



Carpet Burweed Treatment (2009-2014)

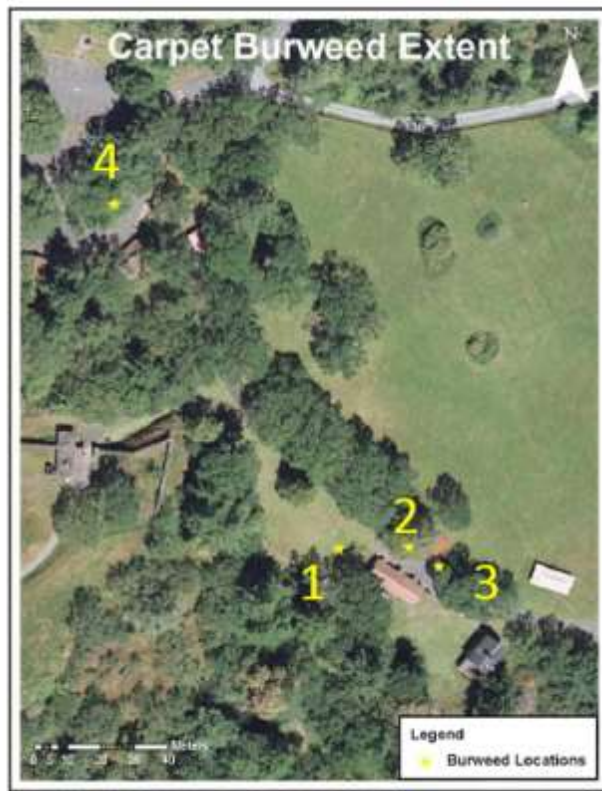
Fort Rodd Hill National Historic Site of Canada
Parks Canada Agency

Colwood, BC

2009

- Discovered in 4 locations
- All compacted turf

Treatment = fencing + burning



2009 Treatment Statistics

- Burned all 4 infestations + 1 m buffer area with tiger torches
- Who: Parks Canada staff
- Date: June 18, 2013
 - WW II hut (patches 1,2,3) = 35 person hours
 - Parking lot island (patch 4, only 15 plants) = 10 person hours
- Total investment = 45 person hours
- *Fence removed after burning*

2010

**Pin flags used to mark
individuals (April 8, 2010)**



Fenced and signed



2010 Treatment Statistics

- Burned all 4 infestations + 1 m buffer area with tiger torches
- Who: Chris Adams (Adams Environmental Solutions)
- Large infestations by WWII hut had expanded
- Date: April 16th and 29th 2010
 - WWII hut (patches 1, 2, 3) = 33 person hours
 - Parking lot island (patch 4) = 2 person hours
- Total investment = 35 person hours
- *Fence removed after burning.*

2011

WW II hut (infestation 1)

**Fenced and signed on March 4,
2011**



2011

WW II hut (infestation 2)



Visitor parking lot



2011

Burned on March 11, 2011



2011 Treatment Statistics

- Burned all 4 infestations + 1 m buffer area with tiger torches
- Who: Chris Adams (Adams Environmental Solutions)
- Date: March 11, 2011
 - WW II hut (patches 1, 2, 3) = not recorded
 - Parking lot island (patch 4) = not recorded
- Total investment = not recorded
- *Fence removed after burning*

2011: monitoring

Table 2 Observations for carpet burweed (*Soliva sessilis*) at Fort Rodd Hill NHS from May – August 2011

Date	Areas surveyed	Observations
May 25th	* 1,2,3,4	No individuals found, area remains bare from recent burning. Fencing removed.
June 24th	* 1,2,3,4	15 individuals found and removed in area 1. Pictures taken. Some individuals found had dispersed seed, but most were just beginning to develop seed. No individuals were found in areas 2, 3, 4.
July 25th	* 1,2,3,4	No individuals found.
August 25th	* 1,2,3,4	No individuals found.

*1 = large patch west of interpreters hut, 2 = west of jeep pen, 3 = east of jeep pen, 4 = parking lot

2011

- June 24, 2011
 - 15 individuals found two months after burning and removed via hand-pulling



Spring 2012

Bare soil remains



One plant hand-pulled



2012

- One plant discovered in patch 1 and hand-pulled
- No fencing or burning conducted in 2012

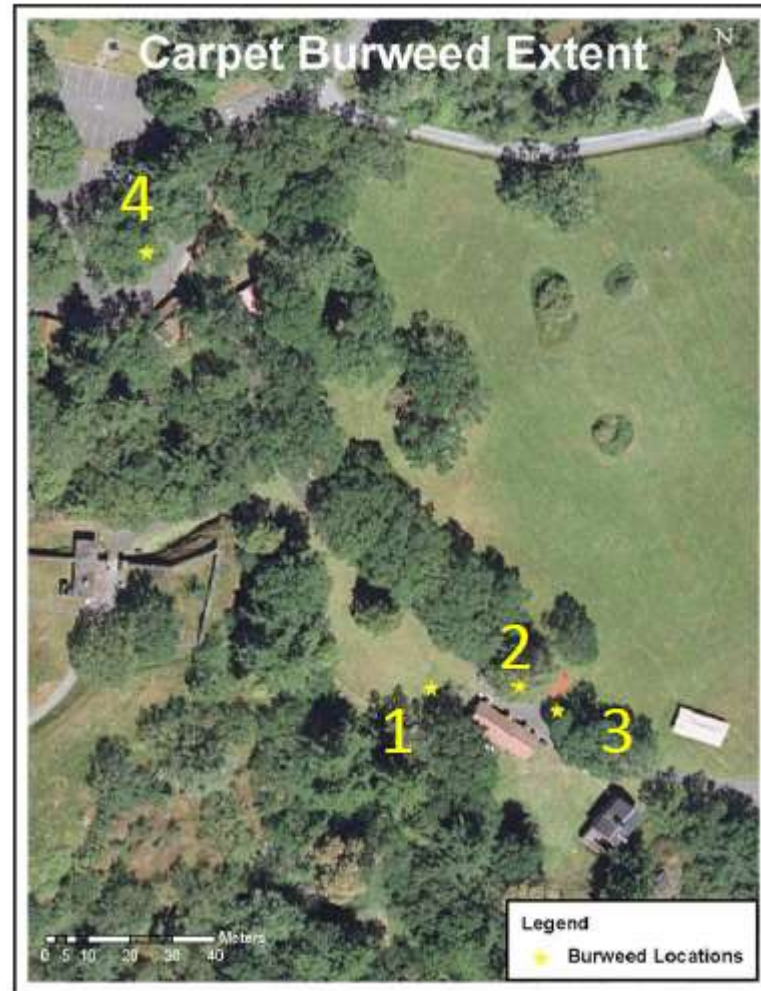
Table 3 Details of treatment application for carpet burweed (*Soliva sessilis*) at Fort Rodd Hill NHS.

	Treatment	Dates	Person hours to apply
2009	Burning	Mid June	45
2010	Burning	April 16th, 29th	35
2011	Burning	April	Not recorded
2012	Hand-pulling	April	.25

2013

- Patches 1 and 2 had rebounded by early May 2013
- Patch 1 was smaller than in 2011 but had spread along path of gator traffic
- Patch 2 re-bounded to 2011 size
- Sites were fenced with rodent barrier in early May, 2013 (to stop Canada Geese from wandering through)

Fences will now be kept in place until infestations are eliminated



2013



2013 Treatment Statistics

- Burned 2 remaining infestations + 1 m buffer area with tiger torches
- Who: Chris Adams (Adams Environmental Solutions)
- Date: June 4, 2013
 - WW II hut (patches 1, 2)
 - 6 person hours spent burning
 - 2 person hours spent mulching burned areas with 4 inches of leaf mulch
 - Patch 3 (WW II hut) and patch 4 (parking lot) not located
- Total investment = 8 person hours

2013 Monitoring

Table 5: Observations for carpet burweed (*Soliva sessilis*) at Fort Rodd Hill NHS from May – August 2013.

Date	Areas surveyed	Observations
May 7th	1,2,3	Several patches located in areas 1 and 2. No individuals located in area 3.
May 14 th	4	No individuals found.
June 4th	1,2	All infestations in area 1 and 2 burned and covered in mulch.
July 25th	1,2,3,4	No individuals found.
August 9th	1,2,3,4	No individuals found.

Treatment Summary (2009-2013)

Table 4: Details of treatment application for carpet burweed (Soliva sessilis) at Fort Rodd Hill NHS.

<i>Year</i>	<i>Treatment</i>	<i>Dates</i>	<i>Person hours to apply</i>
2009	Burning	Mid June	45
2010	Burning	April 16th, 29th	35
2011	Burning	April	Not recorded
2012	Hand-pulling	April	.25
2013	Burning	June 4th	6

2014

- Have not yet conducted thorough surveys
- Mulching appears to have been effective at reducing germination
- Some germination noted along paved path edge where mulch was thin

Lesson Learned

- Persistence is necessary (don't miss a year!)
- Searching is time-consuming
- With burning, effort does decline over time
- Mulching after burning may help reduce germination