

Agenda Item No: 10
Report To: Cabinet
Date of Meeting: 9th February 2017
Report Title: Conningbrook Lakes Country Park – Water Quality
Report Author & Job Title: Len Mayatt – Cultural Services Manager

Portfolio Holder Cllr. Jessamy Blanford
Portfolio Holder for: Culture, Leisure, Environment & Heritage

Summary: This report presents the case for introducing a range of measures to improve the quality of the water at Conningbrook Lakes Country Park, so enabling the ongoing establishment of the lake as a key water sports facility for the Borough.

Key Decision: YES

Significantly Affected Wards: Willesborough

Recommendations: **The Cabinet is recommended to:-**

- I. Approve the introduction of a range of measures aimed at reducing the levels of active blue-green algae and invasive aquatic weed in the lake.**
- II. Approve forward funding of up to £150,000 to be drawn down on a phased approach over the next two years.**
- III. Delegate authority to the Head of Culture and the Head of Finance in consultation with the Portfolio Holder for Culture, Leisure, Environment & Heritage to take any further actions required to deliver these recommendations.**

Policy Overview: Supports the Council's Corporate Priority 3; Active & Creative Ashford.

Financial Implications: Provision of up to £150,000 to fund the required works. Ongoing maintenance will be maintained within the existing revenue budget for the Country Park.

Legal Implications

Equalities Impact Assessment The proposed works will have a positive impact on all users of the Conningbrook Lakes user groups.

**Other Material
Implications:**

Reducing the level of blue-green algae in the water column will reduce the level of potential risk to human health and some animals.

**Exempt from
Publication:**

NO

**Background
Papers:**

Laguna Science, Baseline Assessment and Rehabilitation Plan.

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Report Title: Conningbrook Lakes Country Park – Water Quality Management.

Introduction and Background

1. Conningbrook Lakes Country Park is a strategically important leisure facility for the Borough, supporting the Council's Corporate Priority 3: Active & Creative Ashford. The lake within the park has proven to be an especially popular facility with a range of activities regularly taking place on the main lake. This includes triathlons, sailing, rowing and kayaking.
2. As part of the ongoing maintenance of the Country Park, which already has a management plan in place, Laguna Science have been commissioned to provide guidance on how best to manage the maintenance of the main lake to restrict the development of blue-green algae and invasive aquatic weed – principally through improving oxygen levels in the water, as well as refining the management of the lake and shoreline.
3. The pressure on the lake will increase as the enabling residential development on the site is delivered. Therefore, to ensure that current and future demand on the lake is met, it is important the Council uses the most appropriate and cost effective measures to ensure the lake is available for use on a consistent basis.

Proposal/Current Position

4. The report produced by Laguna Science confirms the presence of blue-green algae and invasive aquatic weed which is a natural phenomenon encountered in numerous lakes and waterways in the UK and around the world. However, it is possible to introduce a range of measures to significantly reduce the impact of the weed and algae for water sports.
5. During 2016 the lake was closed at various times due to the presence of substantive quantities of blue-green algae and aquatic weed, which resulted in a number of activities and club events being cancelled.
6. The Laguna Science Report summarises the main goal of the proposed works as “.....to create a safe environment for water-based activity and provide a lake of high water quality status, good aesthetic appearance that supports a diverse ecology with associated low maintenance requirements.”
7. By introducing the measures recommended by Laguna Science in a phased programme, the levels of contaminants in the water will reduce and allow the lake users to book the facility with greater confidence, so allowing the programme of activities and events to grow over the coming years.

8. Laguna Science has recommended a mixture of interventions to be introduced. They consist of measures to reduce levels of sunlight and oxygen levels in the lake to restrict the development of the blue-green algae and growth of aquatic weed. Other measures will assist in the management of nutrient levels in the lake. The schedule of main recommendations is attached at **Appendix I**, with indicative costs for each element.
9. It is recommended all of the measures are introduced, as in unison they will provide the best opportunity to tackle the challenges the lake faces. However, they can be introduced in a phased approach which will allow the maintenance team time to evaluate the impact of each element and develop the most appropriate maintenance regime.
10. It is important to acknowledge that the timing of the delivery of the enabling residential development may have an impact on the scheduling of the introduction of some of the measures proposed by Laguna Science. Therefore, there will be close liaison with the Council's Project Team to ensure there is no detrimental impact on the proposed works or the development. In particular, the enabling residential development may impact on the introduction of the proposed aeration system. Therefore, work on that element will proceed once a clearer picture of the developers work programme has evolved.
11. A final decision on the timing and need to introduce an aeration system can be taken in late 2017/early 2018 once the other measures have been introduced and the timetable for the enabling residential development is known.
12. Works are expected to cost up to £150,000. S106 payments are due from the agreed enabling housing development attached to the country park but the Council will need to consider forward funding to ensure that the first phase of works are provided for summer 2017.
13. There is an existing annual maintenance budget for the upkeep of the lake of £15,000. At this stage it is anticipated that the ongoing maintenance requirements for the proposed aeration system and weed cutting/removal will be maintained within that budget. However, as the future maintenance costs are estimated at this stage, expenditure will be closely monitored to assess whether this revenue budget is appropriate.
14. In addition Laguna Science have recommended continuing with the water quality monitoring programme the Council already has in place (ensuring water samples are taken from the most appropriate locations in the lake) which is considered to be an essential part of the safe operation of the lake and evaluation of the benefits of proposed works.
15. The Laguna Science report also suggests managing the fish stocks in the lake more proactively and restricting livestock access to the lake. The Council will therefore work closely with Mid-Kent Fisheries and Kent Wildlife Trust respectively to address these issues (the livestock have already been removed).

Implications and Risk Assessment

16. The aquatic weed will continue to grow and regularly interrupt usage of the lake if it is not addressed. This would have a negative impact on the Boroughs ability to provide a quality leisure facility on a consistent basis.
17. The aquatic weed is currently cut and removed to the lake side on two or three occasions per year during the growing season. This work is dependant on the availability of specialist contractors who provide the necessary equipment; and the seasonal growth rate, which is affected by the weather and levels of nutrients in the lake.
18. By introducing measures aimed at reducing the level of weed growth in the lake and adapting our approach to cutting and removing it from the lake side, we believe it will be possible to maximise the benefit of the existing maintenance budget used for weed clearance operations.
19. Introducing an aeration system into the lake and regularly applying an approved blue dye into the water column will significantly reduce the development of the algae, keeping it below potentially harmful levels.
20. The use of dye in the lake (which is based on a food colourant) will require approval from the Environment Agency (EA). Discussions have commenced with the EA locally as it is known they have approved the use of this dye in other similar lakes (Bray Lakes in Berkshire for example)
21. It is possible that the recommendations and proposed actions will not deliver the anticipated improvements. However, significant research has been undertaken with knowledgeable consultants and other lake operators to reduce that risk. A programme of water quality monitoring and practical measures will continue to ensure the algal bloom growth is monitored and controlled as far as reasonably possible.
22. A programme of benchmarking with other recreational lakes and stakeholders such as the Environment Agency and Royal Yachting Association (who have indicated an interest in developing Conningbrook Lakes as a formal training venue) will be developed to gauge the success of the proposed works.

Equalities Impact Assessment

23. At this stage it is believed that the proposed works will have a positive impact on all users of the Conningbrook Lakes user groups.

Consultation Planned or Undertaken

24. The proposals have been presented to the Conningbrook Lakes Country Park & Victoria Park Steering Group, who supported this approach. Similarly, the proposals have been discussed with Mid Kent Fisheries (one of the operating partners at Conningbrook Lakes Country Park) who also support the approach taken.

25. Further consultation is planned with other operating partners who use the lake and Ashford Leisure Trust who manage the bookings and event programme there as the detail of the proposed measures is developed. Kent Wildlife Trust have been advised of the proposals and asked to be kept informed of discussions relating to the potential impact on fish stock and wildlife at the site. TriSpirits who organise the triathlon events support the proposals to improve the water quality.
26. Discussions will also be concluded with the Environment Agency as noted above.

Other Options Considered

27. The aquatic weed growth and blue-green algae are naturally occurring issues, the recommended interventions (and contractors we intend to seek quotations from for the works) have been used in different locations to address similar issues. Therefore, the request to proceed with the proposed measures is presented as the preferred option.
28. The first alternative option would be not to introduce any of the proposed measures. However, this approach is not recommended as it would mean there will be a significant risk of the lake facing further extended periods of closure in the years ahead. A summary of current and potential future usage is provided in **Appendix II** for information.
29. The second alternative option would be only to introduce some of the measures recommended by Laguna Science. Although, each individual intervention will have a limited impact on the water quality on their own, it is the combination of all of the proposed interventions that will have the greatest impact with the highest chance of ensuring the lake is regularly available for use.
30. It should be noted that the Laguna Science report considered other potential interventions such as the introduction of barley straw and ultrasonic devices into the lake to tackle the algae and aquatic weeds. However, these were discounted as not being suitable for use at Conningbrook Lakes because of the scale of the lake and limited evidence to support usefulness the technology.
31. The report also suggested the introduction of lake mats to prevent plant growth at key points around the lake. However, after further discussion it was agreed these would have limited beneficial impact and would not be cost effective at this time.

Reasons for Supporting Option Recommended

32. It is important to the Council, local residents and stakeholders to ensure as far as possible that the lake is available for use on a consistent basis to help club development and establish the park as a sport and leisure venue.
33. Laguna Science was appointed to undertake a baseline survey of the lake and propose ongoing solutions to problems recently encountered. The Laguna Science report indicated a range of inter-related management issues

are impacting on the aesthetic quality, water quality, ecological functioning and amenity use of the water. No single action will resolve the management issues with the lake and it will take a combination of measures and a proactive ongoing maintenance strategy to achieve the desired objectives.

34. The proposals from Laguna Science are supported by research undertaken by Officers who have consulted with operators of other water sports facilities.
35. Therefore, as noted above in the main body of the report, it is recommended that the full suite of interventions is introduced in a phased approach.

Next Steps in Process

36. If the project funding is approved the next steps will be to complete consultation with user groups and stakeholders; complete negotiations with the Environment Agency; undertake a tendering exercise for the specialist aeration equipment and initiate the implementation of the various interventions recommended by Laguna Science.
37. Key Milestones for the introduction of the proposed measures will be:
 - Pursue Environment Agency approval for applying blue dye (March 2017)
 - Introduction of new aquatic plants (April 2017)
 - Application of chalk dressing (April 2017)
 - Application of blue dye (April 2017)
 - Complete a specification for the Aeration System (June 2017)
 - Ongoing weed cutting and harrowing (June to September 2017)
 - Complete a procurement exercise for the Aeration System (September 2017)
 - Complete installation of aeration system (Spring 2018)

Conclusion

38. If approved, this improvement to the water quality for local clubs and users will make a positive contribution to the Boroughs leisure facilities.

Portfolio Holder's Views

39. It was disappointing that last summer we had to cancel several events at the Conningbrook Lakes because of the problems described in this report. It is essential for the Council to take steps to resolve these problems to enable the various water-based sports to take place, such as sailing and kayaking, so that residents of all ages can learn new skills and have an enjoyable time with new sports in the countryside.

Contact and Email

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Conningbrook Lakes Country Park – Water Quality Report

Appendix I

Measures proposed by Laguna Science

1. Introduction of an aeration system A diffuser based aeration system designed to increase oxygen levels in the lake and reduce the growth of blue-green algae by “mixing” the water.	£75,000 to £90,000
2. Purchase and planting of aquatic plants Introduce additional marginal aquatic plants and lilies around the perimeter of the lake to reduce sunlight into the lake to help combat both aquatic weed and blue-green algae.	£20,000
3. Purchase and apply a chalk dressing Two applications of finely powdered chalk to aid with settlement of silt “floc” cloud and enhance breakdown of organic material, closely linked to the installation of the aeration system.	£14,000
4. Purchase and apply blue dye Application of blue dye to inhibit plant and filamentous algae growth.	£4,000
5. Harrowing & harvesting aquatic weeds Regular weed cutting and removal as well as “harrowing” of the lake bed in the central areas of the lake to reduce weed re-growth.	£8,000
6. Contingency	£14,000
Total	£150,000*

*Individual costs are indicative at this stage.

Conningbrook Lakes Country Park – Water Quality Report

Appendix II

2016 usage of the main lake

Conningbrook Sailing Club.	Used daily.	150 members
Tri-Spirits (Triathlon).	Weekly training.	100 members. 6 events per year x 300 people
Pirate canoe club.	Weekly use.	20 members.
John Wallace Academy.	Weekly use.	10 students.
Kent Scouts. Most weekends for 8 months of the year.		30-40 at a time.
Fishermen.	Daily.	5-10 per day (and overnight)
Children's groups and visits – nature walks etc. weekly.		10-15 at a time.
Kent Wildlife Trust. Nature walks and volunteers.		20+ attendees
Green Gym, health walks.	Monthly.	20+ attendees

Potential extra usage (new)

- Sea cadets. Every other weekend for 8 months of the year. 100 members.
- Pay & Play Canoe club. Daily for 10 months of the year.
- Windsurfing & Paddleboarding. Daily
- Regatta's and waterbased events. 6 per year. 100 plus participants. 400+ spectators.
- Regular regional events hosted by Tri-Spirits.
- At least one local charitable organisation are currently considering using the lakes for a series of regular fund raising activities over the next five years.

Equality Impact Assessment

1. An Equality Impact Assessment (EIA) is a document that summarises how the council has had due regard to the public sector equality duty (Equality Act 2010) in its decision-making. Although there is no legal duty to produce an EIA, the Council must have **due regard** to the equality duty and an EIA is recognised as the best method of fulfilling that duty. It can assist the Council in making a judgment as to whether a policy or other decision will have unintended negative consequences for certain people and help maximise the positive impacts of policy change. An EIA can lead to one of four consequences:

- (a) No major change – the policy or other decision is robust with no potential for discrimination or adverse impact. Opportunities to promote equality have been taken;
- (b) Adjust the policy or decision to remove barriers or better promote equality as identified in the EIA;
- (c) Continue the policy – if the EIA identifies potential for adverse impact, set out compelling justification for continuing;
- (d) Stop and remove the policy where actual or potential unlawful discrimination is identified.

Public sector equality duty

2. The Equality Act 2010 places a duty on the council, when exercising public functions, to have due regard to the need to:

- (a) Eliminate discrimination, harassment and victimisation;
- (b) Advance equality of opportunity between persons who share a relevant protected characteristic and persons who do not share it;
- (c) Foster good relations between persons who share a relevant protected characteristic and persons who do not share it (ie tackling prejudice and promoting understanding between people from different groups).

3. These are known as the three aims of the general equality duty.

Protected characteristics

4. The Equality Act 2010 sets out nine protected characteristics for the purpose of the equality duty:

- Age
- Disability
- Gender reassignment
- Marriage and civil partnership*
- Pregnancy and maternity
- Race
- Religion or belief
- Sex
- Sexual orientation

*For marriage and civil partnership, only the first aim of the duty applies in relation to employment.

Due regard

5. Having 'due regard' is about using good equality information and analysis at the right time as part of decision-making procedures.

6. To 'have due regard' means that in making decisions and in its other day-to-day activities the council must consciously consider the need to do the things set out in the general equality duty: eliminate discrimination, advance equality of opportunity and foster good relations. This can involve:

- removing or minimising disadvantages suffered by people due to their protected characteristics.
- taking steps to meet the needs of people with certain protected characteristics when these are different from the needs of other people.
- Encouraging people with certain protected characteristics to participate in public life or in other activities where it is disproportionately low.

7. How much regard is 'due' will depend on the circumstances. The greater the potential impact, the higher the regard required by the duty. Examples of functions and decisions likely to engage the duty include: policy decisions, budget decisions, public appointments, service provision, statutory discretion, decisions on individuals, employing staff and procurement of goods and services.
 8. In terms of timing:
 - Having 'due regard' should be considered at the inception of any decision or proposed policy or service development or change.
 - Due regard should be considered throughout development of a decision. Notes shall be taken and kept on file as to how due regard has been had to the equality duty in research, meetings, project teams, consultations etc.
 - The completion of the EIA is a way of effectively summarising this and it should inform final decision-making.
- The duty is a non-delegable one. The duty will always remain the responsibility of the public authority.
 - The duty is a continuing one so that it needs to be considered not only when a policy, for example, is being developed and agreed but also when it is implemented.
 - It is good practice for those exercising public functions to keep an accurate record showing that they have actually considered the general duty and pondered relevant questions. Proper record keeping encourages transparency and will discipline those carrying out the relevant function to undertake the duty conscientiously.
 - A public authority will need to consider whether it has sufficient information to assess the effects of the policy, or the way a function is being carried out, on the aims set out in the general equality duty.
 - A public authority cannot avoid complying with the duty by claiming that it does not have enough resources to do so.

Case law principles

9. A number of principles have been established by the courts in relation to the equality duty and due regard:
 - Decision-makers in public authorities must be aware of their duty to have 'due regard' to the equality duty and so EIA's must be attached to any relevant committee reports.
 - Due regard is fulfilled before and at the time a particular policy is under consideration as well as at the time a decision is taken. Due regard involves a conscious approach and state of mind.
- A public authority cannot satisfy the duty by justifying a decision after it has been taken.
- The duty must be exercised in substance, with rigour and with an open mind in such a way that it influences the final decision.

The Equality and Human Rights Commission has produced helpful guidance on "Meeting the Equality Duty in Policy and Decision-Making" (October 2014). It is available on the following link and report authors should read and follow this when developing or reporting on proposals for policy or service development or change and other decisions likely to engage the equality duty. [Equality Duty in decision-making](#)

Lead officer:	Len Mayatt
Decision maker:	Cabinet
Decision: <ul style="list-style-type: none"> • Policy, project, service, contract • Review, change, new, stop 	<p>Project to improve the quality of water in the main lake at Conningbrook Lakes Country Park.</p> <p>To approve funding for the proposed works and provide delegated authority to deliver the suggested works.</p>
Date of decision: The date when the final decision is made. The EIA must be complete before this point and inform the final decision.	9 th February 2017
Summary of the proposed decision: <ul style="list-style-type: none"> • Aims and objectives • Key actions • Expected outcomes • Who will be affected and how? • How many people will be affected? 	<p>This report presents the case for introducing a range of measures to improve the quality of the water at Conningbrook Lakes Country Park, so enabling the ongoing establishment of the lake as a key water sports facility for the Borough.</p> <ol style="list-style-type: none"> I. Approve the introduction of a range of measures aimed at reducing the levels of active blue-green algae and invasive aquatic weed in the lake. II. Approve forward funding of up to £150,000 to be drawn down on a phased approach over the next two years. III. Delegate authority to the Head of Culture and the Head of Finance in consultation with the Portfolio Holder for Culture, Leisure, Environment & Heritage to take any further actions required to deliver these recommendations. <p>All users of the lake will be affected, as the proposed works will improve the quality of the water, making the water safer for them.</p> <p>Over the course of a year there will be in the region of 1000 users of the main lake.</p>
Information and research: <ul style="list-style-type: none"> • Outline the information and research that has informed the decision. • Include sources and key findings. 	<p>Laguna Science were appointed to undertake a baseline assessment of the water quality and to provide proposals to remedy the problems currently encountered with blue-green algae and aquatic weed.</p> <p>They have concluded there is a problem with those two specific issues, which need to be addressed to improve the water quality and allow greater use of the lake as a water sports facility.</p> <p>Laguna have proposed a range of measures to facilitate those improvements as described in the Cabinet Report.</p>
Consultation: <ul style="list-style-type: none"> • What specific consultation 	Key officers from Cultural Services have consulted with the

<p>has occurred on this decision?</p> <ul style="list-style-type: none"> • What were the results of the consultation? • Did the consultation analysis reveal any difference in views across the protected characteristics? • What conclusions can be drawn from the analysis on how the decision will affect people with different protected characteristics? 	<p>Conningbrook Lakes Country Park & Victoria Park Steering Group and the Environment, Conservation & Heritage Task Group have both received presentations on the Laguna Science report and supported the proposals.</p> <p>Similarly, the proposals have been discussed with Mid Kent Fisheries (one of the operating partners at Conningbrook Lakes Country Park) who also support the approach taken.</p> <p>TriSpirits (triathletes), Kent Wildlife Trust (KWT) and the Environment Agency (EA) have also been advised of the proposals.</p> <p>To date the response to the proposals has been supportive, although the EA will need to provide specific approval for the introduction of blue dye. KWT would like some further information on the proposals relating to managing the fish stock and the impact of wildfowl on the water quality.</p> <p>The decision will have no impact on people with different protected characteristics.</p>
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Assess the relevance of the decision to people with different protected characteristics and assess the impact of the decision on people with different protected characteristics.

When assessing relevance and impact, make it clear who the assessment applies to within the protected characteristic category. For example, a decision may have high relevance for young people but low relevance for older people; it may have a positive impact on women but a neutral impact on men.

Protected characteristic	Relevance to Decision High/Medium/Low/None	Impact of Decision Positive (Major/Minor) Negative (Major/Minor) Neutral
<u>AGE</u> Elderly	MEDIUM	POSITIVE
Middle age	MEDIUM	POSITIVE
Young adult	MEDIUM	POSITIVE
Children	MEDIUM	POSITIVE
<u>DISABILITY</u> Physical	MEDIUM	POSITIVE
Mental	MEDIUM	POSITIVE

Sensory	LOW	NEUTRAL
<u>GENDER RE-ASSIGNMENT</u>	NONE	NEUTRAL
<u>MARRIAGE/CIVIL PARTNERSHIP</u>	NONE	NEUTRAL
<u>PREGNANCY/MATERNITY</u>	NONE	NEUTRAL
<u>RACE</u>	NONE	NEUTRAL
<u>RELIGION OR BELIEF</u>	NONE	NEUTRAL
<u>SEX</u> Men	NONE	NEUTRAL
Women	NONE	NEUTRAL
<u>SEXUAL ORIENTATION</u>	NONE	NEUTRAL

Mitigating negative impact: Where any negative impact has been identified, outline the measures taken to mitigate against it.	N/A
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Is the decision relevant to the aims of the equality duty?	
Guidance on the aims can be found in the EHRC's Essential Guide , alongside fuller PSED Technical Guidance .	
Aim	Yes / No / N/A
1) Eliminate discrimination, harassment and victimisation	YES
2) Advance equality of opportunity between persons who share a relevant protected characteristic and persons who do not share it	YES
3) Foster good relations between persons who share a relevant protected characteristic and persons who do not share it	YES

Conclusion:	
<ul style="list-style-type: none"> Consider how due regard has been had to the equality duty, from start to finish. There should be no unlawful discrimination 	Due regard has been made to the equality duty, from start to finish of the consultation and scoping process. The quality of the water in then lake will have the same impact on all users of the lake not any specific grouping (protected characteristics or not)

<p>arising from the decision (see guidance above).</p> <ul style="list-style-type: none"> • Advise on whether the proposal meets the aims of the equality duty or whether adjustments have been made or need to be made or whether any residual impacts are justified. • How will monitoring of the policy, procedure or decision and its implementation be undertaken and reported? 	<p>There will be no unlawful discrimination arising from the decision</p> <p>The proposal meets the aims of the equality duty as all sections of the community including those with protected characteristics will benefit from the enhancements to the centre.</p> <p>Monitoring of the policy, procedure or decision and its implementation be undertaken and reported will be undertaken by the partners.</p> <p><i>The council's revised policy register will assist services to meet this</i></p>
<p>EIA completion date:</p>	<p>24/1/17</p>