Calne Town Council

Full Council
17/06/2019
River Marden modelling by Bristol Avon Rivers Trust

Report of the Head of Operations

1. Purpose of the report

The purpose of this report is to update members as resolved at the Full Council meeting of 8/4/2019.

It is requested that members support the initiative presented to Full Council on 8th April 2019 by Bristol Avon Rivers Trust (BART), a charitable foundation.
It should be noted that the River Marden is not the responsibility of Calne Town Council. The river, however, plays a major environmental and community part in the design of the town centre and is enjoyed by local people and visitors alike.

2. Background

The River Marden is the only chalk stream to feed into the River Avon, therefore its' health is of major importance.
As members will be aware, BART has been active within the Calne area of the River Marden for some time, working closely with Castlefields Canal & River Park Association. (CARP) and Calne Town Council.
BART exists and helps to protect and improve rivers in many ways including:

- Re-naturalising riverside and in-channel habitat to increase diversity and numbers of fish, flora and wildlife.
- Collaborating in or managing agricultural land management projects for river water quality and habitat benefits.
- Bringing people together who have a common interest in a healthy functioning river system.
- Identifying funding sources and matching them to known local needs.
- Providing education to help people better understand and protect their rivers

BART has been involved in riverfly studies, installation of flow diverters and tree planting on the Marden to name but a few of their efforts.
BART works closely with the Environment Agency and other partners.

At the Full Council meeting of 8/4/2019 it was proposed by Cllr. Hill, seconded by Cllr. Rounds and RESOLVED:
To defer decision at this time and that funding should not be allocated to carry out river modelling on the River Marden until further information is available as to the detail of costings, benefits to the community and which other councils are able to contribute.

3. Current Situation

Flow rates have significantly decreased over the last few years, leading to sections of the river to become heavily silted and with little flow. There are areas where trees have collapsed and have not been removed thus causing blockages or flow restrictions. Concerns have also been expressed by local residents, such as the following email sent to BART: *'The town part of the Marden is already at its summer level and I'm very worried! The housing development plan, underway now, and for the next ten years spells disaster for the river if it's to supply all the new properties. Can BART please come and look at the river as the fish count has also nosedived in the past three years. Areas that are usually full of rejuvenating ranunculus are utterly barren right now too'.*

It is therefore proposed that river modelling be carried out to enable a regeneration programme to be put in place.

River modelling – using software packages approved by the Environment Agency enables the accurate representation of the physical characteristics and associated structures (bridges, weirs, culverts) of a river channel, with estimated river flows (including seasonal/exceptional events) to assist in quantifying the potential extent of floods from rivers and watercourses as well as low flow issues.

One of the key practical applications of river modelling is it's contribution to the planning process by providing greater detail and accuracy around flood risk scenarios and the impact on new development and potential changes to the river flow. These models are used to satisfy concerns that a proposed development or the impact of removing an existing weir, for example, may increase flood risk elsewhere and help highlight the development's and the river's future sustainability.

The modelling could allow features such as flow deflectors etc. to be installed, weirs to be modified or removed and river bed levels and water level changes to be considered. All of which have the potential to enhance the overall long-term health of the river, including mitigating for low flow conditions, such as those currently experienced on the Marden

Project detail

Costing	Cost	Description
Project management & the creation of an opportunities & challenges report by BART	£3,600	Managing the creation of the model and creating a GIS map and report detailing opportunities to improve the health of the Marden along its entire length (including walkover surveys and a review of existing data.
Travel costs	£560	For walkover surveys, costed at 45p per mile

Survey materials & communications	£100	Hosting online GIS map & other project communications
Updating the 2014/16 model created to inform the updated flood mapping for both Chippenham and Calne (delivered by Eden Vale Young)	£600	The small cost will enable checks to be carried out to confirm that the model will work using the 2019 versions of the flood modelling software.
To make the model run (steady state) at Q70 flows as defined by the gauge at Stanley (delivered by Eden Vale Young)	£4000	As there are a number of mills on the Marden (mostly disused I believe), there are also corresponding bypass channels/leats which will have to be represented and the model is not keen on having no flow at all in the river channels.
Total	**£8860**	

The photograph below shows the River Somer running through Midsomer Norton and is an example of what can be achieved from a previously modified and habitat lacking channel (this channel would have originally resembled the River Marden alongside The Wharf before work was undertaken). This would also carry on from the restoration works previously achieved in the town centre, which have been a great success on a social and ecological level.

It should be noted that this report deals only with the request for funding for river modelling and the reporting of recommendations. There will be further costs associated with the implementation and recommendations of the modelling.

4. Financial Implications

The cost of the river modelling and for a Marden 'Opportunities and challenges' document to be produced is £8,860. This cost is however for the majority of the length of the Marden from Quemerford to its' confluence with the River Avon, north-east of Chippenham. The document produced would include costed improvement opportunities on the river.

It is suggested that a contribution is made by the Town Council on the condition that other avenues of funding are also explored, including via other Parish Councils (work in progress). However, it should be noted that Calne Town Council is the largest council along the length of the river, and Wiltshire Council have already made a large contribution in the form of creating the existing model which is to be updated and modified to calibrate it to low flow issues as well as flood events. We are also keen to prevent a 'chicken and egg' scenario and therefore hope that the Town Council will be able to put forward the promise of funding so that conversations can be had with other Councils.

5. Community and Environmental Implications

The implications to the health of the river, community and environment would be hugely beneficial to the town should any proposed modelling and implementation of recommendations proceed.

6. Biodiversity Implications

Calne Town Council has a duty to promote the best sustainable environment and protect it for us and future generations.

7. Crime and Disorder Implications

There are no perceived crime & disorder implications.

8. Risk Assessment

A full and thorough risk assessment will be carried out prior to the modelling and any surveys taking place.

9. Recommendations

Members are asked to consider the contents of this report and RESOLVE :

to request a funding amount of up to a maximum of £8860 to carry out river modelling on the River Marden and produce a detailed costed improvement opportunities document, on condition that other avenues of funding are also explored.

It is asked that funding be requested from either S106 or CIL monies**.**