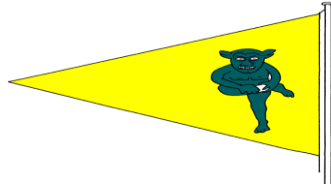


North Lincolnshire and Humberside Sailing Club



**Case for appeal against refusal of consent to apply Dyofix in
Humber Estuary Clay Pits Unit 129
Natural England Casework Tracker Ref: 302710
April 2020**

North Lincolnshire and Humberside Sailing Club occupies and owns the land and water that is designated Humber Estuary Clay Pits Unit 129. Once useable clay had been extracted from the pit it was deliberately flood in 1953 for the sole purpose of creating a sailing club. The Club was purchased by the members in 1984 and is held in trust on the members' behalf.

The Club has flourished and developed over the years, becoming a Royal Yachting Associated Training Centre and a Community Associated Sports Club serving the local community as well as its members. In the 67 years of the Club's history the greatest threat to its existence has been the proliferation of weed that began in 2007/8. If this is not effectively controlled then the belief is that the Club will cease to function and the community will lose a valuable asset. Since 2008 the club membership has spent in excess of £20k in attempts to restrict weed growth. The only effective solution discovered has been the use of Dyofix, hence this appeal against the refusal of consent for its use.

Aside from the efforts of the volunteers who run the Club and the atmosphere they create the other particular asset the Club has is its environment. Members value this unique environment and recognise the need to protect it and believe they can do so given sympathetic assistance from external bodies with environmental expertise.

Expanded Grounds for Appeal

1. Macrophyte Cutting and Removal alone, is not an effective solution to the proliferation problem.
 - a) NL&HSC spent over 2 years between 2017 and 2019 in discussion with NE to find a solution to macrophyte management at Pit 129 with negligible results. The outcome of this dialogue is incorrectly referenced in the SSSI Consent Decision Framework associated with the Habitat Regulations Assessment. **2. Background** Page 3 of 25 refers to a Management Plan, NE gave over responsibility of the generation of this document to the Humber Nature Partnership and NL&HSC, and once completed, agreed with NL&HSC that it was not a plan and should be labeled a Management Statement. Further discussions on a solution would be irrelevant, as NE is not prepared to look beyond weed cutting and removal.
 - b) Weed cutting and removal at Pit 129 is dependent upon the use of a Truxor. The only such affordable and accessible machine available to NL&HSC is owned by North Lincolnshire Council.
 - i) NLC priorities may change, meaning the machine could no longer be available.
 - ii) A mechanical machine can breakdown making it unavailable. This was the case in 2018 when the machine was not available due to a fault and lack of a spare part.Either of the above options would temporarily or permanently close the sailing club.
 - c) **Most importantly** Potamogeton Pectinatus (Fennel Shaped Pondweed) and Myriophyllum Spicatum (Spiked Water Milfoil) **both propagate through plant fragments**. As it is impossible to

remove all fragments that are cut, **a cutting and removal regime alone will not control the problem of proliferation of these 2 macrophyte species, but only make it worse.**

2. Degree, calculation and balance of Risk.

- a) The SSSI Consent Decision Framework, Section 3, Unit Condition, implies the risk that the use of Dyofix will prevent Pit 129 improving to a Favourable Condition. Favourable Condition will never be achieved, not due to addition of Dyofix to the water, but because the Favourable Condition Tables require the presence of 6 from 20 specified characteristic species of macrophyte. There has never been any of these 20 specified species recorded in Pit 129.
- b) NE conclude that addition of Dyofix is “likely” to have significant effect on the Non breeding Waterbird Assemblage of the Humber Estuary SPA and Ramsar site. The HRA itself, by process of elimination, reduces the importance of Pit 129 as a habitat to 2 qualifying features, those being Goldeneye and Pochard.
At no point in the HRA is **the calculation of risk definitive**, for example;
HRA C2.1 Risk of Significant Effects Alone. Of the 8 answers under the heading “Excluding mitigation, is there a likely significant effect on the feature that requires appropriate assessment? [Yes / No / Uncertain]” 6 are **No** and 2 are **Uncertain**. There are no definitive Yes answers.
- c) Whilst there is continual reference throughout the SSSI Consent Decision Framework and the HRA to the size of Pit 129 as being significant, it is not significant enough to have specific data attached to it. Where data is used in the HRA it is **not specific**, for example;
HRA D3.1 Assessment of potentially adverse effects, considering any incorporated mitigation measures, Pages 15 & 16 –
“The 2018 BTO Report indicates that the species which are of concern in the WeBS sector (38414 – Barrow to Barton including the clay pits) are Wigeon, Teal, Mallard, Pochard, Goldeneye, lapwing, Dunlin, Redshank. These species show declines in the sector for either one or more of the five, ten or 15 year times periods up to 2016/17.... It is worth noting that in an estuary context the sector appears to be particularly important for Pochard. This species [typing error and should read sector?] holds greater than 20% of the estuary population during the last 5 years”
There is no specific data quoted even for the wider area WeBS sector.
There is no specific data for the key species, Pochard and Goldeneye.
There is no indication of the habitat for the 80% of Pochard not inhabiting the Barrow to Barton sector.
Specific data on the last 5 years would be key as Dyofix was applied at Pit 129 in 3 of those 5 years, but none is supplied even for the wider Barrow to Barton sector.
The HRA references Snow et al. Birds of the Western Palearctic – 1998. Other more recent studies such as Folliot et al. Patterns of spatial distribution and migration phenology of common pochards *Aythya ferina* in the Western Palearctic: a ring recovery analysis. – 2018. More recent phenological studies indicate that migration patterns are changing due to climate change and that birds such as Pochard and Goldeneye are ‘short-stopping’ and not travelling as far west to winter as in the past. Such factors should be taken into account when determining the importance of habitats such as Unit 129. There are no phenological references in the HRA.
- d) Whilst NL&HSC recognises that the risk to the Sailing Club itself is not relevant to the HRA process, the continued existence of the Sailing Club is the most important factor in the overall decision-making process.

Failure to effectively control weed proliferation does put the existence of the Sailing Club at risk. NL&HSC finds itself caught between the objectives of 2 different government policies. As a Royal Yachting Association Training Centre the Sailing Club is an important asset in the Humberside area for the promotion of physical and mental wellbeing. This has been recognised by the regular allocation of grant aid from both Sport England and North Lincolnshire Council over more than 10 years.

The Sailing Club and its volunteers provide a facility for the pursuit of health and wellbeing to over 200 members, 50 children per week between the months of March and April, and to any member of the general public wishing to try the sport / pastime of sailing. NL&HSC is currently working with the Humber Nature Partnership to provide a facility for persons using the Proposed Barton & Barrow Clay Pits Natural Heritage Trail to give a view of nature from the water.

The risk of losing the Sailing Club due to ongoing uncontrolled weed proliferation preventing sailing taking place is on balance, greater than the **possibility** of habitat deterioration for 2 waterbird species.

Ultimately, if the Sailing Club fails to control weed proliferation then it will no longer exist, the current open water will become a solid raft of weed that would take the SSSI condition from unfavourable – declining to part destroyed or destroyed.

3. Result of the application of Dyofix.

Key to the HRA is the APEM report; Humber Estuary Clay Pits: North Lincolnshire & Humberside Sailing Club Pit Investigation Natural England APEM Ref: P00000075 March 2016. Below are extracts from that report. Yellow highlights and blue text have been added by NL&HSC.

1.1 Background to the project

While the issues associated with macrophytes are well documented, and several recent studies have examined various aspects of the Barrow and Barton Claypits, little data has been collected from Sailing Club Pit itself, making informed management decisions difficult. (1)

- (1) Lack of data specific to Pit 129 (reinforces point 2 c above), and no reference to a specific study of the effect of Dyofix are the foundation of NL&HSC's objection to Natural England's refusal to grant permission to use Dyofix in a regime to control weed proliferation at levels that continue to threaten the Club's existence.

5.1.1 Site condition status

Stace et al. (1987) provided a species list, but no data concerning their cover, abundance and distribution within the lake. They recorded only three species: *Myriophyllum spicatum*, *Potamogeton pectinatus* and *Ranunculus baudotii*. Subsequent surveys, in 2007 (APEM 2008) and 2014 (Ahern Ecology 2015), using Site Condition Monitoring (SCM) methods, recorded only *M. spicatum* and *P. pectinatus*, (2)

- (2) Reinforces the point made in 2a above.

5.3.1 Qualifying interests

The pits provide supporting habitat for the SPA birds, with the macrophytes acting as an important food source for many species of waterfowl, particularly pochard, which are one of a number of the Humber

Estuary SPA bird populations which are in decline (Natural England 2015).

Data on the use of individual pits by birds were not available, and it is not known which of the individual pits provide supporting habitat for each qualifying interest. (3)

(3) WeBS data is gathered for the generic Clay Pits area, there is no pit-specific data available as far as NL&HSC is aware. Further reinforcement of point 2c above.

5.3.2 Contribution to supporting habitat within the wider claypits

From SCM survey data (APEM 2008; Ahern Ecology 2015) each pit appears to support a different suite of macrophyte species, usually associated with eutrophic and/or brackish water conditions. Taken as a whole suite, the collection of pits does not contain the required number of characteristic species for a eutrophic site. Sailing Club Pit is a relatively species poor example within the suite, as it does not support any of the characteristic species and only supports two species, which occur widely amongst the other pits in the series. (4)

(4) Clearly indicates that despite the NE repeated fact that the Pit 129 is the largest of the clay pits the food source for the Non breeding waterbird assemblage is abundant across the whole of the clay pits suite.

6.2 Effect of management on macrophytes

6.2.1 Cutting and harrowing

Cutting and harrowing of aquatic vegetation can provide a “quick-fix” by creating clear areas in the water column. This tends to only have a short-term effect, particularly if plant material is not removed from the water body. *M. spicatum*, in common with many aquatic species, is able to regenerate from plant fragments, and this vegetative form of reproduction is thought to be important for spread of the species. Thus if plants are cut into sections, there is the potential for each portion to regenerate, exacerbating the problem. (5)

(5) This reinforces the key point made in 1 c above – cutting and removal is the NE recommended method of weed control at Pit 129, but because of the difficulty of removing all weed, cutting will exacerbate the problem if removal is not 100%. 8 full days of cutting and removal took place using the NLC Truxor in August 2019. In that time it was only possible to fully remove 50% of cut material (approx. 20t), the remainder was pushed as far as possible into the reed beds. This major logistical problem has been ignored in the NE assessment.

6.2.2 Application of dye

Dyofix-Blue has been applied to Sailing Club Pit over two seasons. It is a commercially available Triaryl Methane Dye Preparation, which acts by altering the quality of light passing through the water column. The blue colour acts to block the frequencies of light at the red end of the spectrum most used by plants and algae for photosynthesis. (6)

(6) A key point as it implies that dye has an effect on both macrophyte and algae, therefore bringing into question the NE concern over Dyofix having a detrimental effect on the macrophyte / algal balance in Pit 129.

A consortium of sailing clubs has carried out a review of the efficacy of Dyofix-blue in controlling plant growth in freshwater lakes (Dibble 2013). Effective control of macrophytes has been observed in water greater than 0.5 m deep, although it is reported that it may take 2 – 3 years of application to achieve the

required level of control. It is not known if this is due to a build-up in residual dye levels or improved application techniques. Better control of vegetation has been achieved when combining use of the dye with cutting and harrowing techniques. (7)

(7) Controlled joint monitoring as suggested with the 2019 request for consent to dye could lead to this conclusion.

Because of its mode of operation, the effects of the dye are not species-specific, and it will affect all submerged plant growth and algae. Light is usually able to penetrate to at least 0.5 m and consequently the dye is thought to be most effective in deeper waters. Species with floating or emergent leaves and floating algae are unaffected. (8)

(8) This received by email from Dr. Jonathan Newman

From: Jonathan Newman <jonathan@water-land.co.uk>
Sent: 03 April 2020 07:55
To: Eric Robinson <ericrobinson1957@hotmail.com>
Subject: Re: NLHSC Dye Consent

Thanks Eric

That's disappointing. I think they are fundamentally wrong and demonstrate a clear lack of aquatic ecology knowledge. Happy to support you although I'm recovering from COVID at the moment feeling pretty rough

Regards

Jonathan

Dr Jonathan Newman

Managing Director



Waterland Management LTD

The science involved and the effect of Dyofix use is disputed. Unfortunately due to illness Dr. Newman has not been able to elaborate further.

There are some obvious potential risks with use of the dye. Removal of submerged species of macrophyte could lead to a shift in the stable state from the current macrophyte system to the less desirable algal system. The addition of dye is a disturbance mechanism that is likely to be great enough to cause this shift. Loss of macrophytes would reduce sediment stability, increasing turbidity within the water column, and exacerbating the shading effect further. The dye has little influence on light penetration in the upper part of the water, in which floating algae would be able to respond rapidly to the high concentrations of nutrients that would otherwise be held in plant material. The reduction in macrophyte density could also lead to a seasonal reduction in dissolved oxygen levels,* as algal cells decompose in large numbers during the warmer summer period; this, in turn, may lead to internal loading from lake sediments. Excess algal levels, in extreme cases, can lead to a thick, soupy appearance with associated biodiversity and recreational impacts, such as nuisance or toxic algal blooms and fish kills. Presently the macrophytes are helping to minimise the risk of this occurring by maintaining available nutrients within them. The alternative to a lake choked with weeds could be a lake dominated by nuisance and even toxic algae, which would probably cause more impact to activities and human

health and would be very difficult to reverse. A full vegetation survey of Sailing Club Pit was not undertaken as part of this study, so there are no data about the effect of the application of the dye to the short-term or long-term distribution and abundance of macrophyte species. (9)* However, it is perceived as effective in controlling M. spicatum as NHLSC has submitted an application to treat with dye again in 2016. It has not prevented growth of all M. spicatum as plants were recorded during the water quality sampling. Based on the water quality data (Section 4.2) dissolved oxygen levels do not appear to have been adversely affected. (10)**

(9)* This is the first of 2 absolute key statements in a single paragraph. This is why NL&HSC proposed it be a test case for use of Dyofix in the support document presented with the request for consent to use dye. An offer to gather definitive data, and develop an effective stratagem that would satisfy sailing and environmental needs.

(10)** The second absolute key statement that use of dye (for 2 years prior to APEM sampling) did not prevent all macrophyte growth and had no adverse affect on dissolved oxygen levels. This contradicts the assertions made in the HRA section D3.1 Page 17.

8.2 Practical actions

12. Develop a programme of early-season weed control by appropriate physical cutting and complete removal of the cut weed from the site. This needs to consider cost effectiveness and the limitations of volunteer input available from NLHSC.

13. Phase out dye addition in order to avoid development of an algal-dominated system and associated biodiversity and human health impacts. If dye addition is to continue beyond 2016, combine this with cutting (above), and begin dye application each season only if weeds begin to become an issue. (11)

(11) This is the NL&HSC desired outcome of consent to dye with agreed monitoring, and assuming that the NLC Truxor will continue to be available.

4. The application result in respect of Natural England's own objectives.

Extracts from Natural England Standards, Sites of Special Scientific Interest – external version 15/10/2012.

From the Introduction, Page 1

As the government's conservation advisory body, Natural England has a number of statutory duties and general responsibilities in relation to SSSI.

One of which is;

Ensuring the protection of SSSIs and safeguarding their existence into the future, by providing advice to SSSI owners and managers. This includes working with them to ensure active management. Such management may be within or outside a SSSI.

In the "NL&HSC case for consent to use Dyofix from 2020" document that accompanied the Consent

Request and the “Macrophyte Position 2019” document sent to Natural England in September 2019 both offered cooperation in a study of the effect of Dyofix application. These ‘working with’ offers have not been accepted despite the stated duty.

This is not the first time NL&HSC’s willingness to cooperate with NE has been rebuffed:

On 03/02/2017 NL&HSC met Robert Burnett (NE Manager, Humber, North York Moors and Howardian Hills, Yorkshire and Northern Lincolnshire) to discuss the issue of dye use to control weed, and the way forward for the future management of Pit 129.

Mr. Burnett stated that what was needed was an agreement between the sailing club and Natural England of what “good’ looks like, and agree a way of changing the current state of unfavorable – declining to the agreed definition of good. This was a statement that “Good” can be something that is agreed, and not necessarily defined from a set of tables (Favourable Condition Tables).

Had this been followed through by Natural England then it would have fulfilled the policy requirement of ensuring the development of management arrangements for an individual SSSI. **NE abandoned the pursuit of an agreed definition of “Good” and a means of maintaining it in May 2018.**

NE also emphasized during this meeting that in their scientific opinion the continued use of dye would cause a flip in the ecology with worse consequences for the SC than weed growth (toxic algal bloom). NE were asked if there was evidence of such and ecology flip as a result of Dyofix application, and the response was yes. NE was asked to supply this evidence. That evidence has never been supplied.

From SSSI’s and Government Policy, Page 2

In 2011, the government set out its policy objectives for nature conservation in ‘Biodiversity 2020: a strategy for wildlife and ecosystem services’. This established an objective for the ongoing improvement of SSSIs, which requires by 2020, that 50% of sites be in favourable condition, and 95% of sites be in either favourable or recovering condition. This objective forms an important element of the Strategy’s mission which seeks to: “halt overall biodiversity loss, support healthy well-functioning ecosystems and establish coherent ecological networks, with more and better places for nature for the benefit of wildlife and people.”

The new target places an emphasis on ensuring that the management arrangements in place for individual SSSIs are effective in sustaining recovery to favourable condition in the years leading to 2020 and beyond. It also requires emerging threats to site condition to be understood and addressed

If application of Dyofix could result in loss of qualifying features due to change in habitat at Pit 129 then this should be proven by specific study.

From Valuing the SSSI series, Page 4

2. We will seek to increase the additional benefits to society of the SSSI series, whilst respecting the statutory requirements for their protection.

SSSIs provide benefits for society that go beyond their role as a representative national series of wildlife and geodiversity features. In the *2011 Natural Environment White Paper* and in *Biodiversity 2020* the Government set out policies which aim to maximise the value of the natural environment to society. SSSIs have the potential to make a significant contribution to these aims. For example, sites can be important for the regulation of flood risk, or provide opportunities for education, recreation and

tourism.

We will seek and promote opportunities to enhance these additional benefits to society from SSSIs wherever possible. In doing so, we will always seek to work consensually with partners; particularly with landowners and those with livelihoods linked to the sites, and always ensure the protection of the special interest of the site is not compromised.

NL&HSC is working to “provide opportunities for education, recreation and tourism”. Not having the consent to apply dye is putting this objective at serious risk.

CONCLUSION

The NL&HSC conclusion is that the outcome of the Habitat Regulations Assessment is incorrect and rather than the stated result of;

Consent/Permission/Assent/Licence/Authorisation may not be given subject to Regulation 64 ('consideration of imperative reasons of overriding public interest')

It should be;

Consent/Permission/Assent/Licence/Authorisation may be given but only subject to the strict implementation of the following conditions or restrictions.

Those conditions being an agreed monitoring and study on the effect of applying Dyofix.
If Natural England does not have the will or the resources to work in partnership with specific SSSI's to further ecological understanding, then NL&HSC should not be penalised as a result.