

# Bristol Living Rivers Project



## THE NON-NATIVE INVASIVE WEED STRATEGY FOR BRISTOL CITY'S WATERCOURSES

GUY PLUCKWELL  
BRISTOL LIVING RIVERS PROJECT

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# 1. Introduction.

- 1.1 Bristol Living Rivers Project (BLR), a partnership led by the Environment Agency and Bristol City Council and supported by many other organisations and businesses, has recognised the problem caused by non-native invasive weeds (NNIW) in and around Bristol and in particular the City's watercourses. In response to this BLR has decided to develop a strategy to address this problem.
- 1.2 Non-native invasive weeds (NNIW) have been introduced over decades, many originally used as ornamental garden plants. They have now become a significant problem in Great Britain and research suggests the problem will become worse if not addressed. The vigorous growth, lack of natural pests and lack of diseases in this country results in invasive weeds out competing native plants. This in turn has a knock on effect on other native species in particular those insects that depend on the native species for food and somewhere to lay their eggs. In winter soil is left bare where these plants have died back resulting in areas which are unattractive and prone to soil erosion. In addition to the natural environment, many of the weeds are very hardy and grow in places where other native species can not. On occasions they have been known to grow through concrete. Such ability can result in costly damage to structures or highways.
- 1.3 The current methods to control and eradication of NNIW can be a very expensive and a time-consuming process. The government estimate the cost of Japanese Knotweed control alone would be £1.56 billion (Defra, 2003). It has recently been suggested in the Mail on Sunday that the cost of clearing NNIW from the Olympic Park in London could add £70 million to development costs.
- 1.4 If treatment and disposal guidelines are unclear or not carefully followed it can result in the accelerated spread of certain NNIW.
- 1.5 The Wildlife and Countryside Act 1981 provides the primary legislation regarding the release of non-native species into the wild in Great Britain. It is an offence under section 14(2) of the Act to 'plant or otherwise cause to grow in the wild' of any plant listed in Schedule 9, Part II. The list does not include all of the problematic invasive weeds though.

- 1.6 The Invasive Non-Native Species Framework Strategy for Great Britain, a draft document published by DEFRA, is currently out to consultation. The document will tackle grey areas such as which body/s are responsible for tackling NNIW problems and can be viewed at [www.nonnativespecies.org](http://www.nonnativespecies.org)
- 1.7 In Bristol there has been surveying of the presence of NNIW along watercourses that indicates that the problem is increasing. There are currently only limited control measures and for only one species, Japanese Knotweed and no overall strategy. The high cost of control, wide range of methods and number of different people and organisations effected suggests that a co-ordinated strategy for Bristol City Council is required.
- 1.8 Bristol Living Rivers feel that it is appropriate to act now rather than wait for the implementation of The Invasive Non-Native Species Framework Strategy for Great Britain but this document and its suggestions have been considered throughout the writing of this document; The Non-Native Invasive Weed Strategy For Bristol City's Watercourses.

## 2. Scope

- 2.1 Bristol Living Rivers project was specifically established to work towards the improvement of Bristol City's watercourses. Watercourses are one of the main environments affected by NNIW. Therefore this strategy will concentrate on the watercourse environment in Bristol City. This strategy can easily be adapted to include other affected environments if required.
- 2.2 Bristol Living Rivers is a project jointly funded by the Environment Agency and Bristol City Council. Therefore this project will specifically concentrate on the area within the Bristol City Council boundary. This strategy can easily be adapted to include other neighbouring authority areas such as BANES and South Glos District Council if required.
- 2.3 There are many different NNIW that have become established in the UK over many years. It is not possible to include all of these within this strategy. Therefore only the weeds that cause the greatest concern, identified by the Environment Agency, will be included in this strategy. These plants can be seen by looking at <http://www.environment-agency.gov.uk/subjects/conservation/840870/840941/1463167/?version=1&language=e>

### 3. Strategic Aims

The main aims of this strategy include:

- 3.1 Assess the extent of the problem.
- 3.2 Protect and enhance the native species in and around the water environment in Bristol City.
- 3.3 Reduce the effect of NNIW on the native environment.
- 3.4 Reduce the effect of invasive weeds on undermining and damaging structures around the city.
- 3.5 Raise awareness of the problems associated with non-native invasive weeds through education and training.
- 3.6 Identify a purpose and structured response to tackle the problem that can be carried forward into the future.
- 3.7 Reduce potential costs of dealing with NNIW in the future.

## 4. Strategic Approach

To meet the aims of this strategy the following approach is suggested:

- 4.1 Establish a **forum** that includes key stakeholders from BCC, EA, NGOs, business and any other interested parties to co-ordinate the effort in tackling the problems caused by invasive weeds.
- 4.2 Establish roles of different organisations and effected parties.
- 4.3 Identify a way forward whether that follows the suggestions within this strategy or not.
- 4.4 Improve information sharing between relevant interested parties.
- 4.5 **Survey and monitor** NNIW in and around Bristol's watercourses.
- 4.6 Establish the extent of the problem in and around Bristol's watercourses by looking at all available information.
- 4.7 **Educate and raise awareness** of the problems caused by NNIW.
- 4.8 Provide clear information and guidance of NNIW, specifically the most appropriate treatment and disposal of the different weeds.
- 4.9 Identify ways to **prevent** the problem from spreading as much as possible.
- 4.10 Establish potential feasibility of monitoring, treatment and eradication of the weeds and funding for this.
- 4.11 **Risk assess** the different weeds and prioritise their treatment.
- 4.12 **Respond** to the problem in the most efficient way by considering all other relevant factors such as best practice, funding and resource.

## 5. Forum

- 5.1 In Bristol City alone there are a number of different organisations that are tackling the problem of NNIW. There is no existing network or organised means of communication between these groups, resulting in an uncoordinated approach.
- 5.2 A forum should be set up to co-ordinate the effort of tackling the problem of NNIW within Bristol City, as a combined effort would result in a more efficient and cost effective approach.
- 5.3 The structure of the forum should be thoroughly considered and all relevant parties invited to join it. These should including people and organisations that have a knowledge of the problem such as Bristol City Council, the Environment Agency, other NGOs, local community groups, business and any other interested parties.
- 5.4 When constructing the forum the structure and operation of other successful groups should be contemplated such as The Cornwall Knotweed Forum, which is an internationally recognised model for the co-ordinated control of non-native invasive species.
- 5.5 Interested organisation should be encouraged to sign up to the forum and commit for the long term as many NNIW take many years to get under control or eradicate. Funding and/or resource will also need to be sought from these organisations.
- 5.6 The forum should consider such matters as:
  1. The best way to co-ordinate the effort.
  2. Whether the suggestions of this strategy should be followed, changed or ignored with a new approach identified.
  3. Role and responsibilities of the different organisations.
  4. The sharing of current survey and monitoring data.
  5. The sharing of ever changing information on weed treatment best practice.
  6. Where are the problematic areas and is eradication an option at these sites?
  7. Which areas should be prioritised for treatment and which left alone?
  8. Appropriate disposal methods.
  9. The best way to raise awareness and educate all people who they think should know about the problem.
  10. How the efforts can be funded.

11. Where the resource will come from.
12. Identifying areas for research opportunities and invite educational bodies to conduct the research.
13. Inviting guest speakers in to increase knowledge of the problem.
14. Guidance for land use planners and developers with recognised planning application controls developed to tackle the potential NNIW problem at development sites.

## 6. Education and Awareness

- 6.1 The spread of NNIW is partly due to a lack of understanding of the plants and issues relating to them. Japanese Knotweed for example is commonly seen in road lay-bys where gardeners have tipped it. Education and the raising of awareness play an important role in preventing the spread of NNIW.
- 6.2 Any information that is provided must be accurate, clear, unambiguous and easy to read.
- 6.3 Knowledge regarding NNIW is consistently changing and evolving and every effort should be made to assure information provided is up to date with current information.
- 6.4 Identification of which target audience specific education and awareness is being aimed at. The style of information will then need to be tailored to that target audience.
- 6.5 All relevant means of communication that could be used to raise awareness such as newspapers, newsletters, leaflets and the Internet should be identified.
- 6.6 As local Community Groups are actively involved in caring for sections of Bristol's watercourses and some have experience of tackling NNIWs it would be sensible to involve them directly regarding NNIW issues. Including the community groups in surveys, the forum and education would be a good way of raising awareness of their members and associates.
- 6.7 Including schools in surveys would be a good way of educating the younger generation on the issues associated with NNIW and could result in an interesting project for their students.

## 7. Prevention

- 7.1 Prevention is a very important tool in the fight against NNIW. Preventing the weeds from entering the environment or spreading once established is the most effective means of tackling the problem of NNIW. Successful prevention would result in a reduced need for expensive treatment and control of those weeds.
- 7.2 Accurate, unambiguous information needs to be available detailing the issues related to the introduction of non-native plants into an area. Many people currently seem unaware of these issues and most could not identify any of the problematic plants.
- 7.3 Information should include how to identify the plants, how they should be treated and disposed of and what can happen if they are allowed to spread.
- 7.4 A lack of knowledge leads to the spread of the weed as shown in the examples below.
- A lot of NNIW are very attractive and commonly planted in gardens where the gardener is unaware of the impact and issues associated with them.
  - Flytipping is an increasing problem throughout the UK due to an increase in landfill tax and the restriction of landfilling certain wastes. Many of the problematic NNIW can be found established in lay-bys on roadsides. This is directly related to flytipping of garden waste from vehicles that pull into those lay-bys.
  - Japanese Knotweed in particular is very hardy and is suspected of being able to survive the composting process. Specific information is required on such matters as the disposal of Japanese Knotweed.
  - Certain NNIW spread very easily and therefore should be disposed of at site of treatment. Transportation of the waste can result in the spread of certain NNIW such as Japanese Knotweed that can commonly be seen established on roadside verges.

## 8. Survey and Monitor

- 8.1 To establish the extent of the problem all available data should be collated and analysed and the problem areas plotted and monitored. Currently it is believed that surveys are available from Bristol Living Rivers, the Environment Agency and Bristol Regional Environmental Records Centre (BRERC) but other unknown sources of monitoring data may also exist e.g. planning applications.
- 8.2 Who is or has recently been actively treating NNIW should try to be established.
- 8.3 A further city-wide survey should be undertaken to include all of Bristol's watercourses. It will be used to locate current problematic areas and to compare to previous data.
- 8.4 Community groups, schools and other interested parties could be used where at all possible to help with the surveys. This would serve two purposes. Firstly it would reduce the need to resource the survey from within Environment Agency and City Council and secondly it would raise awareness and educate those involved.
- 8.5 To survey the NNIW as accurately as possible, very clear and precise identification aids and procedures will need to be developed to help with the survey if appropriate ones do not currently exist.
- 8.6 A system should be set up to allow the public and other organisations to report invasive weed sightings.
- 8.7 A live consistently updated map should be produced identifying the location of the areas where NNIW were surveyed. This can be used to monitor the situation in the future. Web access to this map will allow members of the public to identify new growths that need to be reported.

## 9. Risk Assess

- 9.1 Following the analysis of survey data, problem areas where NNIW have become established can be identified.
- 9.2 As funding and resource will not be available to treat all the identified areas a risk assessment should be designed to establish the most problematic areas and the most appropriate action to take in those areas.
- 9.3 The risk assessment should include such factors as:
  1. Is the affected area within a SSSI or other protected area?
  2. Is there an imminent risk to a protected native species?
  3. Is the plant contained or is there a pathway through which it can easily spread?
  4. Is the identified plant one that is known to have the ability to spreads easily?
  5. Is the plant established or will early treatment, which costs less and is more effective, be possible?
  6. Is there a risk of the plant causing structural damage or highway damage that would result in significant future cost?
  7. Is there easy access to the site and can the weed be controlled safely?
  8. Is there a risk of pollution from equipment or chemicals to the watercourse?
  9. Is there funding to cover the estimated cost of treatment at the site and can the cost be justified at this site?
- 9.4 The risk assessment will allow the more problematic areas and an appropriate approach for those areas to be identified and subsequent work prioritised.

## 10. Response

- 10.1 Following the identification of the most problematic sites through risk assessment the most appropriate approach for individual sites will need to be decided. Cost of treatment may result in a "do nothing" approach in some areas.
- 10.2 Each identified plant has different means of treatment and eradication. Clear guidance should be made easily available for the appropriate treatment for each weed.
- 10.3 Clear procedures should be written which any person or organisation that intends to treat NNIW can easily follow.
- 10.4 Best practice for NNIW treatment is ever changing especially for the more stubborn and better-known weeds such as Japanese Knotweed. The relevant guidance needs to be kept up to date with any new information.
- 10.5 Responsibility for the treatment will need to be established and those parties such as riparian owners clearly advised of their responsibilities.
- 10.6 Funding for the treatment will need to be established before the work commences.
- 10.7 Resource will need to be found to physically complete the work with ownership of that work made the responsibility of an individual organisation.
- 10.8 Treatment of certain NNIW will need to be ongoing sometimes over many years to make sure the weed is totally eradicated. This needs to be considered when seeking funding for the work and determining resource for the work.
- 10.9 Appropriate disposal of NNIW is important as poor practise can cause further spread of certain weeds. This should be seriously considered and included in the procedures with clear guidance made available.

## 11. Implement and Review

- 11.1 As this is a project being undertaken by Bristol Living Rivers it is suggested that the initial implementation should be the responsibility of BLR.
- 11.2 Following the establishment of the forum it will be their decision as to who should continue to implement the remaining parts of the strategy. They should also consider whether the suggestions of this strategy should be followed, changed or ignored with a new approach identified.
- 11.3 A file should be set up where all electronic documents relating to this project can be stored so to be available to anybody concerned with the project either now or in the future.
- 11.4 A log of the actions completed should be kept so that any other person at anytime can pick up the project and they will be able to assess the progress of the project. An example of such a log can be seen in *Appendix 1*.
- 11.5 There is potential for significant volumes of work to be generated from this strategy. Therefore there should be a defined plan as to the order of implementation.
- 11.6 As it is unlikely that there will be resource to implement this strategy from start to finish each part should be split into projects and tackled separately and in turn and a proposal put together and agreed before proceeding.
- 11.7 A suggested order of actions is as follows:
  1. Establish a forum
  2. Collate and analyse all current available data
  3. Survey Bristol's watercourses (better done in late summer during the flowering season when NNIW are more easily identified).
  4. Establish a NNIW reporting system
  5. Raise awareness, educate and provide clear information.
  6. Develop a risk assessment to prioritise problematic areas
  7. Identify best practice and write procedures for the treatment and disposal of the different NNIW
  8. Establish funding and resource for the control and eradication of NNIW

9. Establish a plan for the future

- 11.8 Certain NNIW can take many years to eradicate. Therefore a long-term plan should be developed for the successful control of NNIW.