The River Otter Himalayan Balsam Project
Year 1 Report

Project Overview

The River Otter Himalayan Balsam project aims to control the spread of the plant by eradicating the species from the tributaries running into the main river. The idea is to tackle each sub-catchment in a logical way, starting at the source of each of the tributaries and working down to the confluence where they enter the Otter. Once these tributaries have been cleared, control on the main river will be considerably more effective and sustainable from year to year. There are three main areas where the plant will be controlled by the end of Year 3:

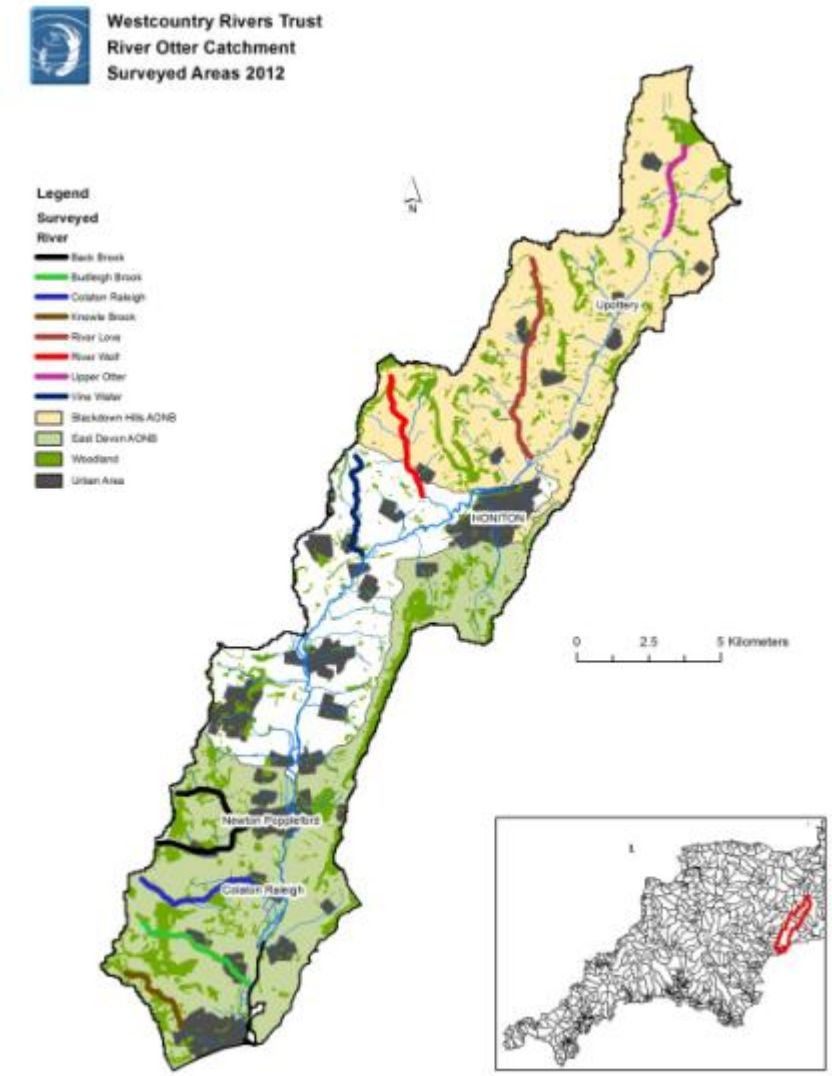


Figure 1 – Map shows the River Otter Catchment, with surveyed river sections highlighted– Produced by Craig Proto (Westcountry Rivers Trust)

- ***Headwater Tributaries near Upottery*** (*Watchford Farm Stream, Luxton Stream, Ullcombe Stream, Fairoak Stream*)
- ***Major Tributaires*** (*River Love, River Wolf, Vine Water*)
- ***East Devon Heath*** Tributaries (*Colaton Raleigh Stream, Back Brook, Budleigh Brook, Knowle Brook*)

Year 1 Summary

The first year of the project involved planning and evaluation of the Otter Catchment. As pulling needed to be completed during the summer months, walkover surveys assessing the balsam extent had to be completed in May 2012 (Figure 1). This isn't the most effective time of year for assessment of the balsam problem, as many of the plants were not visible from river level as it was early in the growing season. These surveys produced maps (Figure 3) showing the rough percentage cover of the plant along the river banks.

The East Devon Tributaries were the main priority this season, with the Colaton Raleigh Stream being heavily targeted due to the vast amount of balsam found (Figure 3). The probation service was used extensively at this site, along with local volunteers from the 'Otter Valley Association'. Overall 690 man hours were completed on this site over a three month period. The majority of these hours consisted of manual pulling, along with strimming work carried out by the Clinton Devon Estate (CDE). After the season was completed it was found the percentage balsam cover for the Colaton Raleigh stream which was estimated in May wasn't entirely correct. During the middle of the July, balsam cover was roughly 60% + in the areas recorded as 40%, Figure 2 shows a photograph showing the cover within July.

Work was also completed along the Back Brook running through Newton Poppleford and the Knowle Brook. Both these locations had work completed by local volunteers and the CDE. The last of the East Devon Tributaries is the Budleigh Brook, no balsam was pulled on this river as it is a priority for the CDE next summer.

The original plan had intended for two out the three areas to be completed this summer, but that was found to be an impossible task. The severity of the balsam on the East Devon Tributaries meant all of our work was focused in the one area, as we wanted to completely finish each stream that had been started before moving up to one of the other tributaries.

Raleigh Stream – Taken by Craig Proto (Westcountry Rivers

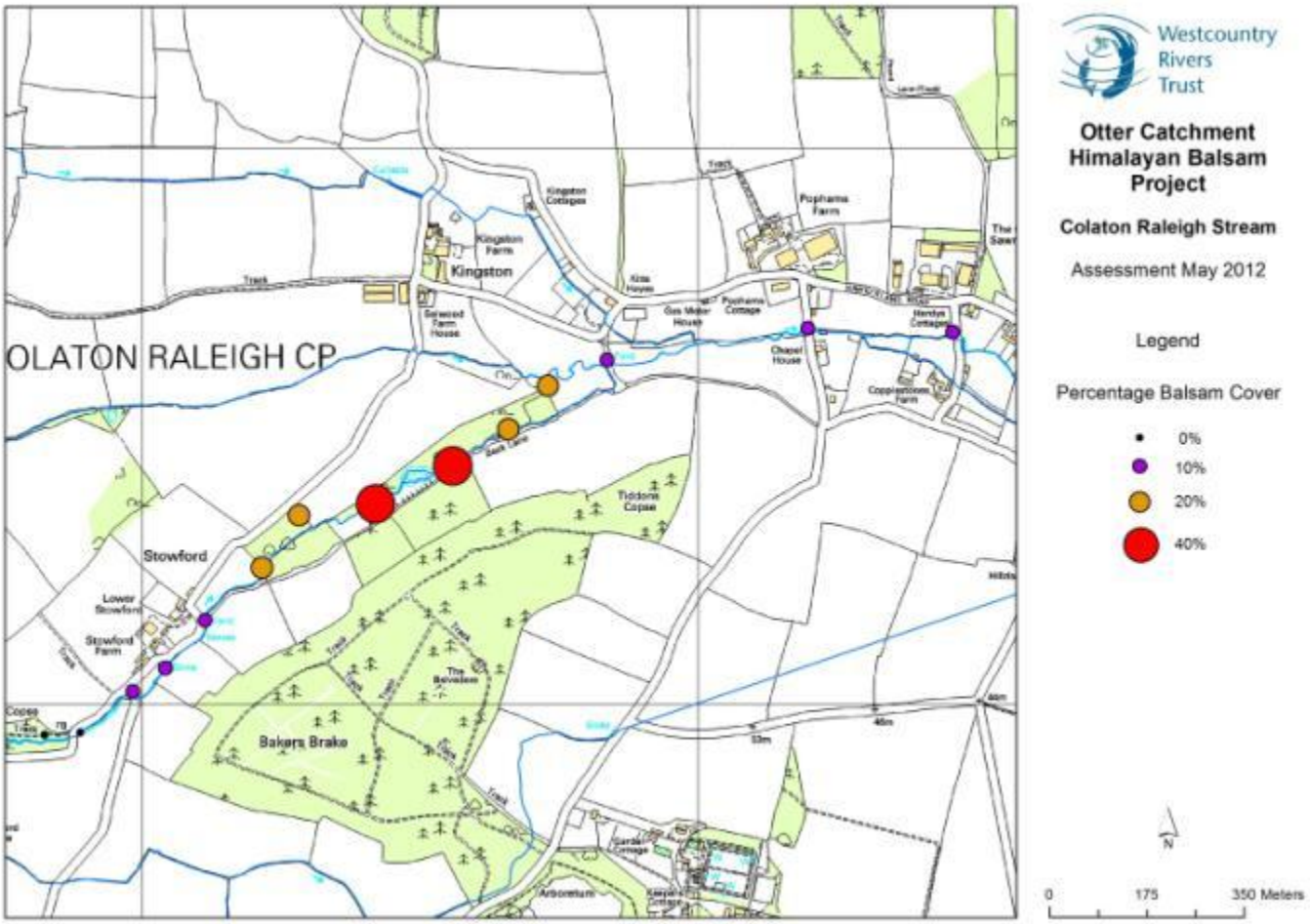


Figure 3 – Map showing percentage cover of Himalayan Balsam along the Colaton Raleigh stream corridor – Produced by Craig Proto (Westcountry Rivers Trust)

The probation service was used over the course of the pulling season. It was initially proposed that they would complete one tributary and then return 6 weeks later to re-clear any subsequent growth. This plan did not come to fruition as the timings for clearance were longer compared to the original estimates. It was also found that the probation teams were only effective in locations with high balsam density, so the idea of using them for re-clearance and checking would not have worked as well as first thought. For the next season if the probation service is to be used again we would have to be selective in their use, by taking them to locations where balsam has completely taken over, as it was an impossible task to get them to pull premature balsam plants that were mixed with other vegetation.

At the start of the season, EA staff on an environmental day helped with the project by pulling balsam along the Upper Otter (Figure 4). Days like these are extremely useful as the volunteers are willing to pull balsam even in the early stages and locations with smaller stands.

Figure 4 – Collection of photographs of the EA environmental day along the Upper Otter – Taken by Iorwerth Watkins (Westcountry Rivers Trust)

Catchment Walkover Surveys

Walkover surveys were the first action to be completed at the start of the project, as shown in Figure 1 six tributaries and the upper section of the main river were walked. The methodology of the survey was to assign a coverage percentage for balsam extent, starting from the source of the tributary to the confluence with the main river. The points on the maps are irregularly spaced, as the sections in-between one point to the next heading downstream represent the percentage of the balsam for that area. Some of the points may also be located just away from the river as that is where the main balsam cluster would have been found, the surveys were recorded from walking along the bank or in within the river itself so these areas are still in close proximity of the water. In 2013 walkover surveys will take place once again and will include all headwater streams in the Upottery area.

Land Access

Access to the land in the Upper Otter (upstream of the A30) was gained through various means. Primarily the land access was based on previous personal contacts made during work carried out for CSF. 'Champion' farmers were contacted and they offered the names and addresses of relevant riparian land owners within their area. Where this method was not available maps were studied and farms situated close to the river were contacted (often using the web to generate telephone numbers) and asked if their land bordered the river. These were then asked if they were happy to divulge information regarding who owned the neighbouring riparian land.

In some circumstances this method did leave some small holes where we were unable to gain advanced access agreements. Where this happened we either circumnavigated these areas or if possible used public access to complete the survey. Often these small areas were visible from roads or public access tracks so the data wasn't compromised completely. On a couple of occasions access was granted on the day after calling on the associated premises. Databases of those contacted are held within WRT.

Health and Safety

Health and safety briefings were extremely important over the course of the season due to the number of individuals that participated each time. Risk assessments were created by FWAG Southwest and the Westcountry Rivers Trust; both covering all risks associated with working in close vicinity to a stream or river.

The probation service always included new workers each session; however it was always vital to remind participants of the risks each time they enter the field, especially if they haven't had much experience working in outdoor environments.

The streams worked on were relatively small, however there were still pool sections everyone had to wary of. It was made sure that the participants did not walk along the river and work in precarious locations on the bankside.

Removal Method

Pulling Balsam – This was the most commonly used method of controlling Balsam along the rivers in year 1 of the project. This method has advantages and disadvantages, first of all ensures that the whole plant including the root is removed, this helps to stop any regrowth from occurring. This method also allows for the plant to be selectively removed, leaving the native vegetation untouched. A major disadvantage of this method is time. Large quantities of man hours are needed for heavily covered areas to be controlled.

General practice when pulling balsam is place the pulled plant out of reach of the soil, such as on tree branches. Due to the extent of the balsam found, the pulled plants were heaped in large piles, preferably in dry areas out of the flood plain.

It was found that pulling balsam and creating large heaps was very effective especially along the Colaton Raleigh stream, where the heaped balsam degraded quickly without any regrowth occurring. Figure 5 shows the progression from heavy balsam cover (A), to cleared and piled with as little balsam being in contact with the soil as possible (B), to a clear area with a degraded pile (C).

Figure 5 – Photographs showing the a site along the Colaton Raleigh stream before and after pulling had occurred – Photo taken by Craig Proto (Westcountry Rivers Trust)

Generally when creating piles of balsam it is best to check them regularly, as in most cases regrowth will occur, but having the pulled balsam located in large heaps allows for inspection along the river to be quick and simple over the course of the season.

Balsam Strimming – This method is generally used in locations which are too large for balsam pulling to take place. Compared to pulling this method requires less man hours, but is restricted to locations where machinery can reach. Strimming is a quicker method but leaves the area strewn with balsam stems and roots still in the ground. This was a problem along the Colaton Raleigh Stream as areas that were strimmed were greatly affected by regrowth compared to areas that were pulled.

Volunteering, Probation Service, and CDE

The Otter Catchment is full of interested groups and individuals who were willing to spare a few hours a day pulling balsam along their local tributary. Patrick Hamilton of the 'Otter Valley Association' (OVA) was instrumental in engaging the local community and leading groups into the field. Since the start of June 2012 Patrick and others were pulling balsam daily along the Colaton Raleigh Stream, this was also in conjunction with the probation service which was used for 7 days at Colaton (Figure 7).

The sites were perfect for the volunteers to access without any problems, the balsam was extensively located within flat wet woodland, and was only a few minutes' walk along a track from the roadside. This may have had an impact on the number of volunteers who decided to return for multiple days.

Volunteering was also coordinated by Patrick and others for the 'Back Brook' running into Newton Poppleford (Figure 6). Landowners were encouraged to clear any balsam located on their land; with many very keen to help even if they could only completed an hour or two. The Clinton Devon Estate (CDE) used strimming methods regularly on this tributary; it was an effective method but still had the same problem of regrowth as the strimmed areas on the Colaton Raleigh. The CDE also completed work along other streams within catchment as well as locations away from watercourses, to which they had previous knowledge of. Figure 8 shows a table of the hours they spent removing the balsam.

Figure 6 – Photograph of balsam extent on the Back Brook– Taken by Iorwerth Watkins (Westcountry Rivers Trust)

Figure 7 shows the recorded time that was spent on the Colaton Raleigh Stream over this season. Before work had begun, it was never expected that this amount of time would be used on one tributary. This time includes all clearance along with the sweeps throughout August by the OVA members to check any balsam piles and remove any missed plants.

This stream is an anomaly compared to the target tributaries for year 2 due to the extent of balsam found. Once all surveys for next year have been completed, an estimate could be created for the amount days necessary to remove the balsam.

Colaton Brook				
Date	Group	Number of Volunteers	Hours	Man Hours
07/06/2012	OVA	7	3.5	24.5
22/06/2012	Probation Sevice	11	3.5	38.5
26/06/2012	Probation Sevice	10	3.5	35
27/06/2012	Probation Sevice	10	3.5	35
28/06/2012	Probation Sevice	10	3.5	35
29/06/2012	Probation Sevice	10	3.5	35
30/06/2012	Probation Sevice	9	3.5	31.5
01/07/2012	OVA	6	3.5	21
02/07/2012	FWAG, OVA, CP	9	7.5	67.5
04/07/2012	OVA	1	2.5	2.5
05/07/2012	OVA	6	3	18
08/07/2012	OVA	4	4.5	18
10/07/2012	Probation Sevice	7	4	28
10/07/2012	OVA	3	3	9
10/07/2012	OVA	1	2	2
11/07/2012	RSPB	15	4	60
11/07/2012	OVA	2	2.5	5
15/07/2012	OVA	2	3	6
18/07/2012	OVA	3	3	9
19/07/2012	OVA	3	3.5	10.5
20/07/2012	OVA	5	3	15
21/07/2012	OVA	1	2	2
22/07/2012	OVA	3	3	9
23/07/2012	OVA	2	3	6
24/07/2012	OVA	2	3	6
26/07/2012	OVA	1	2	2
26/07/2012	OVA	2	2	4
29/07/2012	OVA	1	2.5	2.5
30/07/2012	OVA	1	2	2
31/07/2012	OVA	2	2.5	5
04/08/2012	OVA	4	4	16
05/08/2012	OVA	2	3	6
07/08/2012	OVA	3	3	9
09/08/2012	OVA	3	3	9
11/08/2012	OVA	3	3	9
13/08/2012	OVA	2	3	6
15/08/2012	OVA	2	3	6
22/08/2012	OVA	2	3	6
23/08/2012	OVA	2	2	4
28/08/2012	OVA	1	3.5	3.5
Hours	126			
Man Hours	619			

Figure 7 – Table showing the amount of hours spent pulling on the Colaton Raeigh Stream over the 1st season– Produced by Craig Proto (Westcountry Rivers Trust)

Site	Manual Work	Hours	Machinery and Spray	Hours
Colaton Raleigh	Pull	3	N/A	
Colaton Raleigh	N/A		Tractor and Mulcher	2
Colaton Raleigh	N/a		Clearing Saw x3	69
Bicton Arena	Pull	2	N/A	
Bicton Arena	N/A		CP3, Clearing Saw	4
Knowle Brook	N/A		Clearing Saw x 2	46
Harpford Woods	Pull	15	N/A	
Knaps Lane Slurry Lagoon	Pull	2	N/A	
EDPH Commons - Hawkerland	Pull	63	N/A	
		85		121

Figure 8 – Table Showing CDE time and method clearing balsam in 1st season

We were very fortunate to be able to work alongside the Clinton Devon Estate; they are the main landowner covering the 'East Devon Heath' tributaries and have a keen interest in eradicating the balsam. They provided numerous man hours' strimming balsam along the streams and rivers but also areas where balsam had invaded away from the streams and rivers. Without the impact the CDE made over the summer our progress would have been greatly affected.

The probation service was used extensively; they were used for 12 days overall, with 7 on the Colaton Raleigh Stream, 2 on the Knowle Brook, and 3 in woodland on CDE land. They were useful by increasing the man power we had at our disposal, but the days that they were used were hit or miss. They could only be used in locations where the balsam coverage was very extensive, and how well the day went depended entirely on the mood of the group and if they wanted to do any work.

Other volunteer days included an environmental day from FWAG Southwest (Figure 9).

Figure 9 – Photograph showing two members FWAG SW on their environmental day on the Colaton Raleigh Stream– Taken by Craig Proto (Westcountry Rivers Trust)

Overall Assessment

Taking everything into account, the first season of the project has been a success, the timings that were anticipated for the clearing back in May were found to be extremely difficult to keep to, as the extent of the balsam problem was not completely known. We had limited time this summer to complete walkover assessments of each river and plan the clearance days, this lead to problems as we could only complete the highest priority rivers. The whole process will be greatly improved next season as we have a full year to plan and prep the clearance days to maximise our efforts.

Having lots of time before the pulling season in 2013 will also allow us to engage fully with landowners across the catchment and build up volunteer contacts, people who would be willing to commit two hours occasionally pulling HB on their local tributary. This season we used Patrick Hamilton and the OVA's contacts for attracting volunteers. While this was an effective procedure for the East Devon Heath Tributaries, it may well be a different task when we need to plan days along the rivers and streams that run down from the Blackdown Hills AONB. We will engage further with the AONB and work together to organise pulling days in locations that have easy access, are close to local villages and towns and where the majority of the volunteers will be from.

It is unknown if we will use the probation service again for any pulling days. Each day was very hit or miss with some individuals causing distractions stopping everybody else from continuing. At the cost of £160 a day, we need to ascertain whether is worth paying that much for 3.5 hours' worth of work a day with roughly 8-10 people, compared to a contractor with a strimmer who will work a full 7.5 hour day. This will be decided before we go ahead and book more days.

Overall with the time constraints that were had prior to the pulling season, everything went very well. We have decisions to make about how we are going to run next year's clearance days once we have analysed all the priority rivers while they are still in bloom. So far the river love and wolf have been walked and were found to have very sparse balsam populations, when compared to the extent of the balsam along the East Devon Heath Tributaries; these major tributaries will theoretically take a third of the time to clear. Once the upper River Otter and the Vine Water have been walked we can fully plan for next season, as they are our four priority locations. The budleigh brook is also an important river to clear, but the CDE plan to complete this work next year, however we will have to set aside a day or two to help with the clearance and re-checking the stream over the course of the summer.

Future work

Return to the original tributaries

It is imperative to return to those tributaries focussed on in 2012 (Figure 12) to continue the progress made this year. Actions taken in 2012 will dent the abundance of balsam that

returns, though the seed bank and missed plants will mean that eradication is impossible in one year. The man-hours required to clear the same lengths of river in the East Devon area should be significantly less in 2013 and will free up time to focus on those tributaries that require attention (Budleigh Brook, Wolf etc).

Alongside the professional help used in 2012 it is very important to continue supporting and encouraging the voluntary sector. There is also room to increase the number of volunteers involved and it is vital to support advocates such as Patrick Hamilton, to maintain the momentum generated thus far.

Next year we will also provide in detail before and after mapping showing exactly which areas are fully cleared. We could not provide this for the first year as our Autumn walkovers were prioritized for the next season.

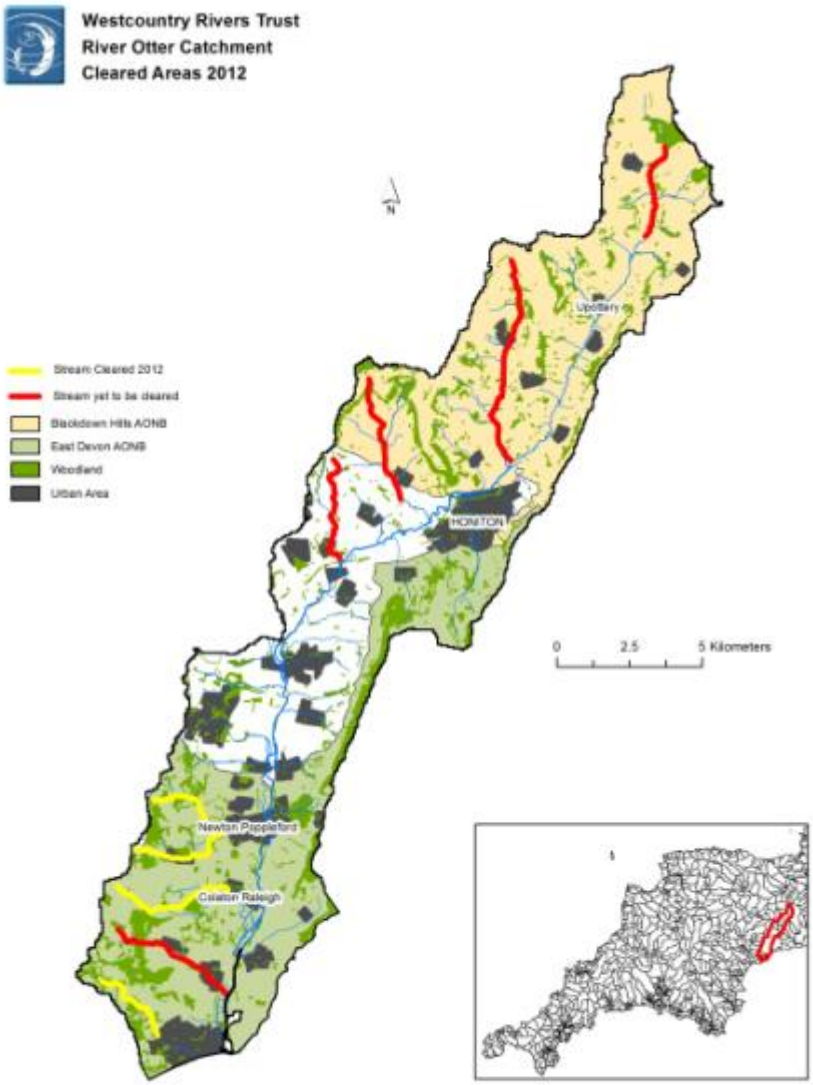


Figure 10 – Map Showing streams cleared in the first year of the project (Summer 2012)– Produced by Craig Proto (Westcountry Rivers Trust)

Education programme – Understanding and sustainable success

Subject to funding it would be a useful exercise to carry out an education programme that will help maintain the momentum generated thus far, whilst also offering a sustainable solution to control balsam well into the future. Land owners could all receive the Himalayan Balsam leaflet to increase understanding of the problem and also methods of control. If the individuals take responsibility at the field scale, the control at the catchment scale would become more realistic.

Talking with land owners in the Upper Otter tributaries has revealed that some recognise the plants description but don't know what it is. Others recognise the plant but don't understand the problem or the methods of control. This education programme could remain simple with the distribution of leaflets, or expanded into practical farm workshops, subject to funding. A cheap but effective option would be to bolt a talk about balsam on to the side of a local NFU meeting. These meetings can be well attended and any questions raised by the HB issue can be addressed in person.

Focus on tributaries with patchy HB problems

This autumns river assessments have revealed that in several locations the extent of HB is limited to disparate patches. This is encouraging as it means it has become established in these areas relatively recently and the seed bank could be limited. It should also mean that subject to sufficient number of volunteers/paid helpers; significant stretches of these tributaries could be addressed in one year. A delay would also give the species more time to establish itself, making its control more difficult.

These catchment surveys also found that some areas of HB were located where access could be difficult, and the proximity of other vegetation would make the pulling method almost impossible (Figure 11). Often these challenges could be overcome but it may limit the range of volunteer help that would be appropriate, health and safety restrictions could dictate that certain sections are only dealt with by professionals. As many of our volunteers are likely to be retired, they are very enthusiastic but may be limited to locations with good terrain.

Dependent upon local enthusiasm

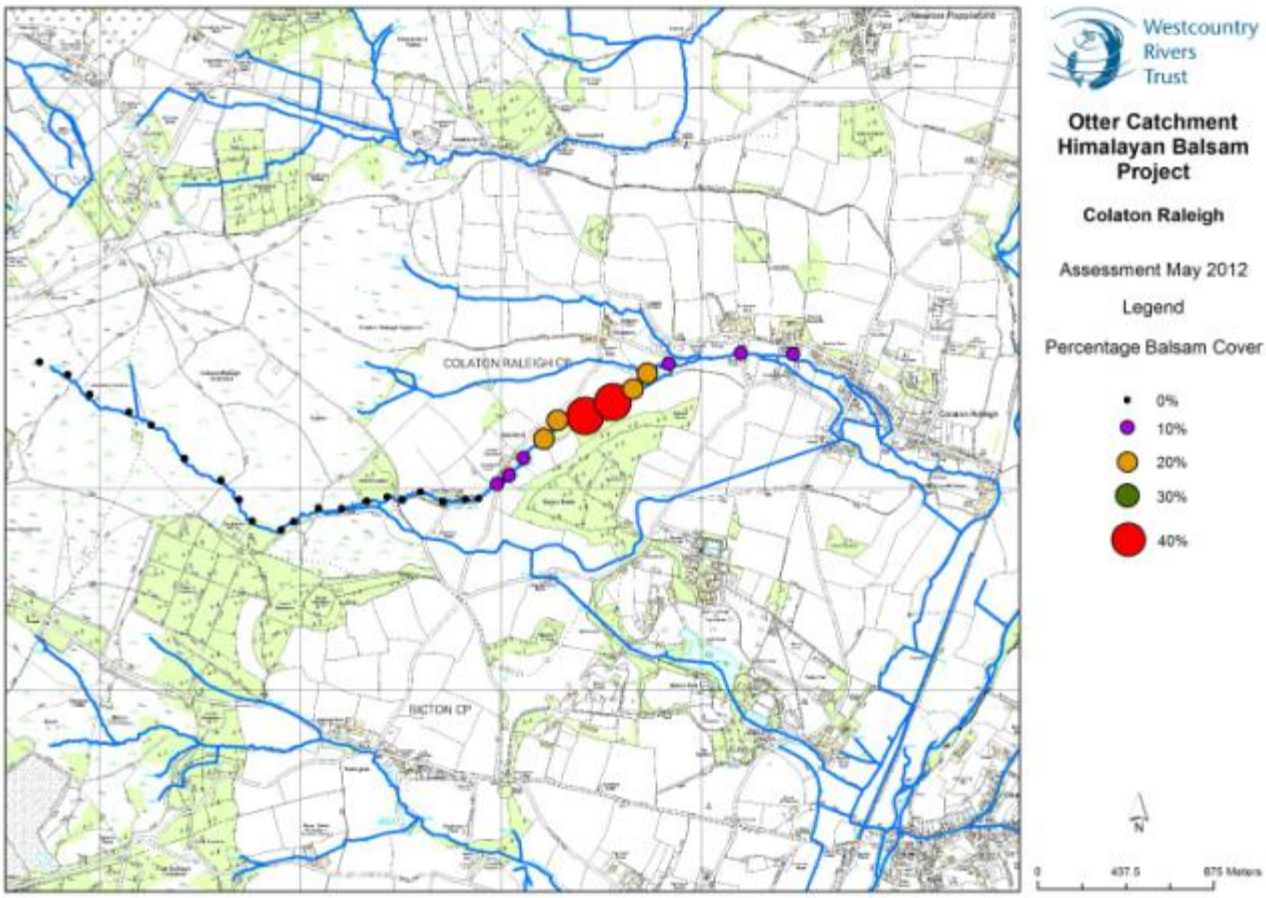
New areas chosen for focus in 2013 should be based upon research in the early months of 2013 to gauge the levels of volunteer enthusiasm in close proximity to the problem. Whilst some volunteers have expressed their willingness to travel to help in other areas within the Otter catchment, there are likely to be few who would travel more than a few miles. Again, landowner participation will be crucial and could also lead to increased volunteer numbers, due to their local knowledge and contacts.

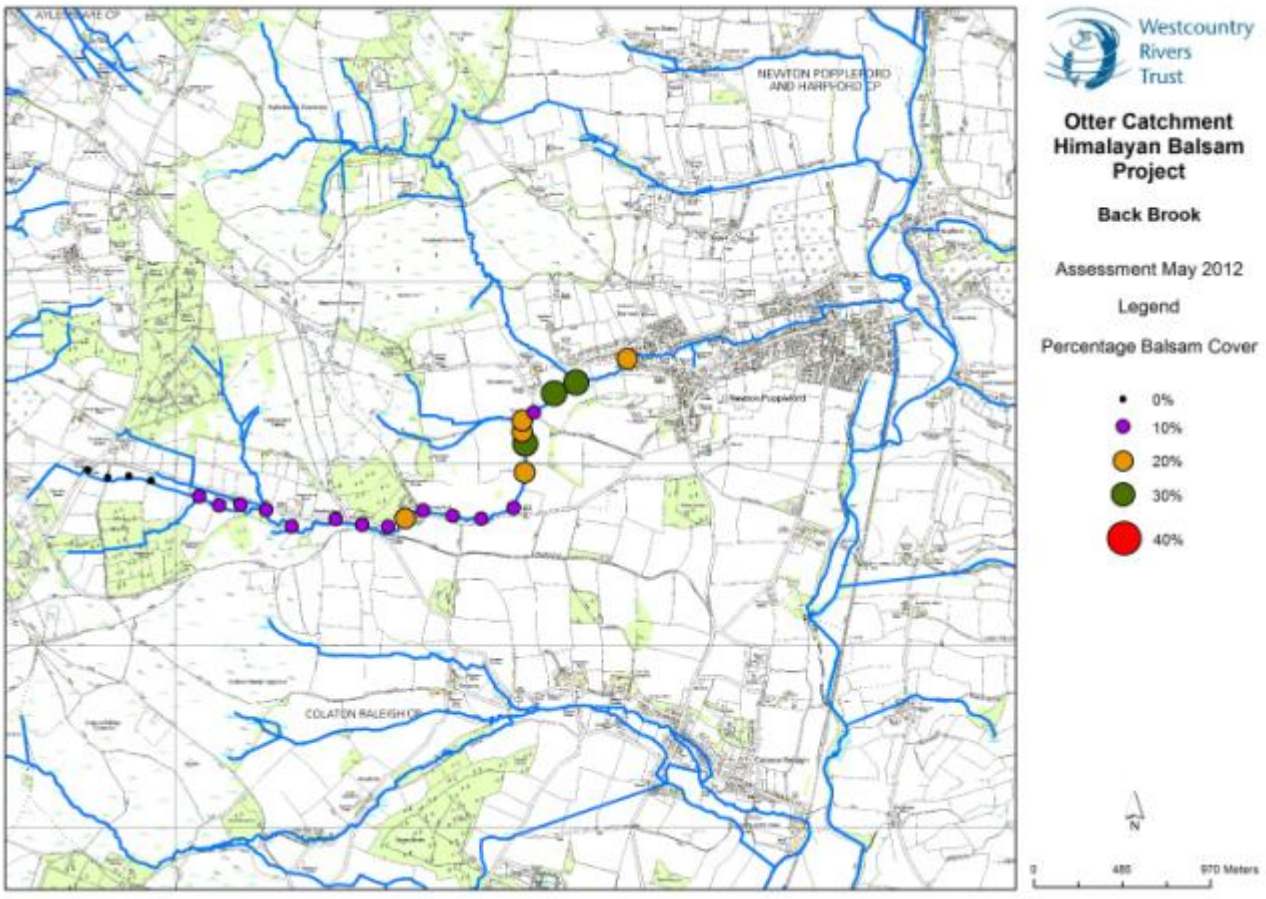
The movement of the probation groups between the disparate sites could also prove an issue in these areas. Their use is likely to be more effective in the downstream locations where the plant is more established and the group would be able to spend long periods in the same place.

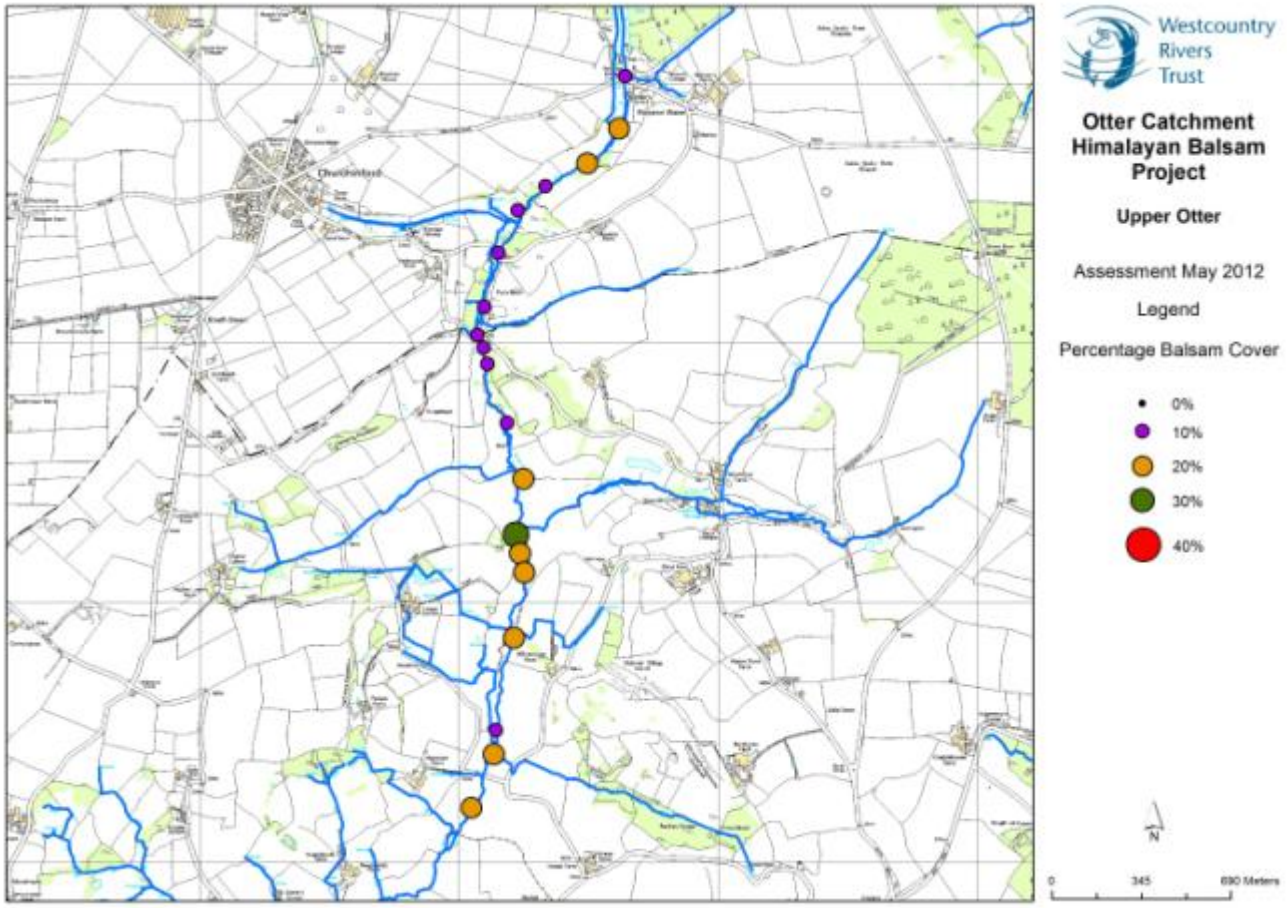
In the Upper Otter there has been some success by volunteers who have been working on the same problem for many years. Cllr Roy Combs has worked to keep the Otterhead lakes clear of HB for several years and has also worked on the River Gissage. This work could be the foundation for further activity in this area during 2013.

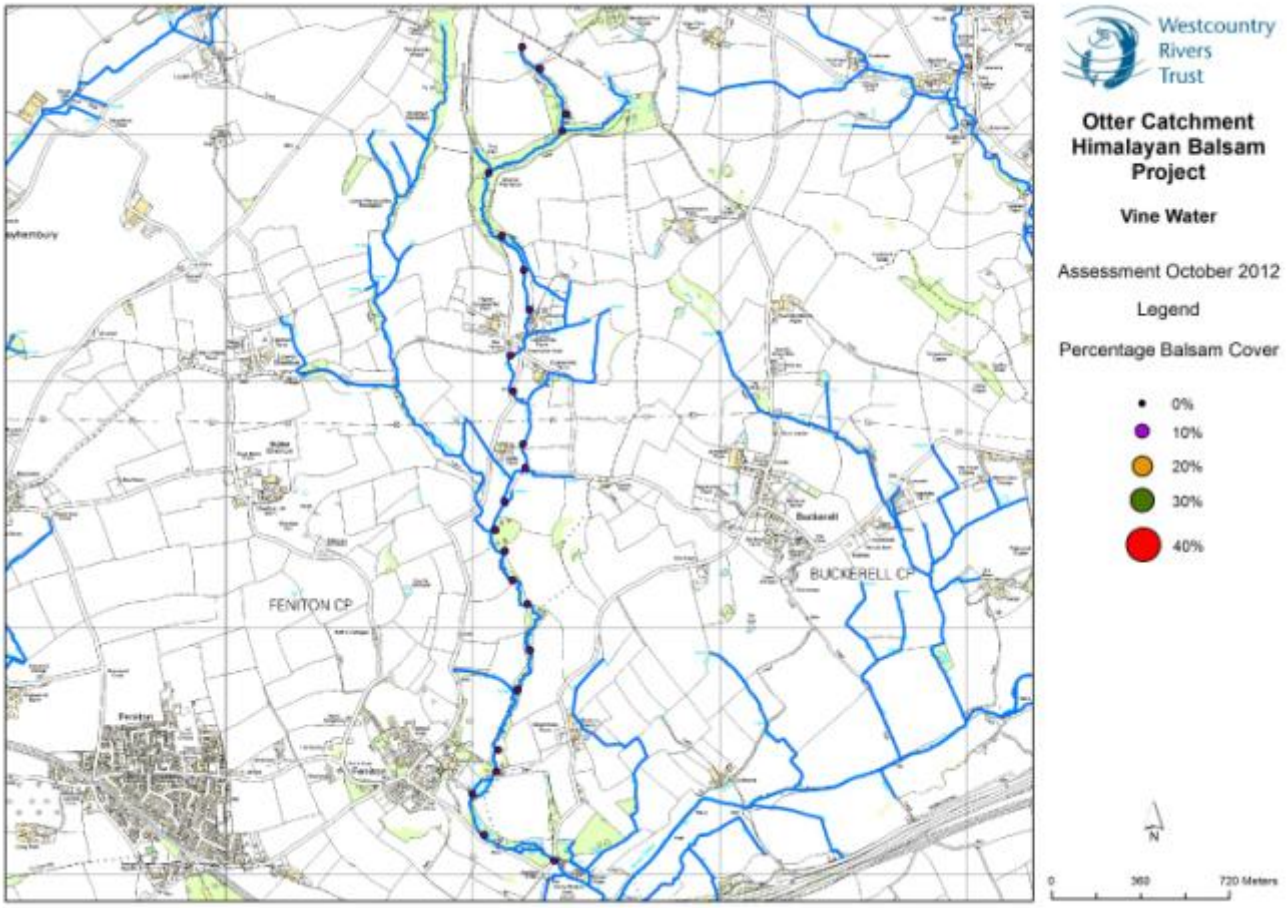
Figure 11 – Photographs showing examples where balsam was found along the River Wolf in locations where access may be difficult– Taken by Iorwerth Watkins (Westcountry Rivers Trust)

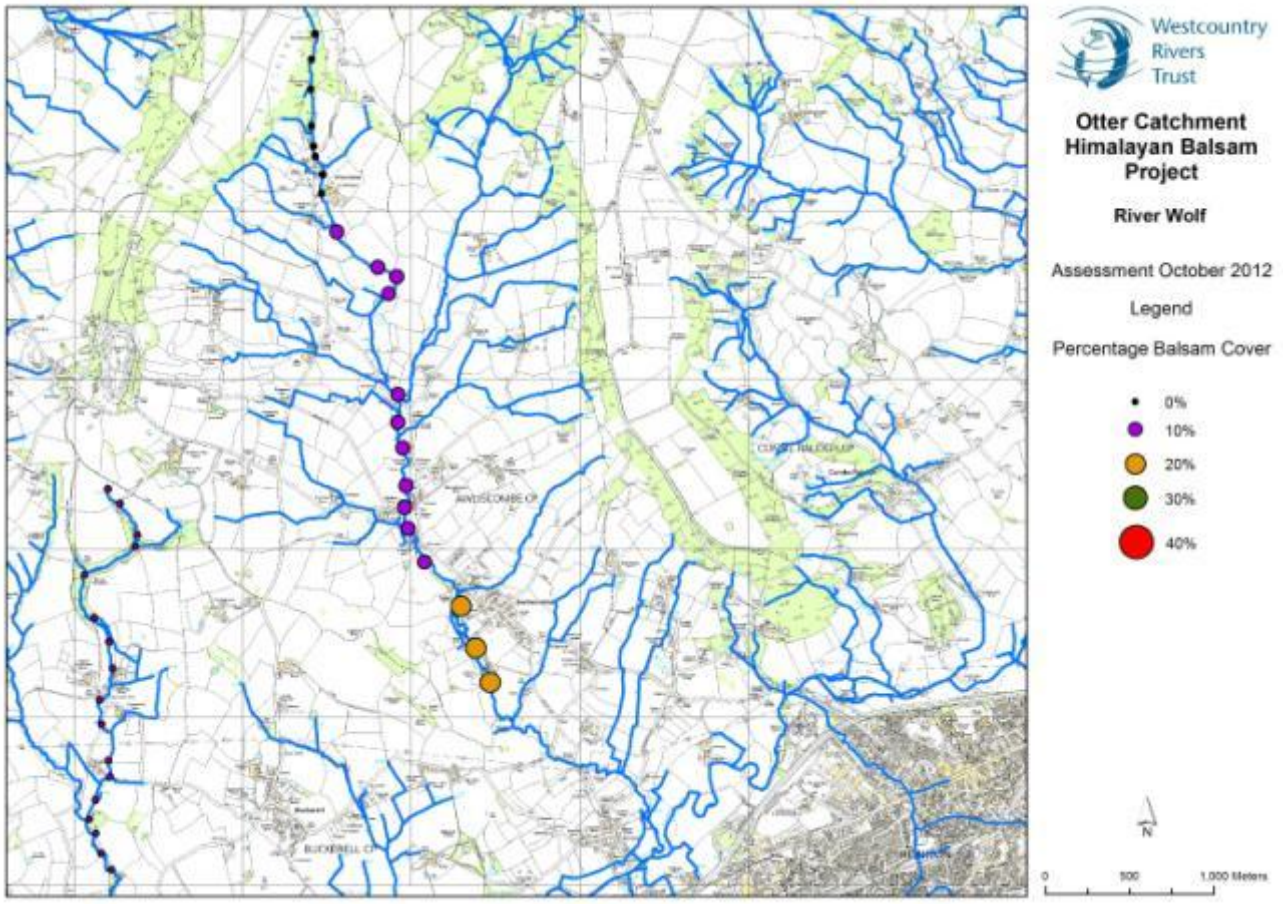
Appendix

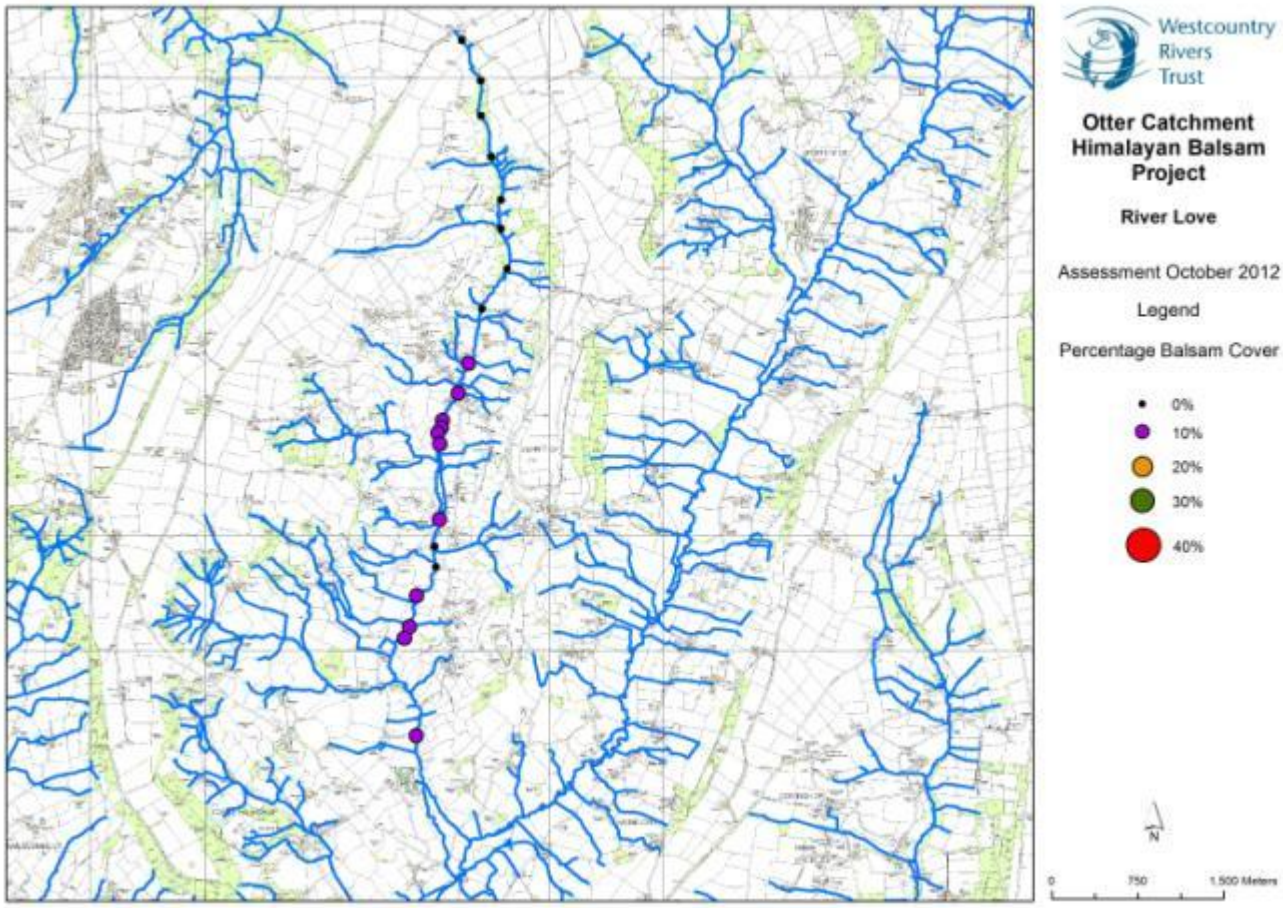

COLATON RALEIGH CP
SIDTON CP
Westcountry Rivers Trust
Otter Catchment Himalayan Balsam Project
Colaton Raleigh
Assessment May 2012
Legend
Percentage Balsam Cover
0%
10%
20%
30%
40%
N
0
437.5
875 Meters

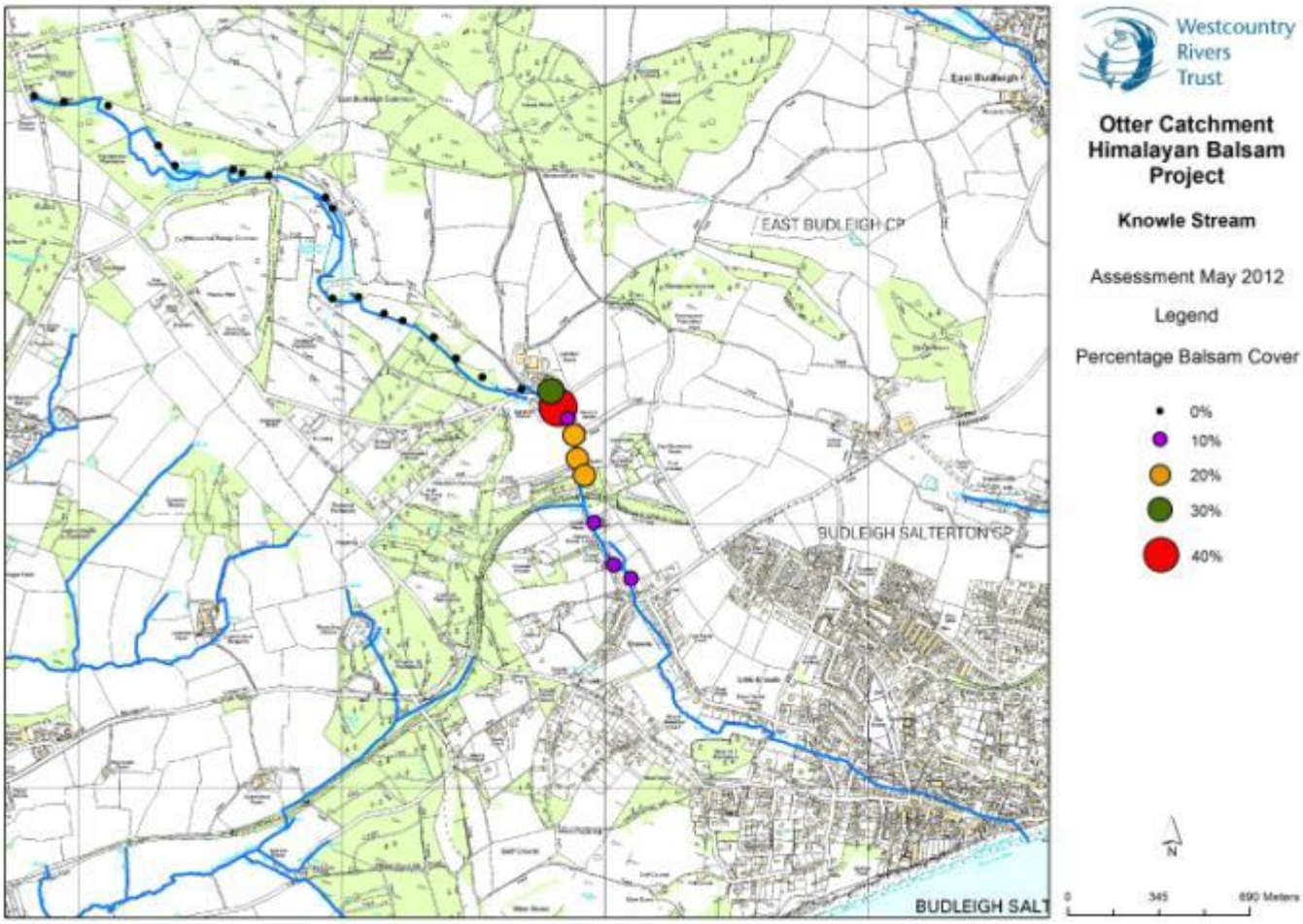

NEWTON POPPLEFORD AND HARPFORD CP
COLATON RALEIGH CP
Westcountry Rivers Trust
Otter Catchment Himalayan Balsam Project
Back Brook
Assessment May 2012
Legend
Percentage Balsam Cover
0%
10%
20%
30%
40%
N
0
485
970 Meters

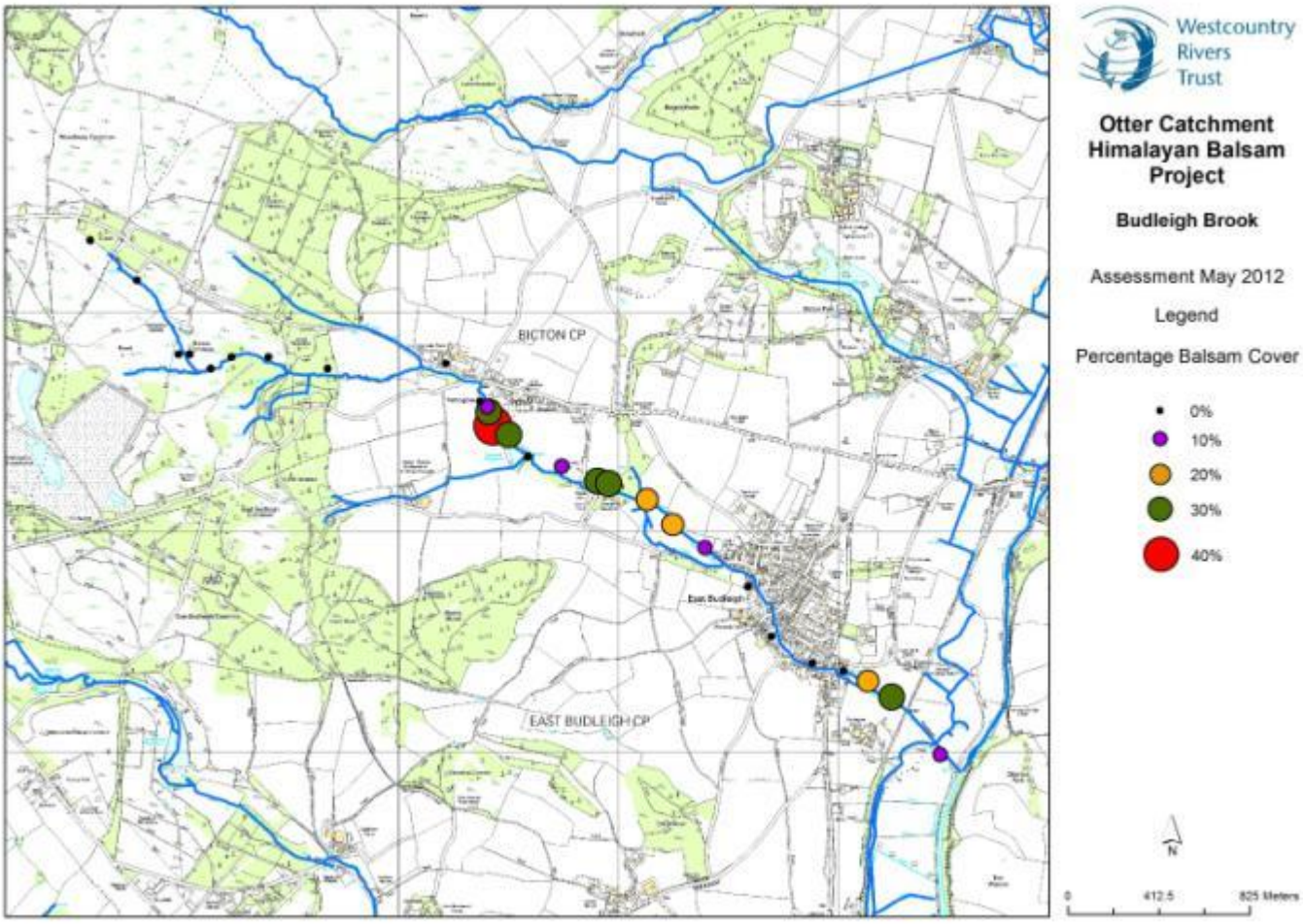

Westcountry Rivers Trust
Otter Catchment Himalayan Balsam Project
Upper Otter
Assessment May 2012
Legend
Percentage Balsam Cover
0%
10%
20%
30%
40%
N
0
345
690 Meters


Westcountry Rivers Trust
Otter Catchment Himalayan Balsam Project
Vine Water
Assessment October 2012
Legend
Percentage Balsam Cover
0%
10%
20%
30%
40%
FENITON CP
BUCKERELL CP
N
0
360
720 Meters


Westcountry Rivers Trust
Otter Catchment Himalayan Balsam Project
River Wolf
Assessment October 2012
Legend
Percentage Balsam Cover
0%
10%
20%
30%
40%
N
0
500
1,000 Meters


Westcountry Rivers Trust
Otter Catchment Himalayan Balsam Project
River Love
Assessment October 2012
Legend
Percentage Balsam Cover
0%
10%
20%
30%
40%
N
0
750
1,500 Meters


EAST BUDLEIGH CP
BUDLEIGH SALTERTON CP
BUDLEIGH SALT
Westcountry Rivers Trust
Otter Catchment Himalayan Balsam Project
Knowle Stream
Assessment May 2012
Legend
Percentage Balsam Cover
0%
10%
20%
30%
40%
N
0
345
690 Meters


BICTON CP
EAST BUDLEIGH CP
Westcountry Rivers Trust
Otter Catchment Himalayan Balsam Project
Budleigh Brook
Assessment May 2012
Legend
Percentage Balsam Cover
0%
10%
20%
30%
40%
N
0
412.5
825 Meters