

Western Painted Turtle Surveys and  
Stewardship Activities on Vancouver Island, April  
2015 – March 2016

Annual Summary



Prepared for

Habitat Acquisition Trust, Victoria, B.C.

Prepared by

Kristiina Ovaska, PhD, and Christian Engelstoft, MSc, RPBio

*Funded by Habitat Stewardship Program (Environment Canada), Capital  
Regional District Parks, and Public Conservation Assistance Fund*

JUNE 2016

## Executive Summary

Western Painted Turtles on the Pacific coast are listed as endangered in Canada under the *Species At Risk Act* and are on the Red List of species at risk in British Columbia. Much of the habitat is on private lands, and involving landholders in stewardship activities is essential for conserving the species. Since 2008, we have carried out annual studies in the Capital Regional District (CRD) and Alberni Valley on Vancouver Island with the goal of helping recover Western Turtle populations as part of Habitat Acquisition Trust's "Species At Risk" Program. During the 2015 field season, we continued survey and monitoring efforts and worked with landowners, managers, and volunteers to enhance turtle habitats within the focal areas.

From April to September 2015, we surveyed 18 water bodies and conducted site visits in response to reports from the public and landowners. A report submitted to us with pictures confirmed the presence of the Western Painted Turtle at a new site in the Alberni Valley, but no other new sites were found.

In spring 2016, we continued enhancement, maintenance, and monitoring of turtle nesting habitat, focusing on sites with previous work within CRD (Elk-Beaver Lake Regional Park, East Pond and EBLES sites) and in Alberni Valley (Airport Wetlands). Both sites support relatively large Western Painted Turtle populations and provide an opportunity both to help maintain populations and to improve methodologies as part of adaptive management.

On 30 May 2015, CRD Parks and HAT volunteers weeded and exposed patches of bare ground at the Elk Beaver Lake sites to improve turtle nesting habitat. At the East Pond site, turtles nest communally within an area of approximately 10 m x 12 m by a small pond. In March – May 2015, we found 10 emerged nests (from eggs laid in summer 2014) at this site. Nest construction and egg-laying was detected from 21 May – 29 June based on camera monitoring, which revealed turtles on 13 occasions, including six nesting events. Camera monitoring at a second enhanced site in the park (EBLES), revealed Western Painted Turtles on six occasions, including three nesting events.

In the Alberni Valley, two sand dunes were created at an old gravel pit in 2011. In 2015, turtles continued to use the dunes, as indicated by trails, diggings, and ~30 new nests observed on 29 May 2015. Emerged nests (from 2014) were difficult to discern due to softness of the sandy substrate, and signs of apparent predation was observed. Time-lapse camera monitoring showed Western Painted Turtles on 16 occasions, including 6 nesting events at the enhanced site. A second camera at a nearby old spur road by the same wetland showed turtles on 12 occasions, including nesting on 3 – 5 occasions. The cameras detected turtles at these two sites from 11 May – 8 June 2015. Although the cameras did not detect predation events, nest predation need to be further monitored on the dunes.

In 2015-2016, we continued previous efforts to provide basking sites for turtles in water bodies where basking opportunities were deemed to be in short supply. In March 2016, we installed basking logs to two ponds in Elk-Beaver Lake Regional Park (CRD Parks) and to Viaduct Pond (municipality of Saanich and Horticultural Centre of the Pacific). Relatively large logs were used (30 cm or more in diameter, 2 – 3 m long, tied together in pairs for stability) to increase their longevity and delay water-logging. Turtles readily use installed basking structures according to our past experience and were observed basking on the logs in Viaduct Pond in April.

Additional activities during this reporting period included preparation of turtle management guidelines for landowners/managers, follow up with HAT's turtle habitat stewards and signing up new stewards, presentations to and meetings with various local government and non-government groups, and provision of outreach materials and advice on turtle conservation and management.

### Summary of Activities, April 2015 – March 2016:

Activity and rationale	Tasks	Results
<p><b>Surveys, Inventories and Monitoring</b></p> <p>While recent survey efforts have clarified distribution of the Western Painted Turtle on Vancouver Island, important gaps in survey coverage still exist. Adequate knowledge of distributions is the first step towards conservation, allowing us to prioritize habitat protection, management, and restoration efforts and helping in determining Critical Habitats.</p>	<p>From April to September 2015, HAT biologists surveyed 18 water bodies: CRD: 10 water bodies of which 3 were new Alberni Valley: 8 water bodies of which 3 were new</p> <p>Site visits were also conducted in response to reports from the public and landowners.</p>	<p><u>Alberni Valley:</u> Western Painted Turtle was observed at three sites, Airport Wetlands, Little Turtle Lake, and Summit Lake, all previously known to support the species.</p> <p>A report from landowners with pictures confirmed the presence of the species at a new site, but turtles were not observed during our visit.</p> <p>Introduced sliders were not found.</p> <p><u>CRD:</u> Western Painted Turtle was found only at one site, Beaver Lake, but not at new sites.</p> <p>Introduced sliders continued to be common and were found at six sites.</p> <p>See <b>Appendix 1</b> for details of the surveys.</p>
<p><b>Nesting Habitat Improvement and monitoring</b></p> <p>Suitable warm, sparsely vegetated turtle nesting habitats with suitable</p>	<p>Nesting habitat enhancement and monitoring was carried out at previously restored sites in Alberni Valley (Airport Wetlands) and within CRD (Elk-Beaver Lake Regional</p>	<p><u>Elk-Beaver Lake Regional Park:</u> - Two previously enhanced nesting areas were weeded and patches of bare ground were exposed on 30 May 2015 by CRD Parks and HAT volunteers (see <b>Appendix 2</b>).</p>

Activity and rationale	Tasks	Results
<p>substrates near occupied water bodies are in short supply along the west coast and appear to be a limiting factor for Western Painted Turtles.</p> <p>Monitoring of previous nest site enhancement by HAT has shown that turtles readily use enhanced sites.</p>	<p>Park, East Pond and EBLES sites) in collaboration with land managers.</p> <p>The sites in Elk-Beaver Lake Park were visited multiple times from February – May 2015 to detect holes signifying emerged nests (from previous year) and were monitored by time-lapse cameras from May – July 2015 to detect nesting turtles. Airport wetlands site was monitored by cameras from April to July 2015.</p> <p>Additionally, at Swan Lake Nature Sanctuary, nesting habitat maintenance and monitoring was carried out by the sanctuary staff and by a group of Camosun College Environmental Technology Program students.</p>	<p>- Monitoring the sites from March – May 2015 revealed 10 emerged nests and one predated nests (from eggs laid in summer 2014), all within the ~10x10 m enhanced area by East Beaver pond.</p> <p>- Subsequently, from the surveillance camera revealed Western Painted Turtles at the East Pond site on 13 occasions, including 6 nesting events, and at the EBLES site on 6 occasions, including 3 nesting events. Turtles that did not complete a nest were either walking or digging for brief periods.</p> <p>- Nesting was detected from 21 May – 29 June in 2015.</p> <p><u>Airport Wetlands:</u></p> <p>- During a site visit on 29 May 2015, turtle trails, diggings, and ~30 recent nests were observed on the two mounds at the restored site in an old gravel pit, indicating that the nesting season had already started. There were also numerous diggings also on old mounds and hard gravel between and around the new mounds.</p> <p>-- Detecting emerged nest holes from 2014 on the mounds was difficult, because of the soft, mainly sand substrate. However, because of evidence of turtle use of the mounds, it was decided not to add firmer substrate but let them pack down further with time.</p> <p>- Subsequently, the surveillance camera revealed Western Painted Turtles at the restored site on 16 occasions, including 6 nesting events. The camera view showed about 2/3 of the front of the mounds and excluding the entire back side.</p> <p>- An additional camera nearby at an old spur road off the main logging road revealed Western Painted Turtles on 12 occasions, including 3 nests and 2 possible additional nests.</p> <p>- Nesting was detected from 11 May – 8 June in 2015.</p> <p><u>New initiatives:</u></p> <p>- In June 2015, a visit was conducted to a site in Metchosin to discuss implementation of nesting habitat enhancement plan with land managers.</p> <p>- Following a site visit in February 2016, we provided an action plan to Westshore</p>

Activity and rationale	Tasks	Results
		<p>Watershed Society for nesting site enhancement at two sites by Langford Lake.</p> <p>- Discussions continued with the Highlands District to improve nesting habitat at Eagles Lake.</p>
<p><b>Basking Habitat Improvement</b></p> <p>Turtles need suitable basking sites for thermal control, digestion, vitamin D production, and embryo development.</p> <p>Suitable basking sites are safe from disturbance and allow turtles to come out of the water into sun.</p> <p>Strategically placed basking logs also facilitate monitoring turtle numbers over time enhance recreational wildlife viewing opportunities. Our previous observations show that turtles readily use a variety of added basking structures.</p>	<p>Basking logs were added to 3 ponds in Saanich (2 ponds in Elk-Beaver Lake Regional Park; Viaduct Pond co-managed by Saanich and Pacific Horticultural Centre.</p> <p>The logs were 30 cm or more in diameter and 2 -3 m long. They were installed in pairs, tied together for increased stability, and attached with rope to woody vegetation (or in one case fence).</p>	<p><u>Viaduct Pond:</u> Five pairs of logs were installed on 18 March 2016. Subsequent checks in April revealed Western Painted Turtles and Sliders on two logs.</p> <p><u>Elk-Beaver Lake Park:</u> One pair of logs was installed to two ponds on 23 March 2016. The logs were to supplement and replace previously installed basking structures. Smaller composite basking structures installed in 2012 by Camosun College Environmental Technology students had flipped over and were removed. Some mill-end slabs installed in 2010 were still functional and were left in place, whereas others had sunk or disappeared. The new round logs are expected to be long lasting.</p>
<p><b>Working with landowners/ managers</b></p> <p>A large percentage of Western Painted Turtles occur on multi-use lands, such as municipal parks, and on private lands. Management guidelines are needed to a) improve habitat quality and mitigate threats and to b) increase awareness by landowners and managers of habitat needs of the turtles.</p>	<p>Management guidelines were prepared for two large landowners with confirmed Western Painted Turtle occurrences.</p> <p>Property owners/ managers who previously received turtle management guidelines were contacted to provide assistance with implantation and monitoring.</p>	<p><u>Horticultural Centre of the Pacific:</u> A detailed basking habitat enhancement action plan was submitted to supplement a previously management plan, and was then implemented (see above).</p> <p><u>Langford Lake:</u> Following a site visit in February 2016, we provided a detailed action plan to Westshore Watershed Society for nesting site enhancement at two sites by Langford Lake.</p> <p><u>Follow-up visits:</u> We continued collaboration with CRD Regional Parks to protect turtles. Western Painted Turtles have been confirmed to occur in three regional parks: Elk-Beaver Lake, Matheson Lake, Thetis Lake (McKenzie Lake) and habitat restoration is in progress in Elk-Beaver Lake Park.</p> <p>Two private landowners in Metchosin who had previously engaged in turtle habitat enhancement were revisited. As well, we continued collaborating with Island</p>

Activity and rationale	Tasks	Results
		Timberlands to survey and monitor turtles in the Alberni Valley.
<p><b>Outreach</b>  Given the high cost of land, engaging private landowners is a cost-effective way to conserve Western Painted Turtle habitat. Awareness among local governments and land owners/ managers of the species' habitats and requirements will help in identifying and protecting important habitats and mitigating threats. Habitat stewards and other volunteers also contribute through habitat restoration and monitoring efforts.</p>	<p>The activities consisted of engaging regional &amp; municipal planners in turtle habitat protection/management, signing up landowners with turtle observations on their properties as voluntary habitat stewards, and involving volunteers in turtle habitat restoration.</p>	<p>Meetings with/presentations to CRD Parks, Highlands Council, Colquitz Watershed Society, Colquitz Community Association, and Westshore Watershed.</p> <p>5 new turtle habitat stewards were recruited, who agree to manage their property in ways that will benefit Western Painted Turtles</p> <p>Turtles were featured in news updates on HAT's website, and HAT's habitat management and rehabilitation techniques interactive website was updated. HAT provided resources, such as signage and outreach materials and on-the-ground advice on turtle habitat enhancement.</p>

## Appendix 1. Water bodies surveyed for turtles by HAT biologists from May – September 2015.

New or Resurvey	Site #	Site name	Date	Start time	End time	Air temp °C	Wind	Precip.	Cloud cover (%)	Western Painted Turtle #	Red-eared Slider #	Other Species*	Comments
Alberni Valley:													
R	1	Airport Wetlands	29-May-2015	10:45	11:15	20	Light	0	0	14	0		Basking on logs
R	11	Little Turtle Lake	29-May-2015	9:45	10:15	16	Light	0	0	4	0		One hatchling sized turtle; all basking close to road
R	13	Loon Lake	28-May-2015	10:45	11:00	19	Light	0	0	0	0		Good view of much of lake from trestle on the way to Summit Lake
R	23	Wetland west of Turtle Lake, 2	29-May-2015	14:00	14:15	24	Light	0	0	0	0		Rick & Libby Avis have visited this site many times in the past and have never seen turtles
R	124	Burde St Pond (lower)	28-May-2015	17:15	17:25	21	Calm	0	0	0	0		
R	124	Burde St Pond (upper)	28-May-2015	17:30	17:45	21	Moder.	0	0	0	0		
R	132	Summit Lake (slough)	28-May-2015	11:15	11:45	19	Light	0	0	9	0	A-TAGR (30+)	Seen from trestle
N	145	Lamarque Road Pond	28-May-2015	16:00	16:15	21	Light	0	0	0	0	A-LICA	Small private pond by house; owners have seen a slider repeatedly (with red head stripe)
N	146	Farm pond near Lugin Creek	28-May-2015	14:25	14:40	26	Calm	0	0	0	0	A-LICA (10+)	Photos sent by landowner confirm Western Painted Turtle by this pond & nearby

New or Resurvey	Site #	Site name	Date	Start time	End time	Air temp °C	Wind	Precip.	Cloud cover (%)	Western Painted Turtle #	Red-eared Slider #	Other Species*	Comments
N	147	Lugrin Creek Co-op Ponds	28-May-2015	14:00	14:20	26	Light	0	0	0	0		Western Painted Turtle seen previously across the road from this site

Capital Regional District:

R	27	Beaver Lake	21-May-2015	9:35	11:45	18	Light	0	5	6	10	A-LICA (many)	
R	29	Blenkinshop Lake	23-May-2015	11:30	11:50		Light	0	90	0	0	A-LICA (many)	
R	35	Eagles Lake	2-Aug-2015	15:00	15:30	20	Calm	0	0	0	1		
R	73	Thetis Lake	23-May-2015	14:30	14:50	15	Calm	0	70	0	4		
R	77	Viaduct Pond	23-May-2015	9:50	10:30	15	Light	0	95	0	1		On north shore along grass edge; searched from 2 vantage points on land
R	77	Viaduct Pond	10-Jun-2015	9:30	10:17	19	Calm	0	80	0	1	A-LICA (1000s)	
R	117	Mitchell Lake	23-May-2015	13:50	14:00		Calm	0	95	0	0		Poor visibility through trees
R	123	Metchosin, private pond 2	8-Jun-2015	10:15	11:00	18	calm	0	0	0	0		
R	127	Williams Head Road pond	9-Jun-2015	#####	11:05	20	calm	0	0	0	0		Site of previous habitat restoration by landowner
N	148	Rithet's Bog	23-May-2015	10:50	11:05	16	Light	0	95	0	0	A-PSRE (heard)	In-growing with vegetation; small areas of very shallow water
N	149	Lake Ida-Anne	23-May-2015	12:55	13:25	17	Light	0	90	0	2		Patch of Yellow Flag Iris



New or Resurvey	Site #	Site name	Date	Start time	End time	Air temp °C	Wind	Precip.	Cloud cover (%)	Western Painted Turtle #	Red-eared Slider #	Other Species*	Comments
N	150	Kispiox Pond, Deep Cove	9-Sep-2015	16:45	17:15	17	Calm	0	0	0	1		On log & swimming; check of landowner report of turtle to HAT

\*A-LICA: Bullfrog; A-PSRE-Pacific Treefrog; A-TAGR-Rough-skinned Newt

**Appendix 2. Turtle activity at enhanced nesting areas as revealed by time-lapse cameras deployed in 2015.**

Date	Time (first appearance)	Time (last appearance)	Occasion ID #	Activity
<b>Elk Beaver Lake Regional Park, East Pond restoration site (19 May - 24 Jul; 10 min time-lapse):</b>				
21-May-2015	6:00	6:30	1	dig
21-May-2015	16:40	18:42	2	nest
31-May-2015	18:33		3	immobile
31-May-2015	19:34	20:56	4	nest*
4-Jun-2015	18:43	20:56	5	nest*
7-Jun-2015	17:11		6	walk
9-Jun-2015	17:11		7	walk
17-Jun-2015	17:42		8	immobile
20-Jun-2015	16:40		9	immobile
20-Jun-2015	17:42		10	immobile
21-Jun-2015	18:23	19:55	11	nest*
21-Jun-2015	19:14	20:56	12	nest*
29-Jun-2015	19:04	20:46	13	nest
<b>Elk Beaver Lake Regional Park, East Pond restoration site (1 Jun - 6 Aug; 15 min time-lapse):</b>				
5-Jun-2015	20:30	20:45	1	dig
5-Jun-2015	20:45		2	dig
8-Jun-2015	19:15	20:45	3	nest
9-Jun-2015	18:30	20:30	4	nest
10-Jun-2015	18:45	19:00	5	walk
14-Jun-2015	19:15	20:45	6	nest
<b>Alberni Valley, Airport wetlands restoration site (10 Apr - 29 Jul; 10 min time-lapse):</b>				
11-May-2015	19:40	19:50	1	walk
14-May-2015	17:40	19:50	2	walk, nest*
15-May-2015	16:20	16:50	3	walk
17-May-2015	17:40	19:50	4	walk, nest*
17-May-2015	18:30		5	walk
17-May-2015	19:00	19:50	6	nest*
18-May-2015	17:50	18:40	7	dig, walk
19-May-2015	17:20		8	walk
20-May-2015	18:40		9	walk, immobile
21-May-2015	18:50	19:50	10	walk, nest?*
27-May-2015	19:20		11	immobile
27-May-2015	19:50		12	walk

Date	Time (first appearance)	Time (last appearance)	Occasion ID #	Activity
1-Jun-2015	17:00	17:50	13	walk, dig
3-Jun-2015	17:50		14	immobile
5-Jun-2015	18:50	19:50	15	nest*
8-Jun-2015	18:50	19:50	16	nest*
<b>Alberni Valley, Airport wetlands spur road (10 Apr - 29 Jul; 10 min time-lapse):</b>				
9-May-2015	18:30	19:20	1	walk, nest
10-May-2015	18:00	18:30	2	walk
11-May-2015	18:10		3	immobile
11-May-2015	18:50	19:50	4	Nest*
17-May-2015	16:40	18:20	5	nest
19-May-2015	18:00	18:40	6	dig
26-May-2015	18:10	18:50	7	dig
26-May-2015	19:20	19:50	8	nest*?
29-May-2015	18:20		9	walk
29-May-2015	19:30	19:50	10	nest?*
30-May-2015	18:30		11	walk
4-Jun-2015	19:10		12	immobile

\*Settled into digging, but nesting not completed or fully covered up by the last photo in the evening