Triphenyl Tin (TPT) and
derivatives (0.5 ug/kg bw). Allowing for the amount of this food typically consumed in a day, I am of the opinion that the
organotin level of this sample was satisfactory.
I am therefore of the opinion that the sample satisfied the tests applied.
I further certify that the sample had undergone no change which would affect my results, opinion or observations.

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Signature
Official address
i54 Business Park
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Wolverhampton, West Midlands, WV9 5GB
T +44 1902 627200
F +44 1902 627296
Certified by me this 10 **day of** June 2013 **at** Wolverhampton
Status
Name in BLOCK LETTERS NIGEL PAYNE
Public Analyst
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Public Analyst Scientific Services Ltd

AR-13-WP-002925-01
405-2013-33002871
Report No
Sample No
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Terry Stanley
Cornwall Port Health Authority
Port Health Office
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Falmouth
Cornwall
TR11 4NR
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I, the undersigned Public Analyst for Cornwall Port Health Authority
certify that at on the 1 May 2013
the sample marked:
Date sample Taken Reference Number, Description, etc Weight or Measure
8/4/13
Carnsew Creek
Carnsew Creek
Seal No: NoneFormal
08/04/2013
was received by me from you
I certify that the sample was analysed by me or under my direction and the results are as follows:

Elements

Copper 9.42 mg/kg

Toxic Elements

Lead 1.601 mg/kg
Dibutyltin (DBT) 1.23 µg/kg
Dibutyltin (DBT) - Sn 1 µg/kg
Dioctyltin (DOT) < 0.697 µg/kg
Dioctyltin (DOT) - Sn < 0.240 µg/kg
Monobutyltin (MBT) < 0.697 µg/kg
Monobutyltin (MBT) - Sn < 0.471 µg/kg
Monooctyltin (MOT) < 0.697 µg/kg
Monooctyltin (MOT) - Sn < 0.357 µg/kg
Tetrabutyltin (TTBT) < 0.697 µg/kg
Tetrabutyltin (TTBT) - Sn < 0.238 µg/kg
Tributyltin (TBT) 2.27 µg/kg
Tributyltin (TBT) - Sn 1 µg/kg
Tricyclohexyltin (TCHT) < 1.47 µg/kg
Tricyclohexyltin (TCHT) - Sn < 0.475 µg/kg
Triphenyltin (TPhT) < 0.697 µg/kg
Triphenyltin (TPhT) - Sn < 0.236 µg/kg

My opinion and observations are:

The Contaminants in Food (England) Regulations 2010 and Commission Regulation (EC) No 1881/2006 set maximum
limits for the lead content of certain foods. No specific limits are given for copper or for organotin compounds.
The limit for lead in bivalve molluscs is 1.5 milligrams per kilogram. Allowing for analytical uncertainty, the level found in

this sample complies with the regulations.
The Joint FAO/WHO Joint Expert Committee on Food Additives, JECFA, has set a Provisional Maximum Tolerable Daily
Intake (PMTDI) for copper of 0.05 - 0.5 milligrams per kilogram of body weight (mg/kg bw). Allowing for the amount of this
food typically consumed in a day, I am of the opinion that the copper level of this sample was satisfactory.
The European Commission's Scientific Committee on Toxicity, Ecotoxicity and the Environment (1988) set an Acceptable
Daily Intake for Tributyl Tin (TBT) of 0.25 µg/kg bw. An ADI was established by WHO, (1991) for Triphenyl Tin (TPT) and
derivatives (0.5 ug/kg bw). Allowing for the amount of this food typically consumed in a day, I am of the opinion that the
organotin level of this sample was satisfactory.
I am therefore of the opinion that the sample satisfied the tests applied.
I further certify that the sample had undergone no change which would affect my results, opinion or observations.

AR-13-WP-002925-01
405-2013-33002871
Report No
Sample No
Page 2 of 2
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Terry Stanley
Cornwall Port Health Authority
Port Health Office
The Docks
Falmouth
Cornwall
TR11 4NR
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Status : 00 Satisfactory

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Signature
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F +44 1902 627296
Certified by me this 10 **day of** June 2013 **at** Wolverhampton
Status
Name in BLOCK LETTERS NIGEL PAYNE
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Email NigelPayne@PublicAnalystServices.co.uk
Public Analyst Scientific Services Ltd

AR-13-WP-002926-01
405-2013-33002872
Report No
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Page 1 of 2
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Terry Stanley
Cornwall Port Health Authority
Port Health Office
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Falmouth
Cornwall
TR11 4NR
To:
Status : 00 Satisfactory

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I, the undersigned Public Analyst for Cornwall Port Health Authority
certify that at on the 1 May 2013
the sample marked:
Date sample Taken Reference Number, Description, etc Weight or Measure
SW55643743
Carnsew Creek
Carnsew Creek
Seal No: NoneFormal
05/03/2013
was received by me from you
I certify that the sample was analysed by me or under my direction and the results are as follows:

Elements
Copper 10.1 mg/kg

Toxic Elements
Lead 1.310 mg/kg
Dibutyltin (DBT) <1 µg/kg
Dibutyltin (DBT) - Sn 0 µg/kg
Dioctyltin (DOT) < 0.660 µg/kg
Dioctyltin (DOT) - Sn < 0.227 µg/kg
Monobutyltin (MBT) < 0.660 µg/kg
Monobutyltin (MBT) - Sn < 0.445 µg/kg
Monooctyltin (MOT) < 0.660 µg/kg
Monooctyltin (MOT) - Sn < 0.338 µg/kg
Tetrabutyltin (TTBT) < 0.660 µg/kg
Tetrabutyltin (TTBT) - Sn < 0.226 µg/kg
Tributyltin (TBT) 1.77 µg/kg
Tributyltin (TBT) - Sn 1 µg/kg
Tricyclohexyltin (TCHT) < 1.32 µg/kg
Tricyclohexyltin (TCHT) - Sn < 0.425 µg/kg
Triphenyltin (TPhT) < 0.660 µg/kg
Triphenyltin (TPhT) - Sn < 0.224 µg/kg

My opinion and observations are:
The Contaminants in Food (England) Regulations 2010 and Commission Regulation (EC) No 1881/2006 set maximum
limits for the lead content of certain foods. No specific limits are given for copper or for organotin compounds.
The limit for lead in bivalve molluscs is 1.5 milligrams per kilogram. Allowing for analytical uncertainty, the level found in

this sample complies with the regulations.
The Joint FAO/WHO Joint Expert Committee on Food Additives, JECFA, has set a Provisional Maximum Tolerable Daily
Intake (PMTDI) for copper of 0.05 - 0.5 milligrams per kilogram of body weight (mg/kg bw). Allowing for the amount of this
food typically consumed in a day, I am of the opinion that the copper level of this sample was satisfactory.
The European Commission's Scientific Committee on Toxicity, Ecotoxicity and the Environment (1988) set an Acceptable
Daily Intake for Tributyl Tin (TBT) of 0.25 µg/kg bw. An ADI was established by WHO, (1991) for Triphenyl Tin (TPT) and
derivatives (0.5 ug/kg bw). Allowing for the amount of this food typically consumed in a day, I am of the opinion that the
organotin level of this sample was satisfactory.
I am therefore of the opinion that the sample satisfied the tests applied.
I further certify that the sample had undergone no change which would affect my results, opinion or observations.

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Signature
Official address
i54 Business Park
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Wolverhampton, West Midlands, WV9 5GB
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Certified by me this 10 **day of** June 2013 **at** Wolverhampton
Status
Name in BLOCK LETTERS NIGEL PAYNE
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Public Analyst Scientific Services Ltd

Operational Guidelines
Fishing Vessels – Hayle

Fishing for Litter

✓ **All marine litter caught in your nets should be placed in the bags**

The most common items will be:

- Plastic sheet, polythene, polystyrene
- Rope, recovered trawls and gill net, buoys
- Metals, wood, textiles and rubber

✘ **The following items should NOT be placed in the fishing for litter bags**

- Hazardous waste eg. drums or containers **filled** with fluids, oil filters, chemicals, paints and oil. **Empty containers are fine**.

Instructions

Filled or semi-filled bags of marine litter should be placed in the Fishing for Litter bin situated in the fishing compound ready for collection by the local waste contractor.

Bags can be collected from **The Harbour Office** where you can complete a short form to register your vessel on the scheme.

Stability considerations

No items of marine litter should be brought onto or retained on board the vessel if the skipper, in his opinion, considers that doing so would have an adverse effect on the stability and seaworthiness of the vessel. The responsibility for effective operational risk assessment lies with the Skipper and Crew of the vessel. (See note below)

Note:
For any operation at sea, including the loading of catch or any other item on deck, the skipper and crew of all fishing vessels should comply with the statutory requirements of The Merchant Shipping and Fishing Vessels (Health and Safety at Work) Regulations; SI 197 No 2962.

If you have any queries please contact us:

Liaison Officer
Spike Searle 07815 942420

Fishing For Litter South West
C/o Seafood Cornwall Training
Tel: 01736 364324 / Fax: 01736 366692
Web: www.fishingforlitter.org |Email: info@seafoodcornwalltraining.co.uk

bankshore gabions on gossmoor west country news

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Hayle Harbour Advisory Committee 10 July 2013
First Report of the Copperhouse Pool Sub Committee July 2013

Overview
The Hayle estuary area has been subject to nearly 300 years of human intervention beginning with the industrial revolution. We are left with one of the most complex human/natural ecosystems in the world. The range of organisations and agencies with a stake in the area reflects this complexity. Statutory, social, economic and environmental stakes are all represented in one of the most beautiful yet polluted areas of the UK and probably the world.

Competitive interests have meant that aspects of the wider eco system are functioning less well than is desirable, and that the prognosis is that problems will continue to increase. However, despite the wealth of high quality research we do not know the how's, what's or when's of the problems, because there is no overview of the total system, despite there being excellent insights into the functioning of sub systems.

There has been a growing awareness of this amongst the formal stakeholder organisations, although progress has been hampered because of the lack of goal congruence. There will never be an ideal time to address the challenge of the area, and the Wilson's and Copperhouse Pools in particular. However there is a growing body of goodwill that provides us with hope of progress, so this paper proposes a comprehensive scoping exercise to unravel the various threads affecting this area.

In the *Decentralisation and Localism Bill: an essential guide*[1], the principles of open government and localism based on community participation are outlined and said to extend beyond the field of planning. This paper has been written within this very practical framework.

Introduction
This sub committee was established at the April meeting of the HHAC. This was a result of a resolution passed at Save Our Sand (SOS) concerning Copperhouse Pool which was taken to Hayle Town Council. They supported the proposal and referred it to the HHAC.

The sub committee is composed of representatives of the key stakeholders, namely the Environment Agency (EA), Natural England (NE), RSPB, Hayle Harbour owners (ING), Cornwall Council, Hayle Town Council.

Busy diaries have meant that the sub committee has been unable to meet. However the members have been very supportive and individual meetings have been formally organised with the representatives of key stakeholders EA, NE, RSPB, ING, and informal communications maintained with the Councils.

Not all key stakeholders are able to attend this meeting of the HHAC, but those unable to do so have agreed to support the initiative reported here, and their editorial concerns covering a previous version of the report incorporated in the current paper (although the EA have not yet responded to our draft which we believe reflects our discussions with them). It is proposed that we seek funding for a significant piece of work that addresses the extensive range of complex issues that will determine the future of the Copperhouse and Wilson's Pools. Wilson's Pool has been added to the brief as it is an integral part of the Copperhouse Pool sub system.

The aims and objectives of the proposed project are to identify and to mediate the aims of key stakeholders.

Points of agreement
1. UK Government Policy has placed Community Participation and Interests centrally in determining priorities for public sector bodies. Community interest is still subsumed by Statute Law protection where long-term needs are too important to leave to the short

[1] (http://www.communities.gov.uk/decentralisationguide)

termism of, say, opinion polls. This protection extends to flood protection, substantial matters of health and safety, and the protection of the natural environment. In practical terms the areas covered by statute become constraints that need to be identified, and incorporated in any community engagement. The process of implementing the results of Statue Law can become an area of negotiation between the Statutory Agencies charged with enforcement and with communities, within permissible limits specified or implied in Statute. This is one topic that must be considered throughout the proposed process addressed in this paper.

2. The watercourses, Pools, Harbour, estuary and St Ives Bay are amongst the most researched in the UK if not the world. There is a wealth of published and unpublished data that must be drawn together to inform the desk research element of the proposed piece of work. Stakeholders must agree to share unpublished data with any project team created as a result of this initiative. This proposal will also include primary research.
3. The scientific disciplines involved cover an almost bewildering range of specialisms that include chemistry and mineralogy, geology, as well as studies of climate, sedimentology, etc. For a complete understanding of the ecosystem it is necessary to be appropriately informed across the piece. This has become evident when we discuss the toxicity of the silt beneath the Pools. Chemical analysis identifies very high levels of toxic material whereas mineralogy suggests that little of the toxic elements are available to poison us.
4. It is agreed that stakeholder needs and aspirations are themselves complex and to some extent mutually incompatible. There are legal constraints in that both Copperhouse and Wilson's Pools have been designated as a Site of Special Scientific Interest (SSSI). In 2006, they were also included in Hayle's World Heritage Site status. In broad terms these stakeholder needs and aspirations include:
    1. The EA position is led by the Flood and Coastal Risk Directorate with a primary focus on the use of Copperhouse as part of a highly successful system which protects Hayle from flooding arising from weather systems. However the EA is itself a complex organisation with teams responsible for Waste Management, Fisheries & Biodiversity. As such, their goals may at times be in conflict with those of the Flood and Coastal Risk Directorate. However the EA representative from the Flood and Coastal Risk Directorate has undertaken to liaise fully about this project with EA colleagues across these other departments.
    2. ING's position is led by the Hayle Harbour Master and is concerned with the legal requirements laid down under the Hayle Harbour Act (1989), other relevant legislation, and the financial and commercial goals of the harbour owner, needs of harbour users, and being consistent with the needs and requirements of other stakeholders which include the people of Hayle. The harbour owners have a specific interest in the physical interface between the Copperhouse Pool and Harbour, and also own small plots of land adjacent to the Pool, not owned by RSPB for reasons said to include heritage and levels of pollution.
    3. RSPB are the owners of the majority of the Pool and as a result of the registered objectives of the charity their concern is to provide suitable, undisturbed resting and feeding refuges for migratory and wintering bird species for which West Cornwall is the first and last land in spring and autumn. These are primarily waders, wildfowl, gulls and terns.
    4. Hayle Town and Cornwall Councils have also a range of interests which focus on the many and varied interests of the people of Hayle for whom Copperhouse Pool is a centrally located and dominant physical feature. Although the amenity importance of Copperhouse Pool is much discussed it is acknowledged that there is at present a lack of data to support this contention. Hence any study must include an appropriate piece of primary research to address this deficiency.
    5. Natural England were the last consultee, and the previous draft of this report was not constructed with their input because of the timing of meetings. Their primary interest is in protecting the SSSI and maintaining, restoring (or compensating for) the habitat of Wilson's Pool which depends on the Copperhouse Pool. NE emphasise their operational interdependence with other agencies, particularly the EA, and also their close working relationship with the

RSPB. They highlight the ongoing importance of the Amy Brock-Morgan's Hayle Estuary Management Plan (2010-2015), and they wish to see this plan being refreshed in order to inform the currently proposed study. The complex legal framework in which NE operates has been outlined in correspondence with Dr Robbins of the NE and will be a critical concern of any future study

4. It is also agreed that Copperhouse Pool is subject to a level of silting, although the degree of silting is not necessarily a point of agreement. Causes of silting include sand incursion at the West or harbour end and historically, silt from the stream coming through Wilson's Pool from Lidl's. The cessation of the historical sluicing regime, constraints on the physical ability of the current flood alleviation gates to act as sluice gates, and the economic cost of operating these gates have been further factors to consider in this regard. It was agreed that at some unspecified time in the future the lack of water agitation created through sluicing would be a problem for stakeholders. The precise concerns vary based on the stakeholders' interests, as do estimates of the time when risks have/will emerge.
5. It was agreed that the toxic mine waste has accumulated since about 1750. The silt layer is currently an effective cap on this material. (It is noted that although the levels of arsenic and other heavy metals are of grave concern from a chemist's viewpoint, their mineralogical state is currently such that they are safely bound into complex structures with clay and are unavailable for release into the wider environment.)
6. However it is acknowledged that risks from physical impacts put this stability at risk; bait digging is banned in Copperhouse Pool for that reason. If further silting occurs, it would at some stage adversely affect the capacity of the Pool to address flood risks. From the SSSI perspective flora and fauna could also be affected in unacceptable ways if the sediment source was of marine (= sand) origin. There is also an unspecified issue viz any risk of the disruption of the silt cap of the Pools arising from a geological source that should be investigated.

From the analysis presented above it is acknowledged that a detailed desk study is required, and we understand that this is sometimes categorised as a Mine Closure, Remediation or Feasibility Study.

It is agreed that recommendations are required that recognise and measure the risks and the probability as to when they may occur. Economic constraints are acknowledged and options that reflect risks, stakeholder needs, the legal framework and time horizons must be addressed. The current level of sedimentation and heavy metal contamination took over 200 years to develop - in a physical environment which is itself partly man made. The Pools were constructed to address the needs of the copper industry that included importing raw materials, and shipping products to market. However the geographic area being considered was once part of a much larger natural system. This was before land reclamation that covered an area from Wilson's Pool to the main A30 roundabout, east of the town.

Recommendation - overview

In view of the time taken for the mine and factory wastes to accumulate we anticipate that any remediation could be complex and part of a long process which might take decades to complete. However, we acknowledge that postponing the commencement of such remediation could increase the long-term problem, and may even represent *a risk on our watch*. We therefore ask the HHAC to mandate the sub committee to seek funding for a report that addresses the foregoing issues and closely involves all stakeholders in detailed consultations. Clearly any of the corporate stakeholders will be able to veto any activity, as is now the *de facto* position.

We are fortunate in the membership of the sub committee as it includes all significant stakeholders and some very senior people. As such we hope that the HHAC will be prepared to delegate powers to the sub committee subject to confirmation by the full committee where time permits, or chair's action where this is not the case.

Finally we must point out that the dialogue generated through our meetings, and also those with the Exeter University Environmental Sustainability Institute (ESI) and their partners has already lead us into promoting other closely linked initiatives, as included in recommendations '1' and '2' below.

Specific Recommendations:

1. To proceed with the following recommendations whilst correcting, amending and negotiating a final version of the Report outlined above.
2. Delegated powers to the sub committee, subject to the comments in the 'Recommendations-overview' above.
3. Express support for the Hayle Harbour Master who is seeking funding for the replacement of the bearings in the Copperhouse sluice gates.
4. Take up the proposal in the Hayle Estuary Management Plan 2010-2015 for the funding of an Estuary Officer for an initial period of five years.
5. Seek to develop local relationships through the Hayle Town Council, so that the Hayle Community better understands the scope and implications of OUR SSSI and the work of the RSPB. Mechanisms for closer engagement should be sought.
6. The sub committee are mandated to seek funding and if possible to appoint a consultancy capable of project managing and delivering a full mine closure and remediation report that builds on the existing body of research, and undertaking further primary and secondary research according to criteria agreed to by all of our sub committee stakeholders. The consultants brief must be specified in detail.

Any errors in this draft report are exclusively the responsibility of Howard Lyons, and thanks for the support in its writing are given to colleagues in the relevant agencies and to my colleagues John Bennett and Anne-Marie Rance of the HHAC.
I0 July 2013

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ENERGY AND CLIMATE CHANGE
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INFRASTRUCTURE AND UTILITIES
LAND AND PROPERTY
MINING, QUARRYING AND MINERAL ESTATES
WASTE RESOURCE MANAGEMENT

HAYLE HARBOUR ADVISORY COMMITTEE

Copperhouse Pool Scope for Future Reclamation Works

July 2013

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HAYLE HARBOUR ADVISORY COMMITTEE

Copperhouse Pool Scope for Future Reclamation Works

July 2013

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CONTENTS

1 INTRODUCTION

This report was commissioned to look at the potential issues and requirements for any reclamation activities in the Copperhouse Pool (Hayle Harbour) area of the Cornwall and West Devon Mining Landscape World Heritage Site, and to suggest a framework for a way forward.

Wardell Armstrong International (WAI) were approached in order to provide advice on aspects of potential dredging of contaminated sediments from the bed of Copperhouse Pool, and any other notable fed flag issues that may be faced should works be carried out in the area.

This document is not a definitive guide to undertaking works in the area, but a signpost for red flag issues which should be considered during the planning stages of any works.

2 BACKGROUND

2.1 Recognised designations

2.1.1 World Heritage Site

The Cornwall and West Devon Mining Landscape was inscribed onto the World Heritage List in 2006 because of the world-wide impact that the area had on the industrial revolution and the mining industry in general between 1700 and 1914. The WHS is made up of a number of smaller areas across Cornwall and West Devon which have been identified for their particular significance or exemplary examples of the developments which occurred in Cornwall during that time period. Copperhouse Pool is included in the area entitled The Port of Hayle, which includes the Pool and the wider estuary/harbour area.

2.1.2 SSSI/SMA

Copperhouse Pool is included within the Hayle Estuary and Carrack Gladden SSSI. The estuary feeds into the St Ives Bay SMA (Special Marine Area). The Triangular Spit in Hayle harbour is home to Britain's second largest population of Petalwort, a European Vulnerable species, and classified in Britain as Lower Risk (Nationally Scarce).

2.1.3 RSPB Reserve

The Hayle estuary, including Copperhouse Pool, provides habitat for up to 18,000 migrant and wintering waterfowl, especially during severe weather events. The inter-tidal habitat of the area is a key feeding and roosting resource, and Ryan's Field is being maintained as a high tide roost for winter birds.

2.2 Current Situation

Copperhouse Pool forms the terminus of the Angarrack River and is separated from the rest of the harbour/estuary by sluice gates which were originally put in place to provide scouring in the main channel as the tide went out. Water was trapped in the Copperhouse Pool during high tide and released several hours later to flush accumulated sediment out of the channel and into St Ives Bay. This practice stopped when the Environment Agency (then the National Rivers Authority) took over the management of the gates. The original sluice gates were replaced and are now left partly open to allow a small tidal range in Copperhouse Pool but this does not prevent sediment build up within the Pool or enable scouring of the main channel.

Discussions have been held between the EA, RSPB, HHAC and other interested parties as to the effects and impacts of reintroducing high tide impoundments at Copperhouse Pool for recreation purposes. A draft protocol was produced in 2002, with updates in 2006 and 2008, outlining the possibility of impoundments at the Pool on alternate spring tides between 1st April and 30th September. This means that 6 or 7 impoundments could take place during the specified time period. Natural England, the Environment Agency, the RSPB and HHAC have agreed that this precautionary approach should be used to ensure the integrity of the SSSI. Hayle Town Council refused to endorse this protocol.

It should be noted that the SSSI is a legally binding designation and the RSPB, as the owners of the SSSI, could be prosecuted by Natural England if damage was done to the SSSI. It is thought that more frequent impoundments would have a negative effect on invertebrates in the Copperhouse Pool area.

WAI were informed that the change of function of the sluice gates to a flood control mechanism has caused the Pool to accrete sediments and therefore reduce the available water depth. It is believed that these sediments are contaminated to about 1m depth with metal/metalloid-rich sediments, including arsenic, copper, zinc and others, predominantly from the mining and related industries in the Hayle area and the river's watershed. Below this is relatively clean clay.

Some research has been carried out into the contamination of the sediments and previous investigations, possibly including an Environmental Impact Assessment (EIA), were undertaken into using the Pool for watersports. It is understood that the RSPB would maintain a ban on motorised craft (including jet skis) and kite surfing in the Pool, however would be amenable to sailing and rowing activities.

3 POTENTIAL ACTIVITIES

3.1 Dredging of potentially contaminated sediment

There are a range of considerations which need to be taken into account when dredging contaminated sediment to ensure contamination is not mobilised within the waterbody and that the transport of contaminated sediment is minimised. This is a particularly important concern within a SSSI.

The Defra executive agency Cefas (Centre for Environment, Fisheries and Aquaculture Science) provides advice on dredging operations and the disposal of sediments in approved areas.

Prior to dredging Copperhouse Pool, site-specific testwork should be carried out to determine the current nature of the contamination of sediments and the overlying waterbody and also the presence of any protected species which would be disturbed and potentially damaged by the process. Some information is likely to exist on these subjects however it should be ensured that this is specific to the Pool itself rather than the estuary/harbour in general. Dredging operators will need to implement measures to minimise the disturbance and subsequent dispersion of contaminated sediments in the water column in order to protect the immediate waterbody and to minimise downstream contamination of adjoining parts of the Hayle Estuary.

3.2 Disposal of contaminated sediment

3.2.1 Disposal at sea

The disposal of dredged sediment is subject to a range of criteria relating to the contamination of the sediment and the locations at which it can be deposited. The Marine Management Organisation (MMO) provide details of the licences required, and the exemptions that can be granted to disposal by or on behalf of a harbour authority, which is granted by a local act or Parliament or a harbour order, however these sediments must meet the requirements in the Waste Framework Directive. The MMO document entitled Marine Licencing Guidance 3: Dredging, disposal and aggregate dredging, April 2011 provides further information on the dredging process. Information can also be found on the MMO and Cefas websites, which also contain links to the OSPAR Commission website, which is the mechanism through which the marine environment of the North-East Atlantic is protected.

3.2.2 Disposal on land

The Environment Agency govern disposal of waste on land and the levels of contamination within the sediment will determine the available options should disposal on land be considered. Confined disposal (within an engineered bund or cofferdam) is often used where land is being reclaimed for port development and therefore is unlikely to be useful for Copperhouse Pool. Treatment will sometimes be required before re-use or disposal of sediment to landfill. Sediments which are treated on land prior to disposal may require an environmental permit, a mobile waste treatment licence and also a discharge consent if dewatering is part of the treatment process. The final levels of contamination within the sediment will dictate which landfill it can be taken to for disposal. Connon Bridge, near Liskeard, is a non-hazardous landfill therefore it is likely that sediment from Copperhouse Pool will require transport out of Cornwall for landfill disposal.

3.3 Reinstatement of active sluice gates

If the areas of the estuary which were traditionally scoured by active sluicing from Copperhouse Pool could benefit from the reintroduction of the practice, without detriment to the SSSI area, then this option should be investigated. Reduced sediment build up within the Pool would also enhance the capabilities of the flood management area due to increased capacity for storm-water runoff. This activity would have to be carefully assessed with regards to potential impacts on the SSSI and SMA to ensure that no harm was caused to these protected areas.

3.4 Public Consultation

Prior to commencing any works at Copperhouse Pool it would be advisable to establish public opinion towards the proposals for the area. The proposal(s) for consideration should be presented in a balanced manner, demonstrating any potential positive and negative impacts that the project may have. These should not only be the direct impacts, but wider impacts including changes in traffic flow to the area, or noise levels from new activities. If possible these should be quantified to allow the local community to better appreciate the nature of any potential impacts.

Feedback from the local community should be sought, collated and analysed, and concerns addressed either individually or through publications detailing measures taken to minimise or mitigate adverse impacts, or to enhance positive impacts.

4 FEASIBILITY STUDY

4.1 Scope

WAI suggests that the next stage for developing plans to reclaim Copperhouse Pool is a feasibility study. The aim of a feasibility study is to collate all available project information and assess whether the proposed ideas are socially, economically and environmentally feasible within all appropriate legislation and guidelines.

A feasibility study for developments, for example dredging and use for water sports, at Copperhouse Pool should include, but not be limited to, the following:

- Statement on current conditions/uses of the site;
- Statement of legislation and guidelines governing the site;
- Summary analysis of previous studies undertaken at the site, ie sediment analysis, biodiversity surveys, socio-economic aspects
- Details of proposed works, developments and uses for the site;
- Outline of positive and negative impacts of the project – economic, environmental social/community;
- Surrounding opportunities which the proposed project could augment, or vice versa;
- Expected cost of works – for example: quotes from contractors for additional environmental surveys and the development works, site improvements required (ie provision of permanent safety equipment);
- Statement on feasibility of project on cost basis and on impact basis – do positive environmental/social impacts out-weigh the negative?

4.2 Next steps

In order to complete a feasibility study for the site, a project description will be required. Once the scope of this project has been set, the feasibility study can be carried out as defined above. Once the project is determined as feasible, information can then be presented to the public to allow for a full consultation process, the results of which should be incorporated into the feasibility study to ensure that the impacts considered cover all those raised by the local community and stakeholders.

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