

GROUNDWORK

Conservation Volunteers

OBSERVATIONS OF RHODODENDRON IN KILLARNEY OAKWOOD AREAS CLEARED & MAINTAINED BY GROUNDWORK CONSERVATION VOLUNTEERS IN THE PERIOD 1981 - 2005

(1) Results from Woodlands Visited In June – September 2013: Cahnicaun Wood; Looscaunagh (Cahernabane) Wood; Eamonn's Wood.

(2) Results from Woodlands Visited In May - June 2014: Cahnicaun Wood; Looscaunagh Wood; Glaisín na Marbh Wood, Eagle's Nest Wood & Tomies Wood

14th June 2014



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Please Note: This document is intended to accompany two albums of geotagged Rhododendron photographs which can be viewed in the context of their mapped locations on Picasa Web Albums using the links provided here:

Results of surveys of June – September 2013

<https://picasaweb.google.com/104514483166603558154/GeotaggedRhodoPhotos?authuser=0&authkey=Gv1sRgCMSd77XmpOBu&feat=directlink>

Results of surveys of May- June 2014

<https://picasaweb.google.com/104514483166603558154/GeotaggedRhodoPhotos2014?authuser=0&authkey=Gv1sRgCP2-zaim0uCLAg&feat=directlink>

(For best viewing, in Picasa Web Albums, click on “View Map” followed by “Satellite”)

1. INTRODUCTION

Groundwork carried out a volunteer program of Rhododendron clearance in the western oakwoods of Killarney National Park every year from 1981 to 2009, after which its offers to continue this program were declined by the National Parks & Wildlife Service. In 2013 Groundwork launched an ongoing program of observation of oakwood areas which had been cleared and maintained by Groundwork. The objective of the observations is to determine the efficacy of the NPWS maintenance program which has been in place since these oakwood areas were last systematically covered by Groundwork.

The present report includes the results of woodland visits carried out in 2013 and in 2014.

2. BACKGROUND TO THE GROUNDWORK KILLARNEY OAKWOODS PROJECT

(If you have recently read the Groundwork October 2013 report you may wish to proceed directly to Section 3)

The Groundwork Conservation Volunteers' Killarney Oakwood Project ran for almost 30 years from 1981 until 2009. During this period Groundwork organized annual NPWS subsidised summer workcamps involving 4,969 volunteers over 254 weeks. To illustrate the scale and global reach of the project: in the six summers from 2002 to 2007, Groundwork ran 12 week-long residential workcamps each summer with an average of 20 volunteers each week. In this 6 year period volunteers came from Ireland, Germany, France, England, Poland, Holland, Italy, Spain, Switzerland, U.S.A, Australia, Canada, Scotland, Wales, Czech Republic, Belgium, South Africa, New Zealand, Greece, Austria, Basque Country, Finland, South Korea, Ghana, Sweden, Hungary, Chile, Latvia, Denmark, Taiwan, Japan, Brazil and Croatia.

During the period 1981–2005 c.40% of the National Park Oakwoods, including Glaisín na Marbh, Eamonn's Wood, Cahnicaun, Upper and Lower Doogary, Upper and Lower Kingsboro, Cahernabane, Looscaunagh and Tomies Wood, were cleared of Rhododendron by Groundwork.

1981 – 2005

After initial clearance the Groundwork-cleared oakwoods were revisited by Groundwork every 6-8 years to systematically check the woods and remove any regrown or new Rhododendron before it had a chance to set seed (Rhododendron typically takes about ten years to reach flowering stage). On these maintenance visits Groundwork consistently applied the "systematic sweep" method, developed by Groundwork and described in NPWS Irish Wildlife Manual No. 33 (Higgins 2008). Any plants found were removed or killed using methods now specified in Irish Wildlife Manual No. 33. By preventing seed production the woods were maintained in a cleared condition as defined in the Irish Wildlife Manual No. 33.

The cleared oakwoods were in the western section of the national park and included areas which, based on historical research and pollen analysis have been described

as “continuously forested since the last ice age” and as “among the most pristine of upland woodlands to survive in these islands” (Bradshaw & Quirke 2001). The progress of the project was described in detailed annual Groundwork reports and in progress reports for the periods 1981–1991 (Quirke 1991), 1981–2000 (Barron 2000) and 1981–2006 (Anon 2006).

2005

In 2005 a detailed five year program for the maintenance of cleared oakwood areas was included in the official Killarney National Park Management Plan 2005–2009 (www.npws.ie/publications/archive/KNPMP.pdf). In this plan maintenance of the Groundwork-cleared areas by Groundwork was scheduled on a year by year basis for the five year period of the plan.

2008

In 2008 a range of Rhododendron eradication methods including all of those used by Groundwork were incorporated into the NPWS published “*Rhododendron ponticum: A guide to management on nature conservation sites. Irish Wildlife Manuals, No. 33. Higgins (2008).* (www.npws.ie/publications/irishwildlifemanuals/IWM33.pdf) The manual states: “*In woodland ..systematic coverage of the entire area by lines of operatives is the only practical way to ensure that all visible plants will be spotted for removal.*”

2005-2009

Despite the program set out in the 2005 KNP Management Plan, from 2005 responsibility for the maintenance clearance of the Groundwork-cleared woods was progressively taken over by NPWS. As a result Groundwork-cleared woods such as Cahonicaun, which had last been systematically checked by Groundwork in 2002, had come under the NPWS maintenance program before the next Groundwork maintenance visit scheduled for 2009 in the KNP Management Plan (NPWS 2005).

Despite the Rhododendron clearance methods recommendations in NPWS Wildlife Manual No.33, a number of methodologies used by Groundwork such as physical removal of plants using hand tools were banned by KNP management (to be replaced by herbicide treatment), and the systematic coverage method described in Manual No.33 was discontinued in the NPWS maintenance of Groundwork-cleared oakwoods. Since 2012 the NPWS methodology appears to have moved on again, and rather than using herbicide, plants up to 0.7m high are dealt with using the “non-herbicidal method” which consists of cutting through the plant stem close to the ground with no further treatment (see O’Toole 2012). NPWS has expressed the intention of having this method scientifically tested. Such scientific testing of this method has not yet commenced; nevertheless it appears that this method has already been widely applied in the oakwood of Killarney National Park for the last two years, and is set to continue.

Following these changes in policy and methodology, in 2009 Killarney National Park management declined Groundwork’s proposed annual work programmes (most recently submitted for 2012), and the Groundwork Killarney project came to an end.

Since 2009 the responsibility for the maintenance of the Groundwork-cleared woods has therefore been solely in the hands of NPWS and its contractors and volunteers.

3. FINDINGS OF OAKWOOD VISITS 2013 & 2014

3.1 CAHNICAUN WOOD (North Eastern Half) - Area 1, 2 & 3

Clearance History: The north eastern half of Cahnicaun Wood was first cleared by Groundwork in 1987 and the wood was maintained in a cleared condition until 2002 by regular systematic phase 3 visits (methods in Irish Wildlife Manual No.33). The next Groundwork maintenance visit was scheduled for 2009 but Groundwork was not permitted to carry out this work. Responsibility for the maintenance of the wood was taken over by NPWS, and NPWS maintenance took place in 2008 & 2012 (O'Toole 2012).

Findings of 2013 Visit (see Map 1): In Cahnicaun Wood Areas 1 & 2 the assessment consisted of a sweep for c.1¼ hours by seven people on 9/6/13. Numerous well scattered Rhododendron ranging from small seedlings to c.2m high plants were observed. Substantial numbers of plants >0.5m high were found and a significant number of flowering plants were observed, most of which were flowering for the first time in 2013. A small proportion (<10%) of the plants >0.5m high observed were photographed with geotagging.

In Cahnicaun Area 3 the assessment consisted of a sweep for c.1 hour by seven people on 9/6/13. A substantial number of plants >0.5m to 1.5m in height were observed and c. 20 flowering plants were observed, most of which were flowering for the first time in 2013. A small proportion (c.20%) of the observed plants >0.5m high were photographed with geotagging.

Though numerous herbicide treated Rhododendron (many dead and a significant number surviving) were observed, particularly in Area 1 at the northern end of the wood, the findings of the 2013 visit indicated that no systematic Rhododendron clearance was carried out in these areas of Cahnicaun Wood during the NPWS maintenance visit in 2012. This was clearly evident as systematically maintained areas would have no visible Rhododendron apart from very small seedlings a year following clearance. The results were consistent with no systematic clearance having been carried out in these areas since the last Groundwork coverage in 2002. The fact that the flowering plants observed were virtually all flowering for the first time in 2013 was indicative of a successful systematic clearance c.10 years previously, as it takes Rhododendron c.10 years to reach flowering stage.

It was concluded from the findings of the 2013 visit to Cahnicaun that the north eastern half of Cahnicaun Wood was likely to have a major and increasing Rhododendron seed production from then until systematic clearance is carried out. It was predicted that when seed was produced in late 2013, a significant proportion of this area was likely to revert from cleared status to un-cleared status as defined in Irish Wildlife Manual No.33, having been maintained in cleared status for the previous 23 years. It was concluded that most of the north eastern half of Cahnicaun Wood was likely to have reverted from cleared status to un-cleared status as defined in Irish Wildlife Manual No.33 by the time of the next NPWS scheduled maintenance

visit in 2017 (Long Term Strategic Programme for the Control of *Rhododendron ponticum* in Killarney National Park. O'Toole 2012).

For photos of Rhododendron recorded in 2013 see:

<https://picasaweb.google.com/104514483166603558154/GeotaggedRhodoPhotos?authuser=0&authkey=Gv1sRgCMSd77XmpOBu&feat=directlink>

Findings of 2014 Visit - Area 1 (see Map 2): On 1/6/14 a one person transect was carried out in Area 1 for 1½ hours to check if any unscheduled clearance had been carried out by NPWS to deal with accelerating re-infestation observed by GW in the northern section of the wood in 2013. Geotagged photographs were taken of Rhododendron plants over 0.5m high. The prediction of a major and increasing Rhododendron seed production in this section of Cahnicaun made in the 2013 report was borne out by the findings of this visit. Over 155 Rhododendron over 0.5m high (most in the range 1–3 m high) were recorded and thickets of Rhododendron were beginning to form. Over 62 of these plants were flowering many for the first time in 2014. Dense re-infestation by smaller plants was also observed along much of the transect. It is clear from the 2014 visit that exponential infestation of Cahnicaun wood is now occurring at its north eastern end twelve years after the last Groundwork clearance.

Less than a year and a half before the 2014 visit Cahnicaun Wood was classified as having “*Good Rhododendron Status*”, as having “*no seed source remaining on site*” and as not requiring a revisit until 2017 (Long Term Strategic Programme for the Control of *Rhododendron ponticum* in Killarney National Park. O'Toole 2012). The findings of the 2014 Groundwork visit are not compatible with the conclusions of the Long Term Strategic Programme.

For photos of Rhododendron recorded in 2014 see:

<https://picasaweb.google.com/104514483166603558154/GeotaggedRhodoPhotos2014?authuser=0&authkey=Gv1sRgCP2-zaim0uCLAg&feat=directlink>

3.2 CAHNICAUN WOOD AREA 4 (see Map 1)

Clearance History: This area of Cahnicaun Oakwood was first cleared by Groundwork in 1982 and the wood was maintained in a cleared condition by regular systematic Phase 3 visits (method in Irish Wildlife Manual No.33) until 2002, after which responsibility for the maintenance of the wood was taken over by NPWS. NPWS visits took place in 2008 & 2012 (O'Toole 2012).

Findings of 2013 Visit: The assessment consisted of a sweep for c.45 minutes by three people on 9/6/13. No seedlings were observed in this area. A total of only five plants were observed, all of which were c.1m in height, except for one small plant which had regrown from a sprayed plant. All plants observed were photographed with geotagging. On the basis of this incomplete assessment, it is concluded that whereas this section of wood still apparently retains its cleared status, the presence

of small numbers of *Rhododendron* of c.1m high indicates that systematic clearance was not carried out in 2012; plants of this size are likely to produce seed before the next NPWS scheduled maintenance visit which is in 2017 (Long Term Strategic Programme for the Control of *Rhododendron ponticum* in Killarney National Park. O'Toole 2012).

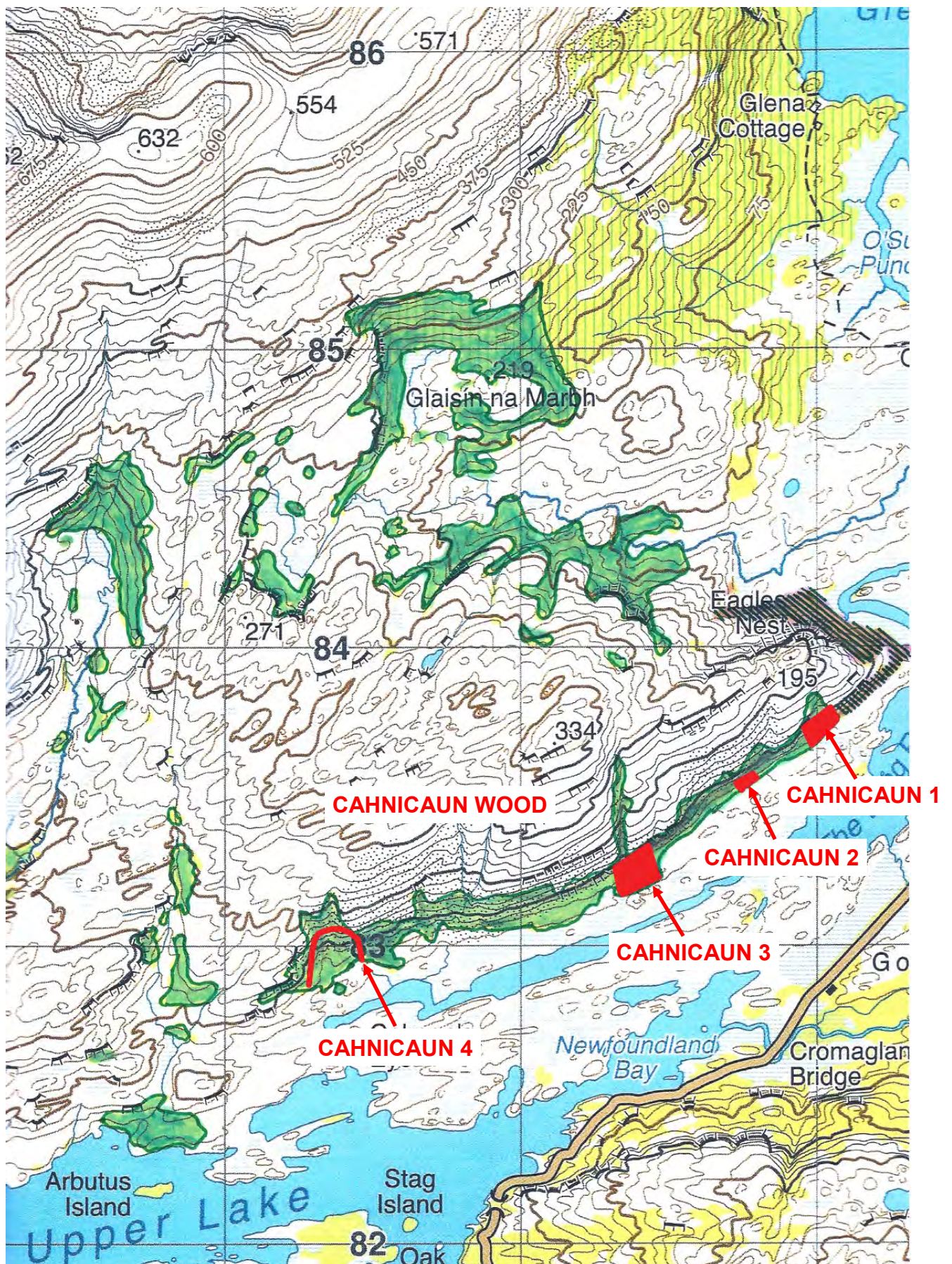
For photos of *Rhododendron* recorded in 2013 see:

<https://picasaweb.google.com/104514483166603558154/GeotaggedRhodoPhotos?authuser=0&authkey=Gv1sRgCMSd77XmpOBu&feat=directlink>

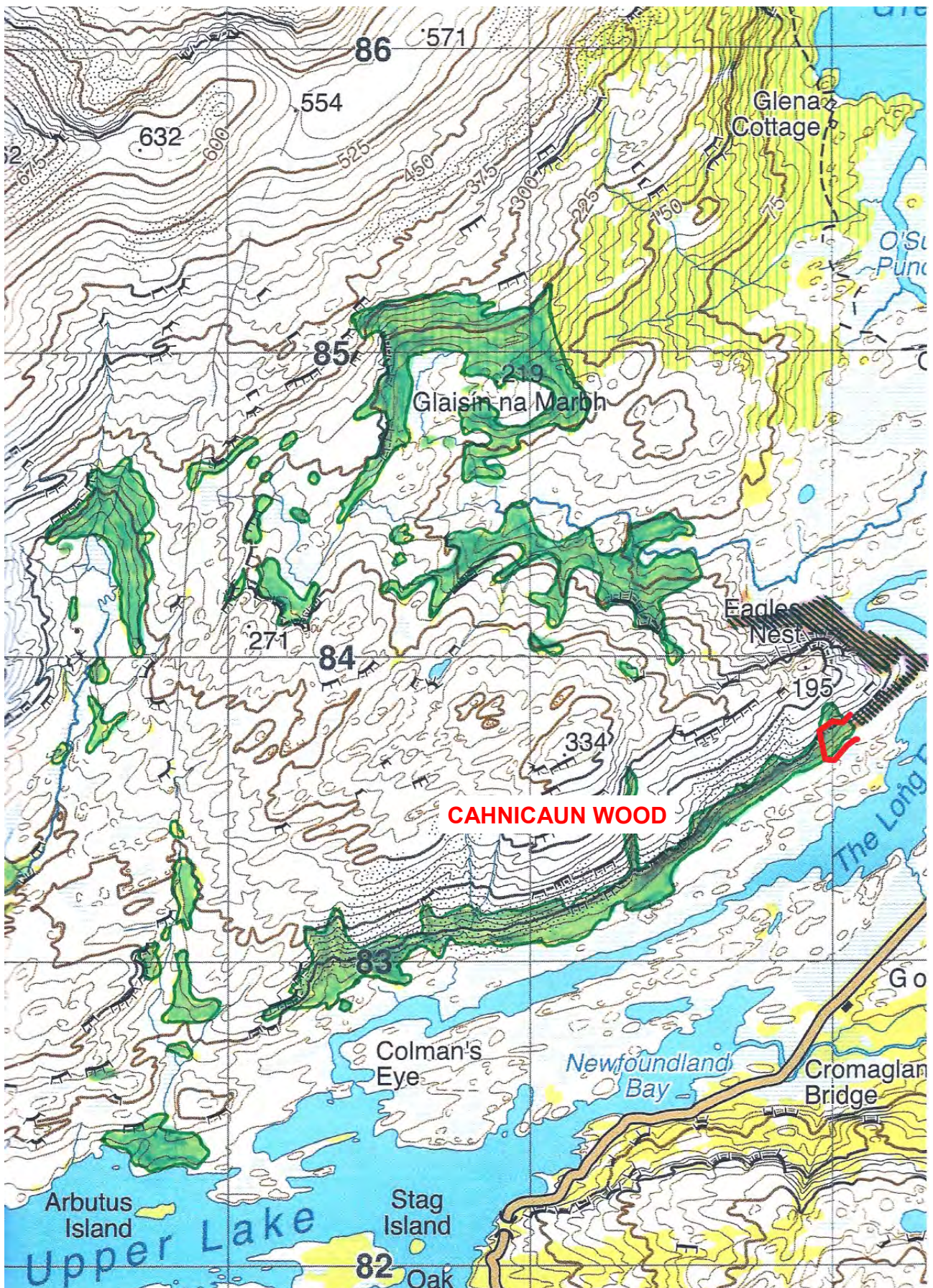
Findings in 2014: No visit yet carried out in 2014.

MAP 1 AREAS OBSERVED IN CAHNICAUN WOOD JUNE 2013

(Areas formerly cleared and maintained by Groundwork shown in dark green;
areas visited by Groundwork in 2013 shown in red)



MAP 2 AREA OBSERVED IN CAHNICAUN WOOD JUNE 2014
(Areas formerly cleared and maintained by Groundwork shown in dark green;
area visited by Groundwork in 2014 shown in red)



3.3 LOOSCAUNAGH (CAHERNABANE) WOOD

Clearance History: This area of Looscaunagh Wood was first cleared by Groundwork in 1983 and the wood was maintained in a cleared condition by regular systematic Phase 3 visits (method of Irish Wildlife Manual No.33) until 2006, after which responsibility for the maintenance of the wood was taken over by NPWS. NPWS maintenance visits took place in 2011 & 2012 (O'Toole 2012).

Findings of 2013 Visit (See Map 3): The assessment consisted of a sweep by three people for c. 4.5 hours on 6/7/13. Geotagged photographs were taken of *Rhododendron* plants over 0.5m high. One clump of c.20 flowering plants which had regrown from cut stumps in a pocket of wood above the upper edge of the wood was recorded. Apart from this, c.80 plants in the range 0.5 – 1m in height and c.50 plants in the range 1m- 2m in height were recorded, of which three plants were recorded which had flowered for the first time in 2013. Most plants >0.5m high observed were photographed with geotagging.

The findings of the visit indicate that no systematic *Rhododendron* clearance was carried out here in 2011 or 2012. This is clearly evident as systematically maintained areas would have no visible *Rhododendron* apart from very small seedlings a year following clearance. The results are consistent with no systematic clearance having been carried out here since the last systematic Groundwork coverage in 2006.

If the Groundwork programme had continued, the next systematic maintenance clearance after the 2006 coverage would have taken place in 2012 or 2013, which would have removed all the plants recorded here (in 2013) prior to any seed having been produced (apart from the single regrown clump which would appear to have been cut down during the last Groundwork coverage in 2006, but not successfully treated with herbicide).

The findings indicated that the area of Looscaunagh Wood visited would begin to produce significant amounts of *Rhododendron* seed in the next 2-3 years, well in advance of the next scheduled NPWS visit in 2017 (Long Term Strategic Programme for the Control of *Rhododendron ponticum* in Killarney National Park. O'Toole 2012), by which time much of this area is likely to have reverted from cleared status to un-cleared status as defined in Irish Wildlife Manual No.33.

For photos of *Rhododendron* recorded in 2013 see:

<https://picasaweb.google.com/104514483166603558154/GeotaggedRhodoPhotos?authuser=0&authkey=Gv1sRgCMSd77XmpOBu&feat=directlink>

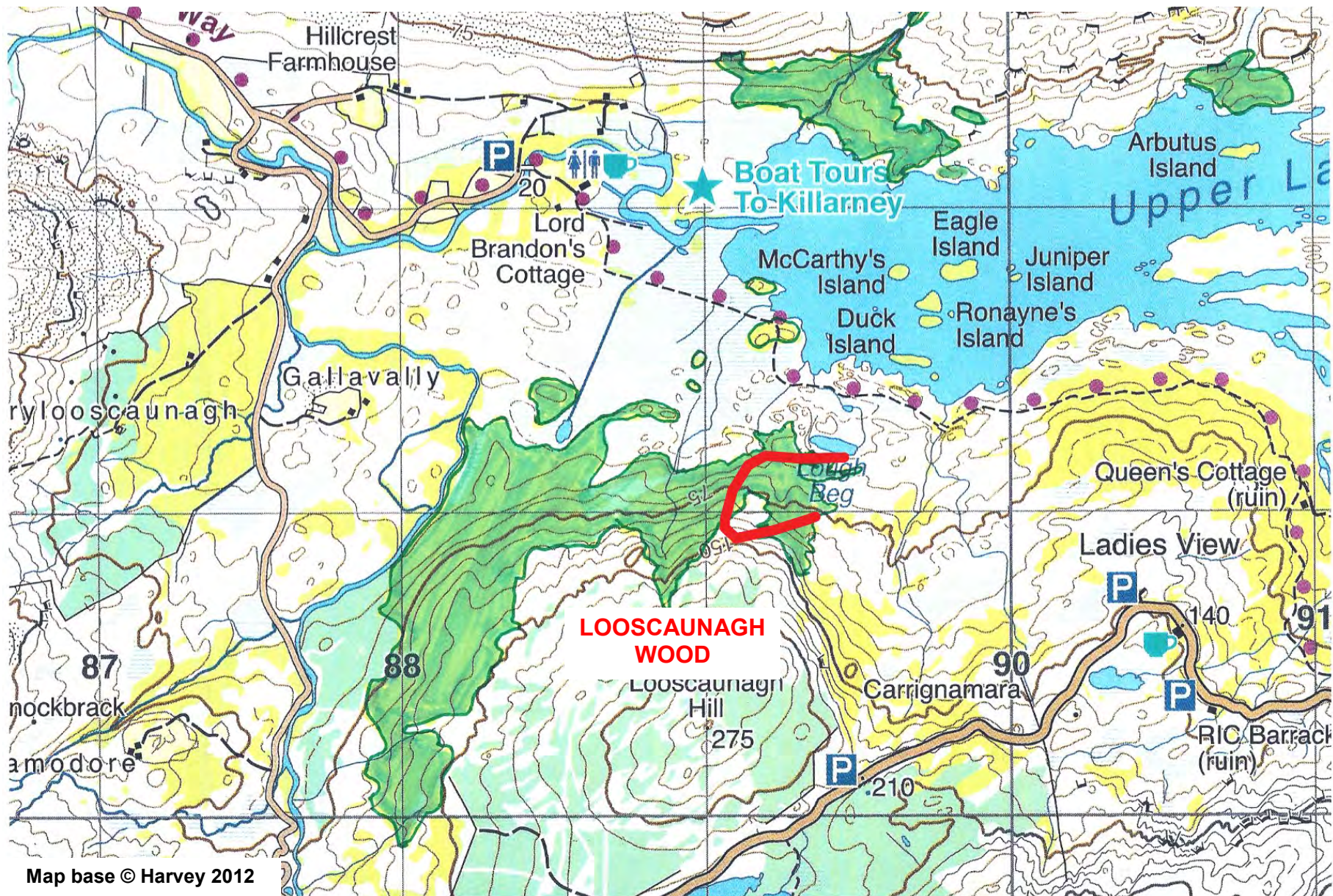
Findings of 2014 Visit (See Map 4): The assessment consisted of a one person 1 hour transect on 20/5/14. Geotagged photographs were taken of *Rhododendron* plants over 0.5m high. The area corresponded to part of the area assessed in 2013, when significant numbers of *rhododendron* in the range 1m–2m high but no flowering plants were recorded. On the 2014 transect twenty one *rhododendron* >0.5m high were recorded, nine of which were flowering for the first time. Whereas the area

covered was very limited, the visit established that a significant proportion of non-flowering plants in the size range 1m – 2m recorded in 2013 were flowering for the first time in 2014. This appears to bear out the prediction of commencement of significant *Rhododendron* seed production in the 2013 report. The findings also bear out the 2013 conclusion that much of this area is likely to have reverted from cleared status to un-cleared status as defined in Irish Wildlife Manual No.33. well in advance of the next scheduled NPWS visit in 2017 (Long Term Strategic Programme for the Control of *Rhododendron ponticum* in Killarney National Park. O.Toole 2012).

For photos of *Rhododendron* recorded in 2014 see:

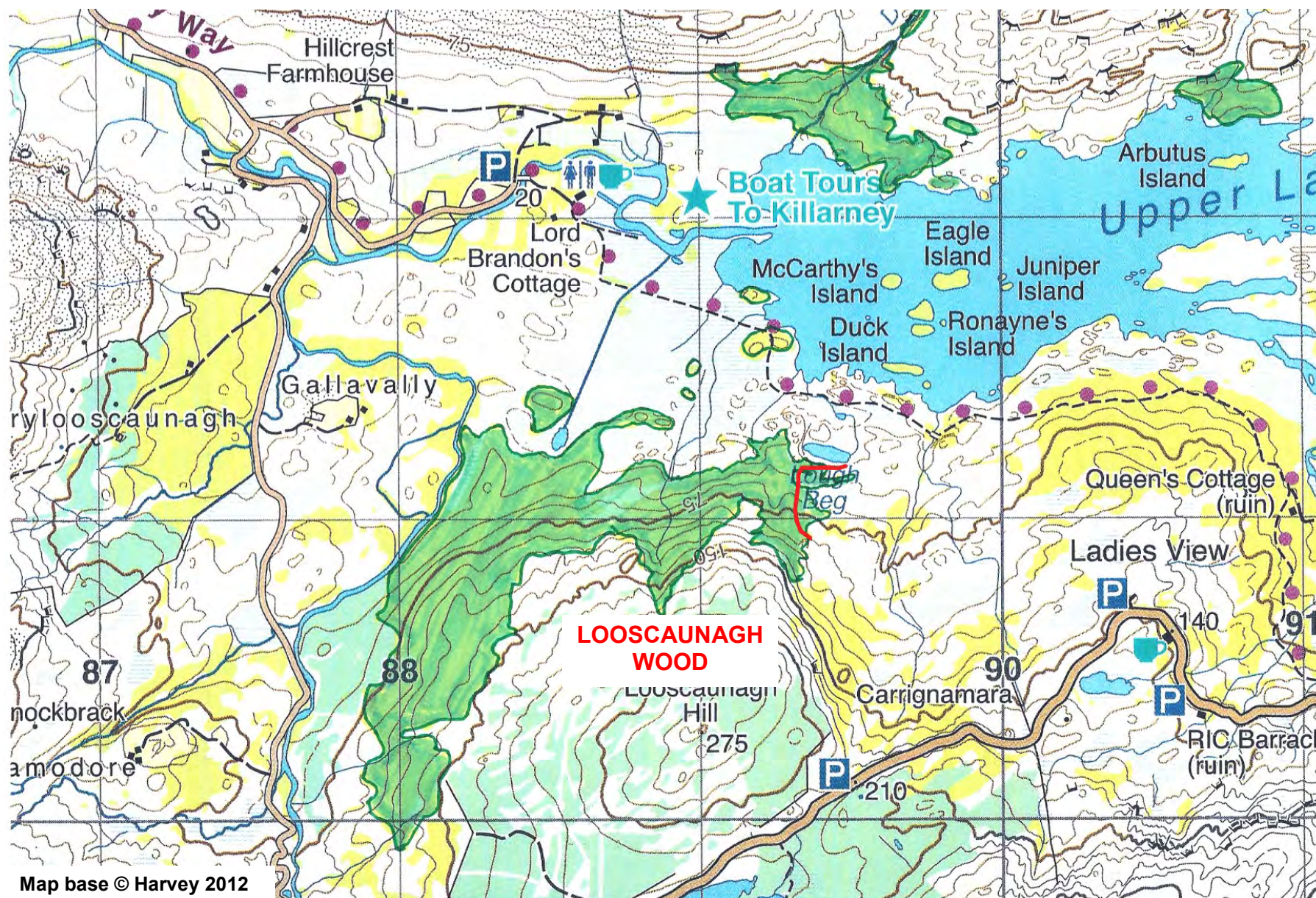
<https://picasaweb.google.com/104514483166603558154/GeotaggedRhodoPhotos2014?authuser=0&authkey=Gv1sRgCP2-zaim0uCLAg&feat=directlink>

MAP 3 AREA OBSERVED IN LOOSCAUNAGH WOOD JULY 2013
(Areas formerly cleared and maintained by Groundwork shown in dark green;
area visited by Groundwork in 2013 shown in red)



MAP 4 AREA OBSERVED IN LOOSCAUNAGH WOOD MAY 2014

(Areas formerly cleared and maintained by Groundwork shown in dark green;
area visited by Groundwork in 2014 shown in red)



3.4 EAMONN'S WOOD

Clearance History: This area of Eamonn's Wood was first cleared by Groundwork in 1988 and the wood was maintained in a cleared condition by regular systematic Phase 3 visits (methods of Irish Wildlife Manual No.33) until 2007, after which responsibility for the maintenance of the wood was taken over by NPWS. NPWS maintenance visits took place in 2010 & 2012 (O'Toole 2012).

Findings of 2013 Visit (See Map 5): The assessment consisted of a sweep by two people for c.1 hour on 22/9/13. Geotagged photographs were taken of Rhododendron plants over 0.5m high. c.20 plants in the range 0.5 – 1m in height and c.15 plants between 1m and 2m high were recorded, of which two plants were recorded which had flowered for the first time in 2013, and one plant was recorded which had flowered in both 2013 and 2012.

The findings of the visit indicate that the NPWS maintenance visits in 2010 & 2012 were not systematic because c.20 plants in the range 0.5–1m in height and c.15 plants between 1m and 2m high in 2013 could not have been missed by a systematic maintenance coverage one or three years previously. It is possible also that some of these plants were missed in the last Groundwork visit six years earlier (2007), when they would have been significantly smaller and easier to miss as the larger plants were growing in heather at the edge of the wood.

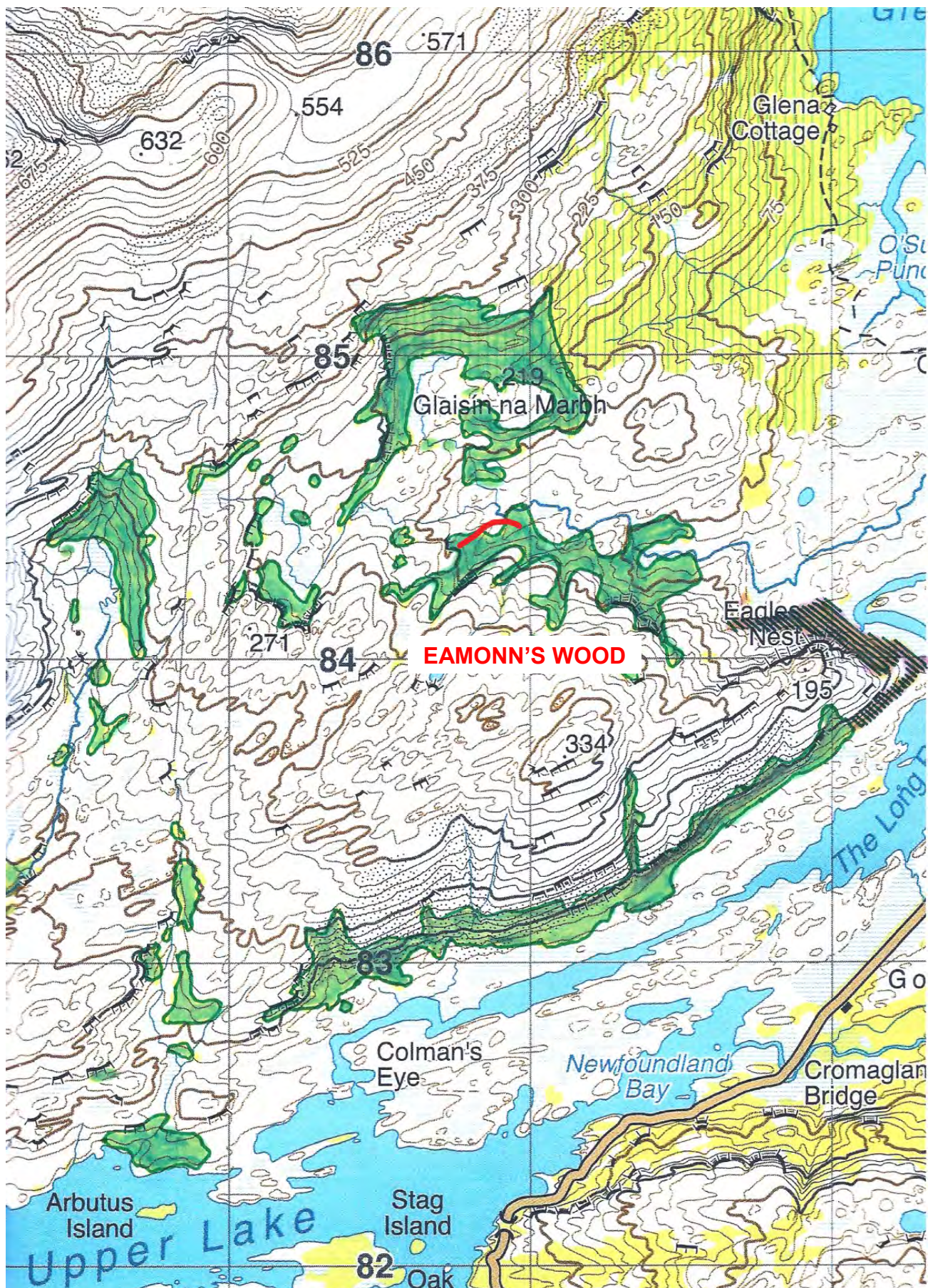
The findings of the visit indicate that in Eamonn's Wood isolated plants have already produced Rhododendron seed in 2012, and more will do so in late 2013 and 2014, before the next scheduled NPWS visit in 2015.

For photos of Rhododendron recorded in 2013 see:

<https://picasaweb.google.com/104514483166603558154/GeotaggedRhodoPhotos?authuser=0&authkey=Gv1sRgCMSd77XmpOBu&feat=directlink>

Findings in 2014: No visit yet carried out in 2014.

MAP 5 AREA OBSERVED IN EAMONN'S WOOD SEPTEMBER 2013
(Areas formerly cleared and maintained by Groundwork shown in dark green;
area visited by Groundwork in 2013 shown in red)



3.5 GLAISÍN NA MARBH WOOD

Clearance History: The Phase 1 clearance of Glaisín na Marbh Wood was commenced by Groundwork in 1984. The last permitted Groundwork systematic Phase 3 maintenance coverage of most of Glaisín na Marbh Wood was in 2000. The first NPWS coverage of this area mentioned by O'Toole (2012) was in 2011& 2012 (by contractors). By the time of this coverage substantial re-infestation and seed production had already taken place in the more easterly part of the wood which adjoins un-cleared woodland. Whereas the contract clearance work appears to have been to a high standard, as major seed production has occurred the wood will require Phase 2 seedling removal clearance in 2014/2015 if it is to re-achieve cleared status (method of Irish Wildlife Manual No.33), i.e. a systematic coverage sooner than the next NPWS scheduled maintenance visit in 2017 (Long Term Strategic Programme for the Control of *Rhododendron ponticum* in Killarney National Park. O'Toole 2012).

Findings of 2014 Visit (See Map 6):

The assessment consisted of a transect walk by two people for c. 2¼ hours on 1/6/14. Geotagged photographs were taken of *Rhododendron* plants over 0.5m high. Careful examination of the transect route (Map 6) in relation to the *Rhododendron* recorded (see link below) reveals an apparent pattern of very few flowering *rhododendron* in the central section of the wood east of Grid Reference Easting 0916, including the area adjacent to the un-cleared area to the east where re-infestation would be most rapid. As the transect walked was towards the perimeter of this area, clumps of serious re-infestation in the central area could have been missed but none were seen. This central area of the wood is relatively easy terrain with good visibility through the wood. In contrast to this, in the higher, steeper and more complex terrain at the north east of the Groundwork cleared area, significant flowering *rhododendron* were observed. In c.15 minutes of transect ten *rhododendron* between 1-2 m high and six plants over 2m high were recorded; eleven plants were flowering. The geotagged photos from this area show the steeper more complex terrain.

In the section of the transect through the southern section of the wood and the area immediately adjacent to the wood to the south, very significant re-infestation was recorded. Fifty two *rhododendron* plants 0.5-1m high and thirty plants 1-2m high were observed and photographed. Fifty four flowering *rhododendron* were recorded, most of which were flowering for the first time in 2014.

The picture that emerges from the brief visit to Glaisín na Marbh Wood in 2014 is that, following the cessation of systematic Groundwork maintenance in 2000, the more recently cleared eastern areas of the wood which are most prone to re-infestation (being closer to un-cleared areas) had deteriorated significantly by 2011/2012 and significant seed production had re-commenced. In 2011/2012 a *rhododendron* clearance contract was carried out which appears to have successfully covered the central area of the wood. However the higher more inaccessible areas at the north east of the wood were not successfully covered, and significant flower production has now commenced there. Likewise the south and

south eastern section of the wood, and adjacent areas immediately to the south of the woodland edge, were not successfully covered, and major flower production in this area now threatens to spread rhododendron seed not alone in Glaisín na Marbh Wood, but also into Eamonn's Wood, the margins of which are only a few hundred metres south of the area of major rhododendron flower production.

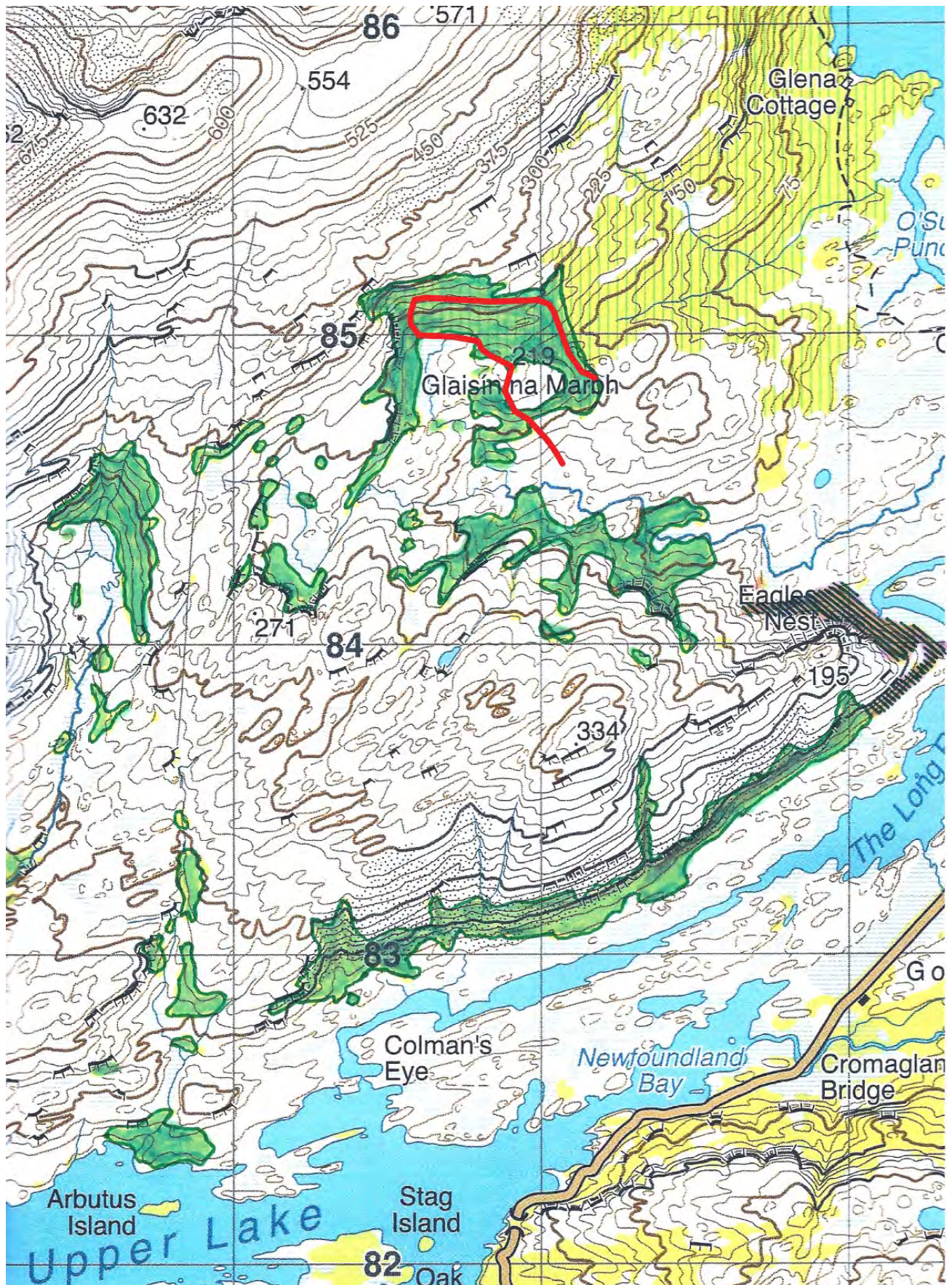
The substantial western section of Glaisín na Marbh wood east of Grid Reference Easting 0916 was not included in the 2014 visit. This area has been relatively remote from Rhododendron seed sources and had low levels of infestation prior to the Groundwork Phase 1 clearance in 1984. Several large rhododendron were observed in this section of the wood in 2012 after the completion of the contract clearance; these plants and other plants which have not been observed are likely by now to be flowering in these remote areas of woodland, 14 years after the cessation of systematic Groundwork maintenance.

For photos of Rhododendron recorded in 2014 see:

<https://picasaweb.google.com/104514483166603558154/GeotaggedRhodoPhotos2014?authuser=0&authkey=Gv1sRgCP2-zaim0uCLAq&feat=directlink>

**MAP 6 AREA OBSERVED IN AND ADJACENT TO GLAISÍN NA MARBH
WOOD JUNE 2014**

**(Areas formerly cleared and maintained by Groundwork shown in dark green;
area visited by Groundwork in 2014 shown in red)**



3.6 EAGLE'S NEST WOOD

Clearance History: O'Toole (2012) states that the first clearance of this area was in 2007 and further work was carried out here until as recently as 2013. Eagle's Nest Wood was classified as having Good Rhododendron Status and as having no seed source remaining on site in November 2012 (Long Term Strategic Programme for the Control of *Rhododendron ponticum* in Killarney National Park. O'Toole 2012).

Eagle's Nest Wood was never worked in by Groundwork; however the wood is contiguous with Cahnicaun Wood at its southern end, and within a few hundred metres of Eamonn's Wood at its north western end. The Rhododendron status of Eagle's Nest Wood is therefore critical for the long term conservation of Cahnicaun Wood and Eamonn's Wood, both of which were cleared and maintained by Groundwork.

Findings of 2014 Visit (See Map 7): The assessment consisted of two transect walks. Geotagged photographs were taken of Rhododendron plants over 0.5m high.

Eagle's Nest Wood Transect 1: On 25/5/14 a 1 hour two person transect walk was carried out along the lower edge of the wood to the north of Eagles Nest crag. This area was characterised by large piles of rhododendron brash, which appears to act as a suitable nursery area for substantial re-growing rhododendron. Standing rhododendron plants which had been stem treated with herbicide with varying degrees of success were also observed. Forty three Rhododendron plants of 0.5-1m height were recorded, thirty one plants of 1-2m in height and 3 plants of over 2m height. Fifty seven flowering Rhododendron were recorded and photographed many of which appear to be flowering for the first time in 2014. Whereas the transect followed the lower margin of the wood and the area immediately adjacent to the wood, flowering Rhododendron was clearly visible growing scattered through the higher areas of the wood above the transect.

Eagles Nest Wood Transect 2: On 1/6/14 a 1 hour one person transect walk was carried out in the section of the wood to the south of Eagle's Nest crag and which adjoins Cahnicaun Wood. This area was characterised by large quantities of large standing rhododendron which had been treated with herbicide, a large proportion of which were dead, but a significant number of which had survived. As well as numerous smaller plants, forty nine Rhododendron of 0.5-1m high, fifty eight plants of 1-2m high and a single plant of >2 m high were recorded and photographed.

Much of the herbicide treated rhododendron and brash piles observed along both transects is likely to date to the initial NPWS clearance in 2007; however the findings of the 2014 visits indicate that an incomplete kill was achieved and no systematic follow up clearance carried out, with the result that flowering and close to flowering rhododendron are now to be seen throughout the sections of wood the wood visited. It was notable that a brash pile which was in 2013 supporting a substantial number of flowering Rhododendron close to the Long Range across from the Five Mile Bridge car park, was subsequently re-visited and most of the Rhododendron on the brash pile were killed – however in June 2014 a substantial number of flowering and

close to flowering *Rhododendron* were to be found within a stone's throw of this location.

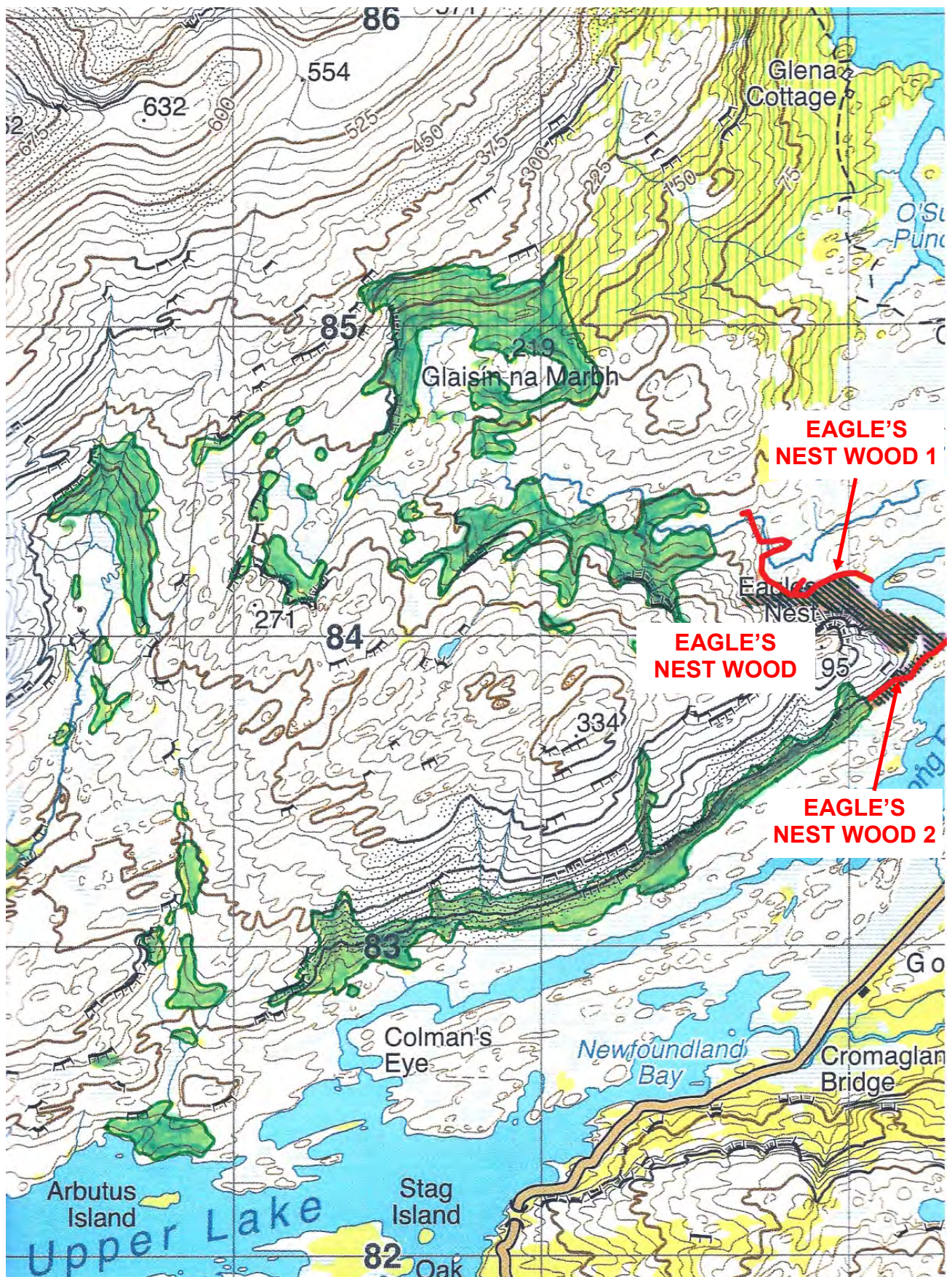
Less than a year and a half before the 2014 visits Eagle's Nest wood was classified as at "*Good Rhododendron Status*", as having "*no seed source remaining on site*" and as not requiring a revisit until 2018 (Long Term Strategic Programme for the Control of *Rhododendron ponticum* in Killarney National Park. O'Toole 2012). The findings of the 2014 Groundwork visits are not compatible with the conclusions of the Long Term Strategic Programme.

For photos of *Rhododendron* recorded in 2014 see:

<https://picasaweb.google.com/104514483166603558154/GeotaggedRhodoPhotos2014?authuser=0&authkey=Gv1sRgCP2-zaim0uCLAg&feat=directlink>

**MAP 7 AREAS OBSERVED IN AND ADJACENT TO EAGLE'S NEST WOOD
JUNE 2014**

(Areas of Eagle's Nest Wood cleared and currently maintained by NPWS shown hatched; areas visited by Groundwork in 2014 shown in red)



3.7 TOMIES WOOD SOUTH OF O'SULLIVAN'S CASCADE

Clearance History: The section of Tomies Wood south of O'Sullivan's Cascade was first cleared by Groundwork in 1981 and the wood was maintained in a cleared condition by regular systematic Phase 3 visits (methods of Irish Wildlife Manual No.33) until 2003/4, after which responsibility for the maintenance of the wood was taken over by NPWS. O'Toole (2012) makes no mention of NPWS maintenance in the ten years from 2003 to 2012. Observations along the Lough Leane shoreline of the wood in July 2013 revealed that re-infestation had reached an advanced stage in this area. In autumn 2013 it was observed that this area had received herbicide treatment, apparently in mid to late summer. The herbicide treatment had evidently not been carried out in a systematic fashion, as there were untreated plants still standing within feet of treated plants. Many of the treated rhododendron had flowered and set seed in the woodland last year and possibly in 2011, as there were numerous seed pods to be seen on the dead and dying plants.

Findings of 2014 Visit (See Map 8): The assessment consisted of a c.40 minute transect walk on 4/5/14. Geotagged photographs were taken of rhododendron plants over 0.5m high. The area along the transect was characterised by numerous standing rhododendron plants which had been herbicide treated in 2013. Whereas a large proportion of the treated plants were successfully killed, a significant number of treated plants had survived and were again producing flowers, having previously produced seed in 2013. c.19 rhododendron of 0.5-1m in height, c.14 plants of 1-2m height and c.3 plants of >2m were recorded, of which c. 9 had flowers developing, some of which had seeded in 2013.

For photos of Rhododendron recorded in 2014 see:

<https://picasaweb.google.com/104514483166603558154/GeotaggedRhodoPhotos2014?authuser=0&authkey=Gv1sRgCP2-zaim0uCLAg&feat=directlink>

MAP 8 AREA OBSERVED IN TOMIES WOOD MAY 2014

(Area formerly cleared and maintained by Groundwork shown in dark green;
area visited by Groundwork in 2014 shown in red)



4. CONCLUSIONS

In the period 1981 to 2005 c.40% of the Killarney Oakwoods were cleared of Rhododendron by Groundwork Conservation Volunteers. Groundwork also maintained these areas by scheduled systematic checking of the entire cleared oakwood areas every c.7 years and removing any Rhododendron found before it had the chance to flower and produce seed.

In the period 2005 to 2009 responsibility for the maintenance of the Groundwork-cleared areas was taken over by NPWS and methodology employed in the woodland maintenance was significantly changed.

In the periods June to September 2013 and May to June 2014 areas of the Groundwork-cleared oakwoods were re-visited by Groundwork in an attempt to determine if the maintenance of these oakwoods free of flowering Rhododendron was being successfully achieved under the new management regime. Relatively small areas of five of the Groundwork cleared woods were visited: Cahnicaun Wood, Looscaunagh (Cahernabane) Wood, Eamonn's Wood, Glaisín na Marbh Wood and Tomies Wood, as well as Eagle's Nest Wood which adjoins two of the Groundwork cleared woods.

It was recognised that the only way of establishing with a high degree of certainty that a woodland was free of flowering (or close to flowering rhododendron) was to systematically check the entire area using lines of closely placed operatives. However it was also recognised that if generalised failure to maintain the woods was occurring, this could become clearly evident by visiting a much smaller proportion of the woods in question.

Briefly the two key questions to which we were seeking answers were as follows:

Question 1: Has the on-going maintenance of the woods in question been sufficiently thorough and systematic to ensure that Rhododendron will not flower and produce seed before the next scheduled maintenance visit?

Answer: No

Question 2: To date has the on-going maintenance of the woods in question kept these woods free of flowering Rhododendron?

Answer: No

The main findings of our oakwood visits were:

- None of the six oakwoods visited was free of flowering Rhododendron
- In Cahnicaun Oakwood, Rhododendron which had flowered in 2013 was found to be widespread, and in 2014 flowering Rhododendron were found to be abundant at the north eastern end of the wood.

- In the southern and north eastern sections of Glaisín na Marbh Wood, flowering *Rhododendron* were found to be numerous.
- In Eagle's Nest Wood flowering *Rhododendron* were found to be widespread in 2014.
- In five out of the six woods visited, large *Rhododendron* plants were recorded in sufficient numbers and at a sufficiently advanced stage of growth to make major seed production inevitable some years before the next visit scheduled in Long Term Strategic Programme for the Control of *Rhododendron ponticum* in Killarney National Park (O'Toole 2012) i.e. in 2017 or 2018
- In Eamonn's Wood isolated plants have already produced *Rhododendron* seed in 2012, and more will have done so in late 2013 and will do so in 2014, before the next scheduled NPWS visit in 2015.

These findings are remarkable as:

- a) Each of the six oakwoods had undergone NPWS clearance in 2012 and/or 2013 and therefore should have no *Rhododendron* plants of more than a couple of inches high and these in very small numbers.
- b) Of the six oakwoods visited by Groundwork in 2013 & 2014, five i.e. Cahnicaun Wood, Looscaunagh Wood, Eamonn's Wood, Glaisín na Marbh Wood and Eagle's Nest were classified as having no *Rhododendron* seed source remaining in November 2012 (Long Term Strategic Programme for the Control of *Rhododendron ponticum* in Killarney National Park. O'Toole 2012)
- c) Of the six oakwoods visited by Groundwork in 2013 & 2014, four i.e. Cahnicaun Wood, Looscaunagh Wood, Eamonn's Wood and Eagle's Nest Wood were classified as having "Good *Rhododendron* Status" in November 2012 (Long Term Strategic Programme for the Control of *Rhododendron ponticum* in Killarney National Park. O'Toole 2012). The term "Good *Rhododendron* Status" is not defined in this context; however at a minimum it must be presumed to mean that widespread seed production will not take place before the next scheduled maintenance visit, which is 2018 in Eagle's Nest Wood, 2017 in Cahnicaun & Looscaunagh (Cahernabane), and 2015 in Eamonn's Wood. It certainly could not be taken to apply to woods where major seed production is certain to occur in the following two years unless immediate drastic and large scale action is taken in the meantime, as is the case in Cahnicaun Wood, Looscaunagh Wood, Glaisín na Marbh Wood and Eagle's Nest Wood.

The results of these visits clearly indicate that in the areas visited by Groundwork in Looscaunagh Wood, Cahnicaun Wood, Eamonn's Wood, Glaisín na Marbh Wood, Tomies Wood and Eagle's Nest Wood, the programs and methodologies employed by NPWS since 2005 have already failed, and that exponential re-infestation of these woods is now imminent unless systematic maintenance clearance of each of these wood is carried out immediately.

As this new program and these new methodologies are now being applied in all the other oakwood areas of the National Park, there would appear to be grounds for concern regarding these woods also.

5. REFERENCES

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