

JAPANESE KNOTWEED MAPPING PROJECT
RIVER CARRON
FALKIRK



Results of Mapping by
Community Green Initiative Volunteers
Along the River Carron Corridor
from May 2009 through November 2010



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Marion Robertson, Andrew McLagan, Stanley Antczak, Sian Fairclough, Kevin Fairclough,
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INTRODUCTION TO REPORT

In August 2008 Community Green Initiative wrote to a group of agencies, experts and potentially interested parties inviting them to take part in a proposed environmental activity — to plan a campaign to protect the biodiversity of the River Carron ecosystem from invasive species, in particular Japanese Knotweed (fondly known by us as “JKW”, which acronym will be used within this report). We do realize that Himalayan Balsam and Giant Hogweed are also very serious invasive species to be dealt with along the Carron, but our project has thus far focused on JKW.

As a result of our call to action, a team of interested parties (including representatives from SEPA, Falkirk Council Biodiversity Officer, FC Outdoor Access Team, Falkirk Environment Trust, Slammanan Angling and Protection Association, CGI and Clackmannanshire & Stirling Environment Trust) brought their expertise, experience and advice to a meeting on the 27th of August in Abbotsford House.

The group determined that Phase I of the project was to undertake a mapping of the River Carron, to determine the extent of the knotweed problem — both to measure overall growth and also to try to identify where the knotweed problem starts and how far it extends along the river. This would need to be done before Phase 2 which would involve seeking bids from experts to monitor, contain and/or eradicate JKW, procuring identity of and permission of land owners, procuring funding, etc. The plan was to enlist the help of various individual volunteers, community, angler and environmental groups to hike the areas, document and photograph the growth so that CGI could create a “knotweed map”.

Another reason for undertaking this Phase I activity at the community *volunteer* level was to bring attention to the problem in an awareness raising exercise amongst the public whilst so doing. The ultimate goal was that this community-driven effort would evolve toward a group effort between volunteers, landowners, council and all relevant and governing agencies to tackle the problem, in order to help protect Scotland’s biodiversity along the River Carron.

[See Methodology, page 7]

CGI received the final group of reports from volunteers in November 2010.

In the meantime, there has been an increase in interest in the JKW problem by various groups along the River Carron, including the newly formed Communities Along the Carron Association (CATCA). JKW came up repeatedly as an issue of concern during CATCA’s 2009 community consultancy with citizens from the 16 areas up and down the River Carron. Sites of it were indicated on the Green Map created as a result of that consultancy, both by adults and primary school children along the Carron. CGI has also continued with information sharing on this issue with the Scottish Environment Protection Agency (SEPA), River Forth Fisheries Trust, CATCA and the River Carron Fisheries Management Group (RCFMG). Other liaisons have begun to take place, for example discussions between management committee members of CATCA and the Falkirk Council Biodiversity Officer and Scottish Natural Heritage. This report will have been distributed to those attending a meeting at Abbotsford House on 18th November, 2010, co-sponsored by Scottish Natural Heritage (SNH) and CATCA, for various agencies to discuss a plan of action.

CGI’s JKW Mapping Project report will hopefully help as these various agencies begin to come together in an organized fashion, to tackle this problem, expanding on CGI’s Phase I mapping project and moving on to Phase 2.

—Michelle McCallum, CGI Japanese Knotweed Mapping Project Leader, November 2010



SUMMARY OF REPORT

This report contains spreadsheets created from A4 maps provided to CGI by Falkirk Council and Invasive Species Report Forms modelled after those provided by Audrey Morrison of Clackmannanshire & Stirling Environment Trust. It also contains the “Invasive Species Survey River Carron Falkirk (Summer 2009)” report by one of our mapping volunteers, Fiona Wishart, Falkirk Council Outdoor Access Team Ranger.

As a result of these reports from the CGI volunteers who worked over a 20 month period (May 2009 to November 2010), the CGI Japanese Knotweed Mapping Project has determined that, along the 19.8 miles of River Carron Corridor, from the Carron Reservoir to the last stand seen (located at the very end of the River Carron, at the mouth), there exists **a low estimate total of 2800m² to a high estimate total of 6000m² plus scattered plants** of Japanese Knotweed at this time. This estimation does not include the tributaries (other than the Bonny Water), thus is a low but close estimation. (See Page 8 for exact numbers and Spreadsheets, *Appendices i*)

A special concern: Carron Reservoir

CGI would like to call especial attention to a medium sized stand of Knotweed immediately adjacent to the Carron Reservoir, which is troubling due to its proximity to the concrete dam structure. CGI hopes that those reading this report will take heed of the concerns we have about the presence of Japanese Knotweed at this site. Given the plant’s potential root depth and breadth, we feel this stand of knotweed needs to be addressed as a first priority.

We are advised by experts that JKW is a “top down” problem — Knotweed must be dealt with at the top of the river first because it spreads downriver. We feel a sense of urgency about potential structural damage to the reservoir by the root system of this substantial stand of knotweed. (See text on page 8 and photos of Carron Reservoir Knotweed Stands in Fiona’s report.) As part of our sharing-of-information process, in 2009 we sent preliminary copies of Fiona Wishart’s report to The Scottish Flood Forum and to Environment Minister Roseanna Cunningham.

RIVER CARRON

JAPANESE KNOTWEED

From Source to Sea:

Low estimate total of 2800m²

High estimate total of 6000m²

plus scattered plants



DISTRIBUTION OF REPORT

By the end of November 2010, this report will be available at the Community Green Initiative website:

www.cgiscotland.org (See green text box at top of the Invasive Species Page which provides the links to the various aspects of the Report). Please feel free to print out a copy for your own use as you wish or to forward the link to anyone or include it on any website.

We will be notifying various agencies, organisations, Falkirk Council services, Councillors, MSPs, MPs, etc. that it is on line and that they may use as they will, in their own efforts to address or become involved in addressing this problem. This way, anyone who wishes to access it may do so, as part of CGI's effort to increase awareness of the issue without incurring unnecessary printing costs for our volunteer group.

CGI will retain the original (volunteer, hand written) species reports and A4 maps in our files, from which the spreadsheets in this report were created. Copy sets of the original maps and species report forms can be provided to agencies who need them; agencies will need to cover the cost of photocopying.



SCOPE, HOURS, COST AND TIMEFRAME OF THE PROJECT

Scope—The report covered all areas of the River Carron from the Carron Reservoir to Skinflats. Bonny Water tributary was included but other tributaries were not included in this project. Nineteen volunteers took part in the mapping exercise and other aspects of the project. Volunteers tended to focus on Japanese Knotweed, although a few did include reports on Himalyan Balsam and Giant Hogweed. However, this report does not at all purport to identify the status of those latter species, again, our primary focus was on the knotweed.

Timeframe—Measurements were taken from May 2009 through November 2010, at varying times of the year.

Volunteer Hours—At this time we estimate that CGI volunteers have given over 250 hours to the mapping project, awareness raising, and preparation of this report.

Costs—CGI, through private donations, has absorbed the initial costs of volunteer folders, printing, ID cards, a limited run printing of this Report, etc. at a total of £350. FC Outdoor Access Team funded hi vis vests for the volunteers (we have vests left over for future invasive species volunteer work) at a value of £120. Volunteer hours - unskilled, skilled and professional - have an approximate in-kind value of £12,390.00.

Total Project Costs/Value = £12,860.00

CVS Falkirk's funding for CGI's Information Sharing Project will contribute to printing of JKW awareness materials in 2011 to circulate in Denny schools and public locations. We intend to work with primary pupils in the design of an awareness raising brochure and poster. CVS also funded CGI's website, at which the Invasive Species Page continues to report the latest knotweed news.





METHODOLOGY

Expertise and Permission: Subsequent to the August team meeting, CGI representatives Michelle McCallum and Christine Bell met with Audrey Morrison of Clackmannanshire & Stirling Environment Trust for advice on how to proceed with mapping details. Audrey provided us with sample species reporting forms and helped us plan the method of organisation. We also received permission from Forth Valley GIS to use A4 maps to be provided by Falkirk Council Planning & Environment for this purpose. (Permission was extended again in May 2010 until 2011 as the project was taking longer than expected.) Thus far we have not had any issues with landowners regarding permission to do the mapping but we did advise volunteers how to proceed if they were queried.

Recruiting Volunteers: Volunteers were recruited by email, newsletter, word of mouth and notices in the local paper. The range of volunteers was from housewives to hikers, anglers to Outdoor Access rangers to pensioners. Scottish Agricultural College students contacted us a couple times expressing interest in the project, Approximately 15 volunteers began with us in May 2009, a couple dropped out but another 4 came on board later. By project end we had 13 mapping volunteers who actually followed through and did the physical mapping, and other volunteers who helped with compiling data, report writing, photography, etc. Others contacted us by email with details about their knotweed observations. We felt that was a pretty good ratio for consistency and commitment.

Instructions, Equipment: The mapping project began in earnest with a meeting of the volunteers at The Red Hoose Pub in Dunipace on 6 May 2009. Fifteen volunteers attended from Fankerton to Bainsford and were given a brief introduction and training by Audrey Morrison and Fiona Wishart. Then the group walked to the River Carron nearby and were shown stands of knotweed and given instruction on how to measure, etc. The meeting concluded with volunteers, back at the pub, selecting which areas of the River Carron they wished to map and taking away the A4 maps. They were also each given a high vis vest, a folder containing instructions, species forms, timesheets, mapping ID cards, risk assessments, etc. — copies of these documents may be seen on the Invasive Species page at www.cgiscotland.org. In the following weeks and months, more volunteers came on board and more maps were issued via email attachment.

It should be noted that, during the Spring 2009 consultancy phase of the Communities Along the Carron project, school children from 9 primary schools along the River Carron took part in mapping exercises along the Carron's footpaths. CGI reviewed the children's maps also and ensured that any knotweed areas they identified were later revisited by adult volunteers and included in this report. Some of the schools did advance research on knotweed, so the children's mapping was significant to this project in helping with public education. It should also be noted that during the CATC consultancy, invasive species and knotweed were identified by several communities as an issue they wished to see addressed (See *Communities Along the Carron: A Report on the Current Status, Issues and Aspirations of Sixteen River Carron Communities 2009*, available by link at www.cgiscotland.org, River Carron Regeneration page)

CGI asks that readers bear in mind that the people measuring the knotweed were inexperienced volunteers, for the most part they were not scientists, botanists or biodiversity experts (aside from the Outdoor Access Team). However, they were very passionate about the project and they took care with their measurements to the best of their ability. We anticipate that in some instances there will need to be follow up to get more specific measurements, and admittedly there were parts of the river banks which were not accessible, or in which knotweed was present but not fully visible. In a couple of cases there were conflicting reports and the volunteers went back a second time to verify and clarify. Basically, the results of the mapping project serve to give an overall picture of the magnitude of the knotweed problem on the River Carron, and will serve as a guide when seeking bids and looking at what needs to happen next.



OVERALL RESULTS OF MAPPING PROJECT

Total Volunteer Mapper Estimates per Area

Community/Location	Low Est	High Est
• Carron Valley/Carron Reservoir Fankerton/Stoneywood	290m ² + 100mx3m plus scattered plants	830m ² + 100mx3m plus scattered plants
• Denny/Dunipace	470m ² + 2060m	830m ² + 2060m
• Bonny Water	_____220m ² _____	_____220m ² _____
• Larbert/Stenhousemuir	1040m ²	1580m ²
• Camelon	230ms + scattered	510m ² + scattered
• Langlees/Carron/Grangemouth	390m ²	1650m ²
• Skinflats	_____119m_____	_____119m_____
•		
TOTALS	2759 + 2360m	5739 + 2360m
	+ scattered	+scattered

NOTE: The mapping was specifically along the banks and areas immediately adjacent to the River Carron; we are aware of other stands of knotweed within the towns of Dunipace and Denny which are not included in this report, ie at the One Stop Shop, near Denny Primary School and in areas along the Avon Burn.



Anecdotal/Local Knowledge

Some observations for specific areas came to us by email from the mapping volunteers regarding access, flood risk, landowners permissions, etc. These bits of detailed information may prove useful to anyone using this report to proceed onto further mapping and/or projects to deal with the knotweed along the River Carron.

PLEASE NOTE: Due to time constraints we were not able to compile them in time for the 18th November meeting but we will include them as an addendum to this report at the CGI website by January 2011 and circulate a copy by email to those who attended the 18th November meeting.



Invasive Species Survey River Carron Falkirk,
Fiona Wishart,
FC Council Ranger Service (Summer 2009)

CARRON RESERVOIR REPORT Fiona Wishart

This part of our report is about the knotweed situation at the source of the River Carron. Due to its breadth of presentation by Fiona Wishart (length, photos, maps, etc.), we are appending it to this report as a separate document. Obviously it is the most professional and scientific presentation herein, thanks to the great resource this project has had in the expertise of Fiona Wishart, Falkirk Council Outdoor Access Ranger. Fiona undertook probably the most difficult part of the mapping journey, as you will see from her survey. We also rely heavily on the photos and maps she has provided, to flesh out the CGI report.

Fiona's survey will also be available by link at www.cgiscotland.org later in November 2010 at the Invasive Species page.

Fiona notes on page 8 of her survey her speculations on the source of the spread of Knotweed in the River Carron.

Her survey highlights a few other things that warrant further investigation and mapping. On page 9 she lists the tributaries that feed into the River Carron which do have invasive species, but need mapping. This is a project which would, in some cases, require cooperation from other local authorities.

A special concern: Carron Reservoir

As stated elsewhere in this report, CGI is concerned about the presence of Japanese Knotweed immediately adjacent to the Carron Reservoir. This medium sized stand should be addressed as a first priority, and first came to our attention by its inclusion in Fiona's Survey. Subsequently Fiona also spotted the last stand of Knotweed on the River Carron...located at the very last few inches of the Carron at its mouth.



RECOMMENDATIONS

- Obviously a group needs to form, to pursue Phase II — to determine which groups, agencies or organisations are already involved in JKW projects (mapping, monitoring, maintenance, eradication) — so that those groups can work together on an overall plan of action. This would be preferable to a piecemeal attack in which various groups are not aware of each other's activities regarding JKW. It would also help to ensure that a “top down” approach is used, tackling the knotweed at the source and moving down, since it spreads this way.
- Mapping: The results of the volunteer mapping should be recorded on one big physical paper map of the River Carron, for ease in tracking — this could be done by tracking the A4 reports and species forms that are the basis of the spreadsheets herein.
- It would also be optimal if Falkirk Council could include the results on its on line GIS mapping system, as has Stirling Council.
- Additional Mapping: Other than the Bonny Water, the tributaries were not mapped as part of this project and do need to be. (See Fiona Wishart's report and recommendations.)
- Public Education and Awareness Raising. The importance of this cannot be underestimated, as people are contributing to the spread of JKW through simple lack of knowledge or awareness.
- Clarification on the current law regarding land owners and invasive species. And then dissemination of that information to land owners.
- An “Indigenous Plant Memorial Garden”. CGI is considering this project for 2012, by which we would work with primary schools along the Carron to run a research and planting project, to create a memorial garden for indigenous plants endangered by JKW.
- Throughout the project we had input from the following individuals and agencies; we recommend continued liaising with them on any further work involving River Carron's knotweed problems: Audrey Morrison, SEPA (Jill Gillard, Joe Long), Falkirk Council Biodiversity Officer Anna Perks, SAPA, CATCA, RCFMG, Ben Tyser and Patrick Fotheringham of Forth Fisheries Trust, Neville Makan of SNH, FET, FC Outdoor Access Team, Chris Horrill of RAFTS,
- We have also kept in touch with Angela Robinson of the Invasive Non-Native Species Policy Rural and Environment Directorate, who keeps us abreast of developments in the UK on such aspects as the use of the psyllid and various forums and meetings taking place throughout the UK regarding invasive species (including the GB Non-Native Species Stakeholder Forum which will be held in Edinburgh in 2011). We feel this liaison should continue as it helps context us within resources beyond the River Carron/Central Scotland.
- Continued liaising with FC Outdoor Access Team on our education/awareness raising efforts. For example, as a part of the Japanese Knotweed Mapping project, CGI conferred with Fiona Wishart in 2009 about the need for council workers to be made aware of the knotweed problem, especially those who work in landscaping, strimming, earth removal, etc. As a result, Fiona put together an advisory memo and it was circulated to relevant Falkirk Council services in June 2009. Such efforts may need to be updated from time to time.



“Where we go from here” - CGI’s Continuing Involvement

Phase I - CGI’s Japanese Knotweed Mapping Project - is now completed, as far as CGI’s contribution. The project took about 6 months longer than anticipated, which is down to the complex commitments, schedules and limited resources of Community Green Initiative, which is a small local volunteer organization. Although there may be a few gaps in the mapping to be completed (ie tributaries), we hope and assume that if an umbrella group forms to move onto Phase II, these pieces of the “knotweed puzzle” can be filled in by others, following our example.

Who Should Take the Lead

The control and/or eradication of the Japanese Knotweed problem along the Carron is a huge undertaking, far beyond the capacity of our small localised volunteer group with seriously limited time, people and resources. We feel there are larger organizations and agencies in a better position to take the lead in this endeavor, and that the best approach will be the formation of an umbrella group to work together. We are happy to be part of such a project, in the capacity outlined below.

What CGI can potentially contribute to Phase II (tackling the River Carron knotweed problem):

- Provide any documents from our mapping project, letters of support, etc. to supplement funding applications undertaken by other bodies to tackle the invasive species problems of the River Carron corridor.
- Meet with anyone at any time to further discuss or give a presentation on the CGI Mapping Project and results.
- Continue involvement in any larger group overseeing the knotweed issue along the River Carron
- Focus our efforts in the realm of education and awareness raising in the Denny/Dunipace area (primary schools, secondary schools, and general public) regarding “JKW” under our CVS Information Sharing Project funding (which funding carries a criteria that we focus specifically on the Denny/Dunipace area)
- Possibly our Denny/Dunipace education project can eventually serve as a model to CATCA for an expanded project involving all the primary schools along the River Carron
- Pursue our “JKW Indigenous Plants Memorial Garden” concept, or do so in partnership with another group, as part of our educational initiative.



“Where we go from here” - CGI’s Continuing Involvement

Focus on Education and Awareness Raising

During our own research into the JKW problem along the River Carron, CGI found a great lack of information is out there, including misinformation. There are things that people do which help spread Japanese Knotweed, and we feel we can help get the word out. Some initiatives we have begun, will continue, and others we will pursue are:

- Contribution to education, information sharing and awareness raising about JKW, why it is a problem and what the ordinary citizen should and should not do about it. Our CVS funded activities in this regard will be based in Denny and Dunipace 2010-2011; if we actively pursue this beyond our area, we will need to seek other funding to do so.
- Meanwhile, beyond our immediate area, continuing to provide information on knotweed via the CGI website (regular “Knotweed Knews” updates on the Invasive Species page at www.cgiscotland.org) and via CGI’s publication, NEW LEAF NEWS
- Posting a link to this report at the CGI website, so that it is accessible to anyone who needs or is interested in the information;
- Initiation of and involvement in education projects in the primary and secondary schools of Denny and Dunipace, including producing and publishing pamphlets and A4 fliers/posters;
- Development of a PowerPoint presentation to take “on the road” to Denny/Dunipace community groups, clubs, schools, etc. to help in awareness raising on this issue;
- Develop and seek funding for an “indigenous plants JKW memorial garden project” to help highlight the problems caused by knotweed — a project which can involve children through schools along the Carron and perhaps be cosponsored by CATCA;
- Liaison (in a non-leadership capacity) with such agencies and groups who will proceed with feasibility studies, funding applications, etc. on the knotweed issue on the River Carron, so that we are continually well informed on the issue;
- Sharing this project as a model to other groups in Scotland and anywhere that invasive species are problematic, to show that “ordinary people” can help resolve the problem, if only by mapping and measuring.



Where we go from here” - CGI’s Continuing Involvement

Awareness Raising Activities

In addition to the increasing interest which has manifested amongst other organizations and agencies since our project began (see Introduction), CGI found itself caught up in several awareness raising activities and events regarding JKW over the past two years.

The Falkirk Herald reported the following in September 2009:

“Roseanna Cunningham, Scottish Minister for the Environment, visited with CGI at the Heritage Rooms in Dunipace on the 8TH September 2009 to congratulate the group on their hard work and pro-active attitude towards dealing with the highly Invasive Japanese Knotweed that is growing wild and destroying our local environment. During her 8th September visit to the Denny & Dunipace Heritage Society’s Heritage Rooms where she met with members of CGI and the local community, she commented that volunteer action groups such as CGI are absolutely essential in monitoring and tackling this threat.

Roseanna took a short walk with the group to see the effects of Japanese Knotweed on the banks of the River Carron, had a long chat with the group, and asked to be updated on the results of the mapping project.”

Michael Matheson MSP’s office became interested in our project and made the following Motion before Parliament on 21st September, 2009:

***S3M-4879 Michael Matheson: Community Green Initiative Shows the Way**—That the Parliament notes the work that the voluntary group, Community Green Initiative, based in Dunipace, does for the environment in its locality; acknowledges that the exercise of mapping the problem of Japanese Knotweed in the River Carron demonstrates the willingness of the people of Dunipace to solve this problem, and congratulates this group in continuing its efforts to make Dunipace a better place to live.

Following on Roseanna Cunningham’s visit, CGI has continued communications with Angela Robinson of the Invasive Non-Natives Species Policy Rural and Environment Directorate on knotweed issues, governmental policies and public consultations. CGI took part in the national consultancy on the proposed introduction of the psyllid as a method to control JKW, and also took part in the Consultation on Wildlife and Natural Environment Bill run by the Wildlife and Natural Environment Bill Team in September 2009. All of these liaisons and events can be tracked at *Knotweed Knews*, Invasive Species Page at www.cgiscotland.org.

In addition, over the past 3 years, NEW LEAF NEWS has published an ongoing series of articles on invasive species, and continues to publish any and all news on knotweed and other invasive species each quarter.



Appendices

The following are also available for downloading or printing at the Invasive Species page of www.cgiscotland.org:

Appendices

- i* *Spreadsheets—Mapping Results*
 - CGI JKW Mapping Project 2009-2010 Carron Reservoir Fankerton Area*
 - CGI JKW Mapping Project 2009-2010 Dunipace, Denny Area*
 - CGI JKW Mapping Project 2009-2010 Bonnywater Area*
 - CGI JKW Mapping Project 2009-2010 Larbert Stenhousemuir Area*
 - CGI JKW Mapping Project 2009-2010 Langlees/Carron/Grangemouth Area*
 - CGI JKW Mapping Project 2009-2010 Skinflats Area*
- ii* *Species Form Sample*