

# **Save Dinas Powys Woods and Protect Homes from Flooding**

## **Consultation Response to Natural Resources Wales' Dinas Powys Flood Risk Management Outline Business Case**

**20 March 2020**

**Save Dinas Powys Woods and Protect Homes from Flooding**  
**20 March 2020 - Consultation Response to Natural Resources Wales’**  
**Dinas Powys Flood Risk Management Outline Business Case**

## **SUMMARY**

NRW has issued a draft Outline Business Case and has opened a Consultation Process to support the construction of flood defences in Dinas Powys.

This is the response of the Save Dinas Powys Woods & Protect Homes from Flooding the aim of which is:

- To protect the natural amenity of the Cadoxton valley, in opposition to NRW’s 2017 proposal to construct a large dam in Cwm George;
- To support the concerns of local residents living in areas prone to flooding, by ensuring that measures are taken to protect them from flood.

Our response to NRW’s draft Outline Business Case is:

- To restate our opposition to a large storage dam in Dinas Powys;
- To suggest a combination of measures titled “Natural Flood Management Plus” (“NFM+”) to provide a good level of flood protection for Dinas Powys.

NFM+ means:

- Initiating a programme of Natural Flood Management activities on all tributaries of the Cadoxton above Dinas Powys;
- Improving the monitoring of flow and height on the Cadoxton in Dinas Powys to support a risk-based, evidence-led response to local flood risk;
- Effecting measures to protect the most flood prone properties in Dinas Powys;
- Eradicating obstacles to flow from Dinas Powys and onto the Moors;
- Protect the Eastbrook by constructing leaky dams in the oversized Eastbrook channel;
- Should the above not effectively manage flood risk, re-examine the options.

Our approach is consistent with that of other important local stakeholders, including Woodland Trust Wales and Michaelston le Pit & Leckwith Community Council. It was supported by all four candidates standing election in the Vale of Glamorgan constituency in last December’s General Election, and more recently by the Assembly Member for the Vale of Glamorgan at a Public Meeting on 24 February 2020. 370 people attended that meeting, and 97% of the 170 people returning a survey form voted against a dam and for NFM+.

We call upon NRW:

- To respond to this overwhelming mandate by establishing an inclusive NFM+ programme for the upper Cadoxton, involving a wider range of local stakeholders and experienced NFM experts;
- To be mindful of the specific points we have raised below in response to the consultation on NRW’s draft Outline Business Case.

<b>CONTENTS</b>	<b>PAGE</b>
<b>Introduction</b>	<b>3</b>
<b>Our Preferred Options</b>	<b>4</b>
<b>Feedback on the Combination Options</b>	<b>8</b>
<b>Matters arising from other issues raised in the OBC</b>	<b>8</b>
<b>Relationship with Government, Local Authority &amp; NRW Regulations and Objectives</b>	<b>12</b>
<b>Moving Forward</b>	<b>13</b>

## **INTRODUCTION**

The OBC considers twelve options in its long list, and has included five in its short list. The latter appear subsequently in the text as “Measures”.

We propose below how options which may not have made it to the short list may be combined with others into a single measure.

Page 2 of the OBC states that its intention is to inform the Community of the flood risk, and options to manage the issue; and that following Community and stakeholder feedback a final business case will be produced.

But on Page 51 the following contradictory statement appears:

*“Based on our latest assessments, the risks and what we’ve heard from stakeholders and the community, we do not think that there is currently a workable scheme to deliver a community-wide solution to manage the flood risk in Dinas Powys. Hence further funding would not be invested in the next stage, to undertake detailed design and obtain approvals, and complete a Full Business Case”*

There is a risk of flooding in Dinas Powys, and the community is determined that appropriate solutions are found. Given that the only solution reasonably guaranteed to provide a 1% level of flood protection (the Upstream Storage Dam) is not acceptable on environmental and social grounds we suggest that NRW develop proposals that will provide a level of flood resilience as close to 1% as possible, using NFM+.

By definition, a 1% (or odds against of 100:1) event is currently unlikely to occur, but the recent events of Storm Dennis and Storm Jorge show two important things:

- If a 1% event hits population centres in Wales there is likely to be expensive flooding. The cost of clearing up after Storm Dennis in South East Wales may rise to close to £200 million.
- If a less extreme event hits Dinas Powys (such as the event of 28 February 2020) it might not directly flood properties but it will cause distress in Sunnycroft and Southra Park.

## OUR PREFERRED OPTIONS - THE WAY AHEAD

The information in our response below explains why we would like NRW to refine and improve the following options, in combination, by further research and engagement with experts and community members:

- Option 1: Natural Flood Management in the Cadoxton catchment.
- Option 2: Channel storage in oversized channels upstream of Eastbrook.
- Option 4: Flood defences along Cadoxton River in Dinas Powys.
- Option 5: Short flood wall to St Cadoc's Avenue.
- Option 6: Improve conveyance at A4055 Cardiff Road bridge.
- Option 7: Heavy channel maintenance of Cadoxton River and East Brook.

We would ask NRW to do this in partnership with the local community, in line with Welsh Government guidance on Community Engagement for flood relief schemes.

If a combination of the above options proves inadequate to manage flood risk in 10 years' time, the option of a dam could be revisited.

## DISCUSSION OF THE OPTIONS IN TURN

### Option One: Natural Flood Management in Cadoxton catchment (OBC Page 16)

The OBC states that NFM will reduce the peak flow in Dinas Powys by 10-15% and protect against a 3.33% (1:30) AEP event; but the proposal offered is unfit for purpose, because it is limited in scope and important opportunities have not been considered.

Documentation on NFM for the Dinas Powys Flood Risk Management Scheme (JFLOW Modelling Analysis - JBA Associates, 28 November 2017, and Cadoxton Opportunity Pond Storage RP100 - unknown author or date), consists only of:

- leaky dams in the East Brook and Mill Farm Brook tributaries,
- a number of computer modelled Rainfall or Run Off Attenuation Features (RAFs; section 6.2 of the JFLOW report) and
- some similarly computer modelled soil improvement proposals (Section 7 of the JFLOW report).

But there is no provision for measures widely in use, and in our view indispensable, for an NFM project including:

- Riparian and landscape tree planting in each of the tributaries of the Cadoxton, especially the Wrinstone and Bullcroft Brook tributaries.
- Reprofilling land in the Wrinstone or Bullcroft tributaries (or on the Cadoxton itself in and below Michaelston le Pit) to create bunds to retain water.

- Building leaky dams in the Wrinstone or Bullcroft tributaries (or on the Cadoxton itself in and below Michaelston le Pit).
- Modelling the potential for upstream offline storage using a RAF in the field below Felin Dawel, across the stream from Lower Barns in MLP.
- Modelling the potential for downstream offline storage using a RAF in the Dinas Powys Moors (along with other potential offline storage options still to be explored).
- The use of pre-existing flood plains including the lawns in upper Michaelston le Pit adjacent to the Bullcroft, and the fields at Wrinstone Farm at the headwaters of the Cadoxton.

An effective NFM project would include most if not all the above, and would provide a greater level of protection than that which appears in the OBC while at the same time be consistent with the green agenda and be a contribution to the resistance to global warming.

With regard to costings, the entire Stroud Sustainable Drainage Scheme was delivered within a cost envelope of under £500,000.

As an NFM project alone would take time to reach peak effectiveness, and alone would be unlikely to protect from a 1:100 event, other measures would be necessary – hence the notion of NFM+.

A properly scoped proposal, costed with support from an advisor who has actually delivered NFM on the ground would encourage involvement and support from the Community, local landowners, and the Woodland Trust. This is happening across England, most notably recently in the establishment of the ‘Source to Sea’ partnership on the River Don ([www.gov.uk/government/news/launch-of-major-source-to-sea-natural-flood-management-drive](http://www.gov.uk/government/news/launch-of-major-source-to-sea-natural-flood-management-drive)). Led by the Environment Agency, the partnership includes four local authorities, The Sheffield City Region, Forestry Commission, four biodiversity charities and the Woodland Trust. This is the kind of partnership we would like to see developed for the Cadoxton catchment.

### **Option Two: Channel storage in oversized channels upstream of Eastbrook (OBC Page 16)**

The Eastbrook stream runs through a series of oversized channels which represent a major opportunity for water storage. The OBC envisages installing barriers to flow, allowing these channels to fill in extreme conditions.

This option is cost effective (CBR 1.77) and would protect 44 homes and 4 businesses to the 1% level. Although it would not be a community wide solution, it would reduce the flow into the Cadoxton during extreme events.

### **Option Three: Upstream flood storage on Cadoxton River (OBC Page 17)**

Our objections to this option were expressed in a Briefing Paper sent to NRW’s Chief Executive on 19 December 2019 for circulation to the NRW Board members. The issues raised in pages 5 to 11 of the Briefing Paper (available at <http://savedinaspowyswoods.co.uk/wp-content/uploads/2019/12/2019-11-22-Final-version-of-Briefing-paper-Nov-2019.pdf>).

Our response has not changed, especially in view of the opposition of an overwhelming

majority of the Community. As things stand Dinas Powys does not want the dam.

The OBC recognises the numerous drawbacks to this option, but suggests various mitigation procedures, none of which appear to have been costed.

More work is required by NRW on the form and costs of mitigation (insofar as it is possible), the costs and benefits of the options for access to the site, the effects of construction on traffic flow, social amenity and village life. The costs/benefit ratio which appears in the OBC probably does not fully represent the cost effectiveness of the final delivered scheme.

#### **Option Four: Flood defences along Cadoxton River in Dinas Powys (OBC Page 17)**

The OBC envisages this option as a stand-alone solution to a 1% flood risk.

In combination with NFM+ and option 2, it is unlikely that flood walls would be necessary along the full 2km length envisaged.

Moreover, community concern is greatest during more common and lesser events, protection against which is of greater priority in the immediate future. Protection of homes in St Cadocs Ave (see below), Elm Grove Place and possibly other localised sites is required now rather than at some future and unspecified time.

#### **Option Five: Short flood wall to St Cadoc's Avenue (OBC Page 18)**

Of all the properties in Dinas Powys, a short wall along the back of St Paul's Close would provide protection to the more common and less severe events mentioned above.

We recognise that the two foregoing options will not deliver a community-wide solution, but when taken in combination with a range of other options they will contribute to delivering the most acceptable risk-based solution for Dinas Powys.

Observation of near flooding events shows that a 1.5m high wall would probably not be needed for the type of events discussed above.

#### **Option Six: Improve conveyance at A4055 Cardiff Road bridge (OBC Page 18)**

During observation of near flooding events residents have noted that the river level rises to a point higher than the opening of the bridge and that water then backs upstream. Local residents and other members of the Community are convinced that the bridge constitutes a "choke point" in the exit of flood water from the river. The OBC uses the term "throttle".

JBA Associates have produced the discouraging technical note "Cardiff Road Bridge Economics" (17 January 2020) but failed to model the eradication of the double bend each side of the river, which, in addition to the height of the culvert, is an obstacle to flow at the A4055. It has therefore not addressed our query or removed our objection.

Our colleague, and stakeholder, David Watts, has raised a number of relevant points in his email to the Scheme Project Manager at 17:34 on Wednesday 26 February 2020, and in his separate response to the OBC, which reflect our own concerns about the current proposal.

We concede that resolving this issue might be expensive and cause some traffic disruption, but ignoring it excludes a potential solution to a problem widely aired by those experiencing

it during near flood events.

Our information suggests that renewal of the bridge, although an ideal solution, on cost grounds is not the answer, but the channel both upstream and downstream, should be realigned to improve flow through the culvert. This proposal should include dredging of silt accumulations and heavy channel maintenance to avoid risk to Caer Oddyn.

We have received a suggestion that pumping of water at this point into the flood plain south of the village could provide an alternative. It has not been considered in the OBC and we would suggest that it should be scoped and brought forward to the long list.

We have also learnt that it may be possible to correct the poor hydraulics within the Cardiff Road Bridge culvert by installing precast concrete wall units in a realigned channel both upstream and downstream of the bridge structure. This would promote smoother flow in and out of the bridge thereby reducing the afflux across it and increasing its capacity.

Disruption to traffic using the A4055 would be minimal and only occur when employing a large mobile crane to lift the segments into the riverbed. It should also be cost effective when compared with the demolition and building of a new bridge.

The decision to exclude the A4055 road bridge at an early stage from the short list on the grounds of cost and inconvenience seems to have resulted in the notion that nothing can be done to improve conveyance of water from Sunnycroft into the Moors, and that such work would not be required if a dam were built. Further work by NRW, taking into account the failure of JBA to evaluate the full hydraulic properties of the bridge and its culvert, and other options such as the above, is necessary.

### **Option Seven: Heavy channel maintenance of Cadoxton River and East Brook (OBC Page 18)**

The stretch of the river immediately downstream of the A4055 bridge at Bryn-y-Don and onto the Dinas Powys Moors is rich in silt and vegetation. Improved conveyance of water would provide the benefit of protecting properties in Caer Oddyn. As it contributes to flood risk in Caer Oddyn, an assessment of the potential of this option is called for.

### **Option Nine: Property flood resilience (OBC Page 18)**

Costings provided in the OBC for this option rely on providing property resilience to all homes at risk at considerable expense. However, a risk based approach can be taken to providing resilience to those homes at greater risk of a 3:33% and 1% AEP event, rather than to all 197 homes theoretically at risk of flood. We would like to see a proposal developed that achieves a BCR of greater than one, to be brought back on to the long list for consideration.

## FEEDBACK ON THE COMBINATION OPTIONS (OBC Pages 20 – 23)

We have long been advocating a combination option as a positive way forward. While we believe that some of the smaller options (eg short flood walls and property resilience) may all find a final mix of option, the key options (couple with more effective monitoring arrangements) that we would particularly like to see explored are:

- Full exploration of Option 1: Natural Flood Management in the Cadoxton catchment.
- Option 2: Channel storage in oversized channels upstream of Eastbrook.
- A selective and risk based approach to Option 4: Flood defences along Cadoxton River in Dinas Powys.
- Option 5: Short flood wall to St Cadoc's Avenue.
- A reshaped proposal including reculverting for Option 6: Improve conveyance at A4055 Cardiff Road bridge.
- A proposal focussing on the stretch downstream of the A4055 bridge for Option 7: Heavy channel maintenance of Cadoxton River and East Brook.

## MATTERS ARISING FROM OTHER ASPECTS OF THE OBC

### 1

The point is made (Page 3) that the catchment wide study of the Cadoxton flood risk from its headwaters through Dinas Powys included Sully Moors at Palmerstown (as illustrated in OBC Figure 1-1), but this OBC is concerned only with managing fluvial flood risk to Dinas Powys, because the management of that in the Industrial Area in Palmerstown is now independent of this project.

When the catchment wide study was originally designed, the construction of a dam to manage present day value damages of over £20m (mainly from industrial premises in Barry) might have been seen to be an economically appropriate response. Now that the project purely covers the Cadoxton down to the beginning of the Moors it is disproportionate.

### 2

In the list of objectives (Page 4) it is stated that natural resource management should be incorporated into the proposal. The NFM+ proposal we are advancing is more in harmony with these objectives than the construction of a dam and includes measures more likely to offer a solution than those outlined in the OBC.

### 3

The statement *“The listed sustainability and well-being objectives and priorities will be discussed further within the Economic Case, where they will be considered as part of the options appraisal”* caused us to comment that the Business Case Development Process needs to be adjusted to bring it into line with the current climate emergency and the Wellbeing of Future Generations Act 2015.

For projects of this environmental sensitivity, instead of allowing public money to continue to be spent (over £300,000 in the case of this project) in developing the various cases, the first thing that should happen is an Environmental Impact and Wellbeing Assessment. If this shows that an option is not suitable for development, then all work on this option should cease immediately, the option ruled out, and other options prioritised and explored.

On the same page we note the intention to *“Champion the Welsh environment and the sustainable management of Wales’ natural resources & Improve the resilience and quality of our ecosystems”* but we submit that the NFM+ proposal we are advancing is more in

harmony with these objectives than the construction of a dam.

Similarly (Page 5) the requirements to protect, enhance and value the environment, advance biodiversity, deliver nature based solutions, and take a place based approach are more in keeping with the NFM+ proposal than any of the other options discussed. The intention (Page 7) to contribute to sustainable management of natural resources, biodiversity, and natural processes would also be better fulfilled with NFM+ than with a dam.

In view of the controversy, failure of NRW to convince the Community of the flood risk, and over reliance on modelling, real time monitoring points should be installed along the Cadoxton in Dinas Powys to produce an accurate plan for local flood risk management.

#### 4

The role of stakeholder engagement is considered on page 12 of the OBC.

Welsh Government developed a “Flood Risk Management Community Engagement Toolkit” in October 2011 to guide public bodies in their engagement with local communities on infrastructure projects. There is an irony in that NRW decided to announce the dam as its preferred solution in 2017, prior to effectively engaging public opinion.

The groundswell of local opinion against the construction of a dam is due to the loss of natural amenity, the effects of construction on access roads, and the presence of a large water storage facility so close to the village centre. Even residents of areas with an increased risk of flooding have said that they do not want a dam, but do want a solution to the flood risk.

In January 2020 250 residents in areas considered to be at a risk of flooding were invited to discuss the local sentiment and feelings about a dam or other options. Thirty people attended. Several had been flooded and one brought dramatic photographs of the swollen river threatening his property. This individual expressed the view that the real problem was back up of water due to the choking effect of the Barry Rd bridge. Others thought that the risks were due to high tides. Overall there was little support for a dam upstream.

On 24<sup>th</sup> February 2020 a meeting in Dinas Powis to discussed the OBC. Three hundred and seventy people attended, some were turned away and others were accommodated in a room outside the hall.

NRW presented the OBC; The Woodland Trust presented their position, and a representative of the Campaign discussed NFM options. Our AM Jane Hutt addressed the audience. Members of the audience were invited to speak. There was a strong consensus amongst the speakers in favour of NFM+, and against a Dam.

In a questionnaire completed at the end of the meeting by 170 members of the audience 165 supported NFM+, three abstained and two opposed. No one supported the upstream water storage option, 166 opposed it, there were four non completions or abstentions.

Taking the above into account, as well as events organised last year in the form of guided walks over the site which were attended by several hundred people on each occasion there can be no doubt that Dinas Powys does not want a dam.

The positions of the Community Councils are more nuanced. While the DPCC has expressed support for the Campaign, some councillors are cautious in expressing an opinion. The Michaelston le Pit CC is firmly against the dam and in favour of NFM+.

Other evidence for opposition to the dam is provided in the comments of our 1300 Facebook

group members, Twitter account, letters written by private individuals to NRW CEO, the 340 people attending the “Protest Walk” in September 2019 which included a parliamentary candidate and an Assembly Member, and support from all four parliamentary candidates in December 2019.

In December 2018 NRW sent a questionnaire to residents in the 200 properties considered to be at risk of flooding in Dinas Powys. Of the 45 surveys returned 14 had experienced flooding – although it was not asked if this was internal or external damage. While 26 supported a flood storage option, 15 were opposed or partially supportive. Six property owners supported the flood walls option, with 18 partially in favour and 16 against.

## 5

“Critical Success Factor One” appears on page 14 of the OBC. There is an inherent conflict within the Measurement criteria. Although the proposal for an upstream storage dam could deliver the first criterion (“*manages fluvial risk to a low level, supports Welsh Government Outcomes*”), it is the option least likely to meet the second and third criteria (“*Sustainability & use of natural resources*”).

Thus, neither the Upstream Storage Option nor the Natural Flood Management Option NRW have been compared equally.

## 6

The matter of the Cross Common Rd bridge appears on page 15 of the OBC: (Not to be confused with the A4055 bridge).

*“During the long listing process Vale of Glamorgan Council confirmed that it would remove the old Cross Common Bridge. Hence the option was no longer available to this project and subsequent short list modelling has assumed that this work has been completed to avoid potential double counting of benefits.”*

The Vale of Glamorgan County Council wrote on 28 October 2019 that when they removed the wooden props underneath the bridge in February 2017 their work achieved the hydrological benefit set out in JBA Associates’ 2015 “Phase 2” report. This assertion should be validated by an independent hydrologist, preferably by direct measurement, to ensure that the proper benefit has already been fully delivered.

## 7

The consequences of flooding in terms of properties damaged have been modelled by NRW (Page 29). Although it is widely acknowledged by NRW (and the Woodland Trust hydrologist) that the model contains many uncertainties and that such predictions are likely to be inaccurate, it is conceded that a significant flood risk to lower Dinas Powys exists and that it is likely to rise with global warming. NRW have previously stated that even with a dam, a 1:100 event such as would occur with a rainfall of around 70mm in 13 hours would cause flooding of some homes.

During the heavy rain of 27 and 28 February 2020, when 70mm of rain fell (measured in Dinas Powys), there was very high water in lower Dinas Powys, and the A4055 Bridge was surcharged for approximately 2 hours, but no homes were flooded. Such events, lower risk than 1:100 events, cause a great deal of disruption and concern, and in the absence of a dam would be dealt with by our proposal for NFM+.

## 8

Sustainability and Well Being measures for each of the 5 short listed options appear on page 40 of the OBC which lists the potential effects of the various measures on policy statements and legislation concerning sustainability and wellbeing in table 2-5.

The five measures and their impacts from positive to negative appear below:

Measure	Number Positive	Number Neutral	Number Negative
1 NFM	15	3	0
2 Eastbrook	2	6	3
3 Dam	3	4	5
4 Defences	3	3	5
5 Combination	3	4	7

It will be seen that all but NFM have significant negative effects on these parameters – the positive effects of the dam were “*to reduce the risk to people from hazards*”.

NRW should develop and apply a process for calculating the monetary value of issues such as the planting or felling of trees, damage to plant and animal species, and the emotional wellbeing provided by open spaces

Table 2.5 scores the environmental impact for each shortlisted option using + and – ratings. The ‘dam’ option scores double minus. But these scores are not translated into a value. In the case of the ‘dam’ option, an environmental dis-benefit should reduce the monetary value of the stated benefit from protecting homes.

It is curious to find NRW listing (OBC page 46) the inherent ecological benefits of only one option - the construction of an upstream storage dam. Most of these could be equally or better applied to other options, notably NFM+. It appears that within this option there is provision for spending public money on the improvement of the environment of Cwm George, but not within any of the other modelled options.

The subsequent discussion of the iterative nature of the environmental assessment refers to significant environmental risks associated with a dam, which we believe is the first time such risks have been publicly identified. The risks may be contained in NRW’s ECOR record, but this has not been made publicly available until now – it has previously only been shared with key technical partners.

We reiterate our contention that for a project of this environmental sensitivity, a full Environmental Impact Assessment should be completed at an early stage, and if the risks identified reach a significant level, that option should be deprioritised while other less environmentally damaging options are worked up in detail.

This section also deals with the mitigation hierarchy – avoid, minimise or reduce, and restore/compensate. None of the measures has been costed.

A great deal of effort has been undertaken to propose compensation measures, but compensation is at the bottom of the mitigation hierarchy. It would appear simpler to stick with the item at the top of the hierarchy – “avoid”.

## 9

On pages 49 & 50 of the OBC tables 2-6 & 2-7 summarise costs, benefits, property counts and cost benefit.

It is not understood why these two tables do not quantify the Present Value cost and damages, benefits and benefit cost ratio for Measure 1 (Natural Flood Management).

## 10

The Community, and our Campaign are wary of the reliance by NRW on modelling risks and solutions without validation and calibration. This point was also made by the hydrologist

advising the Woodland Trust.

Whatever the validity of comparing the Cadoxton to the Ely, for example, noting the differences and lengths of their respective catchments, credibility suffers, especially when measurements of flow and volume recently obtained directly from the river differ strikingly from those predicted by the model. It is for this reason that we believe that until NRW can publish real time observations on our river system at different points and at different states of flow, there will continue to be a lack of confidence in the prediction of flood events and their extent.

## 11

On page 51 there appears the statement that *“NRW do not think that there is currently a workable scheme to deliver a community-wide solution to manage the flood risk in Dinas Powys. Hence further funding would not be invested in the next stage, to undertake detailed design and obtain approvals, and complete a Full Business Case.”*

We do not wish NRW to walk away from Dinas Powys, and believe that there is merit in seeking to identify the level of protection that can be achieved through a combination of options that do not unduly damage the environment.

NRW have restricted the specification to the solution of a 1:100 event which would protect lower Dinas Powys from a rare, catastrophic event. Yet the events which occur more commonly, causing less damage and usually none, are the major perceived risks and cause great anxiety and uncertainty amongst a minority of the Community. There is an irony in the fact that for a project to be “good value for money” a lot of damage must be done, but there is value in quality of life, security and peace of mind, and to achieve these measures it is necessary to spend money.

NRW are the experts in the field of flood management, and we look to them to provide solutions acceptable to, and within risks perceived by, the Community.

## **RELATIONSHIP BETWEEN GOVERNMENT, LOCAL AUTHORITY AND NRW REGULATIONS AND OBJECTIVES**

An underlying reason for opposition to the proposal to build a dam is that people have little confidence in how their community and environment are managed.

In particular, the construction of large numbers of homes in and around Dinas Powys has resulted in a variety of disadvantageous effects on quality of life including traffic congestion, and the construction of estates distant from and access to leisure amenities which do not require transport.

Statements by National and Welsh Government bodies, including Natural Resources Wales and the Vale of Glamorgan, refer to the need to take into account wellbeing, community involvement at the earliest stages of planning, the use of natural systems, and the threat of global warming. Examples of which follow:

Well-being of Future Generations Act (Wales) 2015

*“A nation which maintains and enhances a biodiverse natural environment with healthily functioning ecosystems that support social, economic and ecological resilience and the capacity to adapt to change for example global warming”*

Environment (Wales) Act 2016 section 6

*“... to seek to maintain and enhance biological diversity. All public office holders are required to apply the duty when carrying on any functions in Wales”*

Vale of Glamorgan Public Services Board Well-being Plan 2018-2023

*“Woodland & trees help regulate our climate, provide income and jobs, store carbon, contribute to reducing flood and low river risk, safeguard soils, improve air quality, reduce noise and regulate pests and diseases. Outdoor recreation can make a significant contribution to physical health and mental wellbeing. Access to countryside, water and green space close to where people live is increasingly important, providing health and economic and social benefits.... the local environment is hugely important to residents who value proximity and access to the countryside and green spaces. The environment was seen as one of the most important factors to good wellbeing by our residents and can be seen as the underpinning factor to the range of other issues that affect wellbeing”.*

Planning Policy Wales Edition 10 6.6.28

*“Nature based solutions should be the first consideration given the opportunity to deliver other multiple benefits, including habitat creation, biodiversity enhancement, and water quality improvements. Overall green infrastructure opportunities can benefit ecosystem resilience and provide for leisure facilities or renewable energy generation.”*

Natural Resources Policy -Welsh Government (2017) – Priorities

*“Deliver nature based solutions; taking a place based approach”*

Such ideas are shared widely within the Community – that the natural environment is increasingly appreciated, green spaces are increasingly necessary, a climate emergency has been declared and great emphasis is placed on Community involvement in dealing with local problems – yet the OBC contains, and seems to prefer, solutions which not only conflict with local sentiment, but also with public policy objectives.

## **CONCLUSION - MOVING FORWARD**

We hope that our response will encourage NRW to move towards a positive solution for managing flood risk in Dinas Powys.

We believe that our position is closely aligned with Welsh Government policy and legislation, and supported by the Woodland Trust, both local community councils, and the overwhelming wishes of the local community (as evidenced by 97% of the participants (170 people) who responded to the survey distributed at the 24 February public meeting).

This is an opportunity for NRW to involve the community in a positive and material way in an equitable partnership that is properly governed and in line with guidance on engagement and participation. There is huge good will and desire locally for this scheme to become an exemplar and pathfinder for working with natural processes at a time when urgent solutions are being sought to mitigate the negative consequences of our climate emergency.

We reiterate our call for NRW:

- To respond to this overwhelming mandate by establishing an inclusive NFM+ programme for the upper Cadoxton, involving a wider range of local stakeholders and experienced NFM experts;
- Not to shortlist the Upstream Storage Area
- To engage the community in refining and developing the following options to shortlist:
  - A properly scoped proposal for **Option 1**: Natural Flood Management in the

- Cadoxton catchment.
- **Option 2:** Channel storage in oversized channels upstream of Eastbrook.
  - A selective and risk based approach to **Option 4:** Flood defences along Cadoxton River in Dinas Powys.
  - **Option 5:** Short flood wall to St Cadoc's Avenue.
  - A reshaped proposal including reculverting for **Option 6:** Improve conveyance at A4055 Cardiff Road bridge.
  - A proposal focussing on the stretch downstream of the A4055 bridge for **Option 7:** Heavy channel maintenance of Cadoxton River and East Brook.

Save Dinas Powys Woods and Protect Homes From Flooding, 13 March 2020

[savedinaspowyswoods@gmail.com](mailto:savedinaspowyswoods@gmail.com)

[www.savedinaspowyswoods.co.uk](http://www.savedinaspowyswoods.co.uk)