

Land Stewardship Grants

Year 3 Reports 2017-20 Funding Cycle Revised

Introduction

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In 2008, the Habitat Conservation Trust Foundation (HCTF) was awarded a \$9M endowment contribution from the Province of British Columbia to fund operations and maintenance activities on Conservation Lands. \$3M of the endowment was allocated for activities on private lands managed by non-profit organizations. The first intake of this program occurred in late 2016 and 12 grants were awarded to be used from April 2017 to March 2020. More information about this grant program is available <u>here</u>. This document provides copies of all reports submitted for the 2019-20 fiscal year (Year 3 of a 3-year cycle). The table below lists all reports included plus the total amount spent for each project. Note that the detailed financial reporting is removed for confidentiality reasons. If you have any questions about the Land Stewardship Grant program, please contact Barb von Sacken at <u>bvonsacken@hctf.ca</u>

Project #	Project Name	Total Amount Expended 2017-2020
1-649	Blackburn	\$41,000.00
1-650	Cowichan Garry Oak Preserve	\$20,280.00
1-678	Settlement Lands	\$19,481.00
2-605	Windebank	\$32,482.00
4-548	Elk Valley Heritage Conservation Area	\$30,476.00
5-288	Elkin Ck Nature Preserve	\$35,000.00
5-289	Scout-Island	\$36,300.00
8-414	Quintal Floodplain	\$45,000.00

1-649

Blackburn



HCTF Project Number: __1-649_____

1. PROJECT INFORMATION

Project/Property Name: Blackburn Lake Nature Reserve

Project Leader Name: Penelope (Penny) Barnes [2017-2019 Christine Torgrimson]

Name of Organization: Salt Spring Island Conservancy

Date of Report: March 30, 2021

Author of Report (if different than Project Leader):

Name of Organization: Salt Spring Island Conservancy

Contact Information: Penny Barnes, penny@saltspringconservancy.ca, 250-931-4627

2. SUMMARY

Provide a general description of project work completed in the last year (500 words max).

In Year 3, SSIC continued to ensure survivorship of native plants transplanted into restored wetland areas and also, planted native plants into 474m² of restored wetland. Volunteers assisted with maintenance and new planting (38 hours).

In Year 3, most photo-points were screened by advancing vegetation and could no longer provide adequate data. However, volunteers continued to monitor species biodiversity and a volunteer photographer has continued photographic studies, recording the changing landscapes of the reserve's wetlands. Using these studies, new photo-points, that take in a broader viewpoint and tell the story of the continuing emerging wetland habitat, are being established. Social media posts (19) on wildlife at BLNR highlighted Cassin's Vireo, Rufous hummingbird, Northern Red-Legged Frog, Great Blue Heron, Barn Swallow and numerous other species, including a diversity of butterflies and dragonflies.

In Year 3, Species at Risk (SAR) surveys were conducted only for lichens, Northern Red-Legged Frog, butterflies and birds to facilitate comparison with SAR listed in baseline surveys. New sightings at BLNR include Western Painted Turtle (SARA Schedule 1, Endangered) and Dun Skipper butterfly (SARA Schedule 1, Threatened). In Year 3, wetland planting used plants cultivated from seeds and cuttings from the reserve, raised in the native plant nursery over the previous year. Maintenance of the native plant nursery included restocking, re-potting, shading and watering. To restock, more than 3000 native plants were propagated. All native plant nursery tasks involved volunteers (44 hours). TRAFX trail monitoring data proved useful in assessing levels of public use and, therefore, trail management.



In Year 3, approximately 1000m² throughout the reserve were cleared of invasive species with the help of 63 volunteers and students. Removal of invasive species (Scotch Broom, English Hawthorn, Holly, Yellow Flag Iris, Canada Thistle and Tansy Ragwort) was completed to maintain wildlife habitat. Alder groves in the restored areas are spreading into open areas on the reserve, promising more 'shading out' of Canada Thistle.

Volunteers assisted SSIC's contract field technician in maintaining the trails for public use. Maintenance included removal of fallen trees and debris due to storms. Volunteers mowed trails in open areas throughout the summer. With staff guidance, SSIC's contract field technician maintained educational signage. General maintenance included fence repair, installation of a new 'resting' bench (positioned to view Blackburn Lake) and stair repairs.

SSIC staff and consultants developed a series of educational panels on the restoration project at BLNR. With a focus on wildlife habitat, these panels help to educate the community on the purpose of the nature reserve and the importance of natural assets.

SSIC engaged a beaver specialist to help assess the beaver population and activity levels on the nature reserve, and advise on changes to the wetland that are in progress. A long-term monitoring program has been implemented, using game cameras and onsite field observations. SSIC's contract field technician, now trained in monitoring techniques, and a volunteer wildlife photographer will continue monitoring with staff guidance. Currently, no changes to public trails or bridges are planned.

Please provide a general summary of overall project outcomes (500 words max).

This 3-year project began shortly after an extensive restoration at Blackburn Lake Nature Reserve (BLNR) and helped to ensure survivorship of native plants transplanted into restored wetlands. Plants have thrived with help from watering, weeding and mulching. Photo-point monitoring was used to monitor changes in habitat and species diversity in Years 1-2; in Year 3 photo-points became screened by advancing vegetation. Wide-scale photographic records of the reserve are being used to help identify new photo-points with a broader viewpoint of the restored areas. Wildlife sightings were recorded and wildlife photos shared on social media and SSIC's website.

The reserve management plan was updated in Year 2, integrating all portions of the reserve acquired in 2013-2017 into one plan, including all restoration work completed through 2017 and delineating protected areas and public access areas. SAR surveys demonstrated the importance of the wetland to targeted species such as the Northern Red-Legged Frog (SARA Schedule 1, Special Concern) and the Dun Skipper butterfly (SARA Schedule 1, Threatened) whose critical habitat includes wetlands. Recently, the Western Painted Turtle (SARA Schedule 1, Endangered) was sighted for the first time at BLNR. Native plants transplanted into the wetlands in Years 2 and 3 were cultivated from seeds and cuttings from the reserve, raised in the native plant nursery. The nursery's seed bank now contains seeds of 40 species of trees, shrubs, sedges, rushes, and forbs collected at BLNR. The nursery stock is maintained through seeding and live staking and, in Years 2 and 3 alone, more than 6000 native plants have been propagated for restoration.

One of this project's successful outcomes was the removing, or controlling, of 6 invasive species on the reserve's 45 acres (Scotch Broom, English Hawthorn, Holly, Yellow Flag Iris, Canada Thistle, and Tansy Ragwort). In some areas of BLNR, alder groves continue to spread successfully into nearby open areas,



promising more 'shading out' of Canada Thistle. Volunteer assistance with removal of invasive species not only increased skills and demonstrated benefits for wildlife habitat, but also contributed to cost-effective control of invasive species.

Throughout the project, BLNR has been maintained by SSIC's contract field technician with assistance from volunteer wardens and other volunteers. SSIC developed new educational signage on the restoration project at BLNR, focusing on wildlife habitat. BLNR has a new 'resting' bench (made and installed by volunteers). SSIC staff, contract field technician and volunteers worked to maintain existing educational signage, and to carry out general reserve maintenance. A beaver monitoring program, initiated in Year 3, provided valuable data on beaver population and activity levels, and related changes to the wetland. Long-term monitoring has been implemented with assistance from volunteers. Currently, based on monitoring data, no changes to public trails or bridges are planned.

This 3-year project involved more than 200 volunteers, exceeding the expected outcome for volunteer participation. During the project, over 2700 community members visited the reserve and learned about wetland restoration, rare species, the value of wildlife habitat and reserve management – far exceeding the expected outcome.

3. LESSONS LEARNED

Describe any problems or challenges that arose and how you addressed them in order to proceed with the project. What have you learned that would be valuable to share with others that may be undertaking a similar project?

Photo-points at established sites were used to monitor the success of wetland and riparian restoration at BLNR. However, advancing vegetation screened photo-points after Year 2 of the project, making them no longer useful. Including photo-points to monitor broad views of the restored wetland, while perhaps not so informative in the early stages of restoration, would have allowed even longer-term, and broadscale, monitoring of restoration success. Photo-point monitoring will continue to be useful in monitoring and new sites, including several with a broader viewpoint of the restored wetland and riparian areas, will be used moving forward.

4. COMMUNICATIONS

Project Outreach Activities: Provide information on any outreach activities during the year that directly relate to the project.

In Year 3, project activities were communicated via SSIC's website, our weekly emails to members (and other interested community members) and social media. Social media posts on wildlife included: Cassin's Vireo, Great Blue Heron (x2), Rufous Hummingbird, Canada Geese (x2), Northern Red-Legged Frog (x2), Red-Winged Blackbird, Barn Swallows (x3), dragonflies, butterflies, turtles, deer, birds (x3). BLNR wildlife was also featured in our newsletter, The Acorn.



The more than 2700 community members who visited the reserve during the course of this project learned about wetland restoration, rare species, the value of wildlife habitat and reserve management. Educational signage was an important component in communicating the work conducted on the nature reserve during the course of this project. Project activities, particularly wetland restoration and invasive species work, were communicated in PowerPoint presentations given by SSIC's Executive Director.

Communicating about HCTF: Provide information on any activities specific to communicating about HCTF undertaken during the year.

SSIC recognized HCTF in our social media posts, on the 'Funders page' on our website and in our newsletter, The Acorn. HCTF was also recognized in the Executive Director's PowerPoint presentations.

Media Coverage: Provide a list of any articles or media coverage during the year.

N/A.

5. PHOTOS

Include a minimum of three photos as part of your report, attached as separate JPG files. List the filenames below, plus a description of each photo.

Photo 1: "Wetland planting" – Volunteers assist with installing native plants in restored wetlands at the Blackburn Lake Nature Reserve.

Photo 2: "Tree down on trail" – Windfall tree across a trail at the Blackburn Lake Nature Reserve.

Photo 3: "Native Plant Nursery" – The native plant nursery at the Blackburn Lake Nature Reserve.

Photos 4 – 7: These show the 4 panels of the new educational display that highlights the restoration project at the Blackburn Lake Nature Reserve.

Photo 4: "Panel 1_Site History"
Photo 5: "Panel 2_Conservation"
Photo 6: "Panel 3_Restoration"
Photo 7: "Panel 4_Today"

6. ADDITIONAL DETAILS



Provide a description of any materials and supplies purchases funded by HCTF that are considered capital assets. See Final Year Reporting Instructions for information on Capital Assets.

N/A

HCTF Land Stewardship Grant 2017-20		HCTF Project #	<u>1-649</u>				
Final Year Activities and Expenditures Report							
			FROM PROPOSAL		ACTIVITIE	S & OUTCOMES REP	PORT
Property/Complex Name:	Goal	Objective	Expected Outcome/Performance Indicators by End of Year 3	Activities	Activities Completed in the Final Year	Expected Outcome/Performan ce Indicators met? (Yes/No/Partial)	If Expected Outcome/Performance Indicators not met, provide an explanation
	Maintain or improve the quality of water entering Blackburn Lake.	Ensure survivorship of over 15,000 native plants transplanted into resotred wetland areas, and monitor immigration of species into newly resotred sites.	Over 85% of plants survive and thrive in restored wetland areas with help from watering, weeding and muching as needed. Photopoint monitoring demonstrates significant changes in biodiversity, habitat and species composition over time, and widlife cameras and monitoring help to identify species immigration and use of restored sites. Over 75 solutioners help to maintain reserve and learn stewardship and restoration skills.	Guided by staff, restored wetland areas maintained by volunteers, staff and consultants (weeding, watering, mulching of native plants planted in wetland sites to increase survivorship and maintain habitat for wildlife). (Years 1-3 as needed).	In Year 3, wetland restoration plantings were maintained and an additional 47Am ⁷ of wetland were planted, with native plants, with help from volunteers. These plants were clivitated from assed and cuttings from the reserve and raised in the native plant nursery. The watering system was revised, and pump serviced, to ensure watering, as needed, of ongoing plant survival. In Year 3, volunteers is served ensured restoration and stewardship skills, while contributing over over 37 hours to help maintain the restored wetland areas.		
				Staff guide volunteers in ongoing photopoint monitoring at established sites to monitor success of wetland and riparian restoration and guide future restoration work. (Years 1-3).	In Year 3, photo-point monitoring was discontinued because, as the habitat changed, most photo-points became screened by advancing vegetation and were no longer providing good data. Wide-scale photographic records of the reserve are now being used to help identify new photo-points that take in a broader viewpoint of the restored wetland and riparlan areas.		
				Staff and volunteers monitor species immigration through wildlife cameras and ongoing monitoring of restored sites. Wildlife images are shared in social media posts and or website to increase deutation about local wildlife	Volunteers recorded wildlife sightings and the reserve's Volunteer Warden, who visits the reserve several times per week, sends all wildlife data (and photo) to the SSIC office. Annual butterfly monitoring continues	Yes	
Blackburn Lake Nature Reserve				and their habitat needs on the reserve. (Years 1-3).	on the reserve, by a local appert together with Citzen Scientiss. Blackburn Lake Nature Reserve has the highest diversity and numbers of butterflies of all SSIC reserves, likely due to the year-cound wetlands and streams. Images of a diversity of wildlife were shared via 19 poors on SSIC's Facebook page. Wildlife images were also shared on the SSIC website, including those in the newsletter, The Acorn.		
				Species at Risk surveys completed to guide management actions including Northern Red-legged Frog, bats, birds, and rare plants and lichens (Year 2).	Nature reserve management plan was updated in Year 2. In Year 3, SAR surveys were conducted only for lichens, Northern Red-Legged Frog. butterflies and briefs to facilitate comparison with SAR listed in baseline surveys. Recent new sightings at BLNR include the Western Painted Turtle (SARA Schedule 1, Endangered) and the Dun Skipper butterfly (SARA Schedule 1, Threatened).		
	Improve habitat for a wide diversity of native plants, fish and wildlife, including Species At Risk.	Land Management Plan and other guiding reserve documents kept up to date and with most up to date is cince. Species inventories completed and target populations begin using restored wetland habitat. Native plant nursery provides source of locally propagated native plants with highest provanance for greatest success in survivorhship.	Guiding documents for reserve completed and up to date with most up to date science. Targeted species using newly restored wetland sites. Up to 6,000 native plants propagated with local seeds for future habitat restoration on site.	Maintain native plants nursery to facilitate habitat restoration plans (seed collection of up to 10 species, propagation of up to 6,000 plants, watering, re-potting, maintenance of irrigation, etc.). (Years 2-3).	The native plant nursery was maintained, including restocking, watering and re-porting. The seed bank, used for propagation of nursery plants, now contains seed of 40 species of trees, shrubs, edgec, nueks, and forts collected at BLNR. The native plant nursery stock ranges from 1000 to more than 3000 plants at any one time, as plants at errusplanted and stock replaced through seeding and live staking. In Years 2 and 3 of this grant, more than 6000 native plants have been propagated for restoration. Volunteers participated in all aspects of maintaining SSIC's native plant nursery, contributing more than 44 hours in Year 3.	Yes	
				Purchase and install TRAFX trail monitor to assess levels of public use in reserve and guide future management of trails. (Year 1-3).	TRAFX trail monitoring data, reviewed in Year 3, proved useful in assessing levels of public use and, therefore, in planning trail management.		
Property Vision and/or Overall Management Goals for Property: The goals for RUNR are: 1. Maintain or improve the quality of water entering Blackburn Lake; 2. Improve habitat for a wide diversity of native plants and animals, including Species at Risk; 3. Eliminate, reduce or manage invasive species to the degree possible; and 4. Provide ongoing and educational public access. BUNK will dealy be a diverse mix of open and forested wetlands,	Eliminate, reduce or	Targeted invasive species are	Up to 6 invasive species removed or controlled on 45 acre	Targeted invasive species removal and control completed using invasive species mapping completed in 2023 and Best Management protocols for Scotch forom, English Hawthorn, Holly, Yellow Flag Iris, Thistle, and Tansy ragwort annually. Success of removal and control efforts monitored annually and removal techniques adjusted as necessary. (Years 1-3)	In Year 3, approximately 2000m ³ was cleared of invasive species. Annual removal of invasive species (Scoth Korom, English Havhorn, Holly, Yellow Flag Iris, Canada Thistle and Tansy Ragwort) was completed. In some a reas of BUNR, alder groves are spreading successfully into nearby open a reas, promising more 'shading out' of Canada Thistle.		
riparian areas, wet meadows, and upland forests that provide important wildle habitat and filter waters at itenters Bickkum Lake. Restoration efforts will work with natural processes and succession to create diverse, sustainable, resilient ecosystems that support a wide range of species at rais, fish, and wildlife, such as beaver, river otter, Coho salmon and Cutthroat Trout. Species at Risk identified on the reserve include: Band-ailed Pigoon, Ban Swallow, Black Swirt, Blue Dasher, Common Bladder-moss, Common Nighthawk, Common Woodmymh, Double-created Common, Kjerat Blue Heno, Green-	manage invasive species to the degree possible.	controlled or removed from strategic locations on site.	reserve using best management protocols and adaptive management with most up to date science.	Engage up to 40 volunteers and students in invasive species removal to enhance willdlife habitat and increase skills and cost-effectiveness of reserve maintenance.	In Year 3, 63 volunteers and students participated in invasive species removal, with care benefits for while habits. Under the guidance of staff and contractors, volunteer assistance with removal of invasive species not only increased skills, but also contributed to cost-effective control of invasive species.	Yes	
sheathed Sedge, Little Brown Myotis,Northern Pygmy-owl, Olive-sided Flycather, Oceas Covarioot, Pescok Viny, Peregring Falcon, Propertius Duskywing, Purple Martin, Red-legged Frog, Slender-spiked Mannagrass, Swamp Fingernaildiam, and Townsend's Big-eared Bat.				Staff guides consultants and volunteer reserve wardens to keep trails maintained. (Years 1-3).	Blackburn Lake Nature Reserve now has 2 volunteer wardens to ensure that the 45-acre reserve is well monitored. Volunteers, including volunteer wardens, assisted SSC: contract field technician in maintaining the trails, including removal of failen trees and debris due to storms. Trails in open areas were kept mowed throughout the summer by volunteers.		
			Up to 30 volunteers engage in reserve maintenance. Over	Staff guide field technician to maintain educational signage and infrastructure and complete general reserve maintenance as needed. (Years 1-3). Staff works with consultant to develop and install signage as needed to	In Year 3, fences and educational signage were maintained. General reserve maintenance included stair repairs and installation of a new bench positioned with a view of Blackburn Lake, in addition to trail maintenance noted above. In Year 3, SSIC staff worked with consultants to develop a series of 4	-	
	Provide ongoing and educational public access.	Engage public in understanding the ecological importance of the reserve and the values within.	500 community members visit reserve and learn about rare species, wetland restoration and management of the reserve. Repaired walking bridges provide access to the reserve for nature appreciation to the public. Beaver monitoring program is initiated, determining activity and	Improve community education regarding the purpose of the lands and the value of the natural assets and habitat for wildlife. (Years 1-3).	educational panels on the restoration project at BLNR, focusing on wildlife habitat. In Year 3-3, over 2700 community members visited the reserve and learned the purpose of the lands, about habitat restoration and enhancement, and the value of wildlife habitat.	Yes	
	and the values within.	monitoring program is initiated, determining activity and related changes to wetland.	Staff work with consultants to repair or replace bridges as needed to direct traffic to flow anxiethicky areas and minimic habitat impacts in finith bearing ereeks. <u>Year 1 or 21</u> -Monitoring beaver activity and wetland changes (includes hiring a consultant)	In Year 3, SSC engaged a recognized beaver specialist to assess the beaver oppulsition on the nature reserve, as well as activity levels and changes to the wetland that are in progress (and potential future changes). Following the consultant's inicial wist, a long-term monitoring program was implemented, using game cameras and onsite field observations SSC's contrast. field technician was trained in monitoring techniques and a volunteer wildlife photographer is assisting with long-term monitoring. Currently, no changes to public trails or bridges are planned.			

1-650 Cowichan Garry Oak Preserve



HCTF Project Number: CAT18-1-650

Please refer to the Land Stewardship Grant Final Year Reporting Instructions when completing this report.

This report must be completed in conjunction with the Activities and Expenditures Report (spreadsheet) customized for your project based on your proposal.

1. PROJECT INFORMATION

Project/Property Name: Cowichan Garry Oak Preserve

Project Leader Name: Hillary Page

Name of Organization: Nature Conservancy of Canada (NCC)

Date of Report: March 27th, 2020

Author of Report (if different than Project Leader): Steven Godfrey

Name of Organization: Nature Conservancy of Canada (NCC)

Contact Information: <u>Steven.Godfrey@natureconservancy.ca</u>

2. SUMMARY

Provide a general description of project work completed in the last year (500 words max).

In November of 2018, Polster Environmental Services Ltd (David Polster, M.Sc., R.P. Bio., CERP) was retained by NCC to provide recommendations regarding potential restoration strategies for ecosystems present at the Cowichan Garry Oak Preserve (CGOP). This report identified various site constraints or barriers to restoration at CGOP while listing corresponding restoration opportunities and strategies for identified habitat zones (shallow soil, deep soil, pasture areas, and conifer encroachment areas). In April of 2019, a follow up document was produced by Polster providing detailed treatment recommendations specific to each zone.

NCC's restoration targets at CGOP focus primarily on improving and maintaining growing conditions for at-risk plant species found throughout shallow and deep soil Garry oak meadow ecosystems. Polster (2018, 2019) lists the re-establishment of a fire-maintained ecosystem as the recommended restoration treatment for shallow soil habitat zones at CGOP. Accordingly, NCC has prioritized the use of regular prescribed burns as essential to the effective stewardship of these ecosystems; the full amount of year-



three (final year) funding from this Land Stewardship Grant was dedicated to fire-regime planning and preparing for the implementation of a prescribed burn at the Cowichan Garry Oak Preserve (CGOP).

During the summer of 2019, an approved prescribed burn plan was completed in cooperation with the Cobble Hill Wildfire Management Branch (BC Wildfire Service South Island Fire Zone). Completion of the fire plan required a physical assessment of fuel/stand types at CGOP. The assessment identified five polygons for a total area of 1.28 ha designated to be treated via low intensity burn. To prepare the burn site that season, NCC's site contractor worked with the Cobble Hill team to mow fire breaks and apply additional fuel-load management measures as outlined by the plan. Despite these efforts, weather and site conditions prevented the successful implementation of a prescribed burn in 2019. NCC intends to carry over applicable content from our 2019 fire planning efforts to implement during the 2020 burn window.

Beyond the establishment of the burn plan, the planning process allowed NCC to foster and strengthen important relationships in the community. These include ongoing fire-management conversations with: the BC Forest Service, Ministry of Forests, Lands & Natural Resource Operations, John Dick (fire ecologist), Dave Polster (restoration specialist), the Cobble Hill Wildfire Management Branch, fire restoration specialists from Parks Canada, Municipality of North Cowichan Fire Services, Andrew MacDougall (University of Guelph), James Miskelly (Natural Resources Canada), Cowichan Tribes, local contractors, community members, and volunteers. NCC made additional efforts to inform, to educate, and to include community members and neighbours, particularly where there were concerns about the prescribed burn plan, throughout our planning.

Please provide a general summary of overall project outcomes (500 words max).

In year one of the Land Stewardship Grant, staff completed a detailed Baseline Inventory of ecosystems at CGOP, in line with NCC's standard approach to conservation planning. This evaluation provides an improved foundation to inform evolving restoration and management planning efforts for the property through years 1-3 and into the future. Following the establishment of the baseline, during years 1-2 of the Land Stewardship Grant, NCC completed an updated property management plan (PMP) following consultation with community members and our conservation partners at CGOP. The updated PMP has guided regular maintenance, stewardship and restoration activities supported by the Land Stewardship Grant during years 1 and 2. Work completed by or under direction of NCC's site contractor at CGOP included:

• Applying mechanical control methods (mowing and pruning) to an approximately 500 m² area of advancing shrubs such as common snowberry (*Symphocarpos albus*)

• Installing and maintaining 400 meters of exclosure fencing to reduce deer browsing on at-risk plants

• Thinning the forest canopy through removal of conifers from three hectares of shallow soil and conifer encroachment habitat areas

• Planting over 100 native plants, and where necessary, protecting the plants with stucco wire



• Maintaining the native plant nursery, including propagating over 20 native plant species to augment established populations and cultivating endemic seedlings, including at-risk species

• Establishing exclosure fencing for sheep-grazing trials

• Applying invasive species management techniques to Scotch broom, English ivy, holly, daphne/spurge-laurel, assorted introduced grasses, common periwinkle and Himalayan blackberry throughout 10 hectares of low-medium density/low distribution sites

Weekly conservation volunteer events "Weedy Wednesdays" were held regularly at CGOP throughout the duration of the land stewardship grant, weather permitting (a small number of dates were cancelled due to snow and frozen soil). This volunteer group consists of fourteen Cowichan residents, supported by occasional additional volunteers from the community, who participate in weekly restoration and stewardship activities. The volunteers work to restore and maintain approximately 10 hectares of habitat under the direction of NCC's site contractor, Irvin Banman. Volunteer stewardship activities include, collecting seed, propagating native plants, collecting spatial data, and managing a small nursery, in addition to the manual treatment of various invasive species including: Scotch broom, English ivy, holly, daphne/spurge-laurel, assorted introduced grasses, and Himalayan blackberry.

In April of both 2018 and 2019, NCC hosted the annual "*In Bloom*" Wildflower Festival which saw upwards of 250 visitors each year. *In Bloom* provides an opportunity for community members to visit CGOP; public access is otherwise closely managed by permission only, and is typically reserved for volunteer efforts, sanctioned tours, and researchers. Each year *In Bloom* invites community members to witness the blooming of flagship endemic wildflower species representative of Garry oak meadow ecosystems at CGOP, providing an ideal outreach opportunity. The format of *In Bloom* allows NCC staff, contractors, and local experts to lead a series of informative and interactive stations set up throughout the preserve, focusing on conservation issues, local natural and cultural history, and both the successes and challenges of Garry oak ecosystem restoration.

3. LESSONS LEARNED

Describe any problems or challenges that arose and how you addressed them in order to proceed with the project. What have you learned that would be valuable to share with others that may be undertaking a similar project?

As discussed in Section 1, the re-introduction of fire to the landscape at CGOP remains a high priority restoration/stewardship treatment at CGOP. NCC faced several challenges associated with implementing this activity, largely related to weather conditions, coordination of multiple stakeholders, and addressing public concern (a single individual who opposes the activity).

Through years 1-3, the importance of advanced planning became increasingly evident to NCC staff. In short, the implementation of a controlled burn requires many factors to come together during an



extremely tight window of time (wind, growing conditions, relative humidity, temperature, crew availability, staff/contractor availability, site preparedness, updated safety plans, etc.). In order to carry out a prescribed burn plan during the window when/if the necessary factors align, it is essential to be well prepared while maintaining the capacity to adapt if possible. Although NCC learned this lesson in earlier years and was fully prepared to implement a burn in year 3 of the Land Stewardship Grant, the conditions on site in fall of 2019 prohibited implementing the burn as planned, delaying the final project outcome.

4. COMMUNICATIONS

Project Outreach Activities: Provide information on any outreach activities during the year that directly relate to the project.

NCC's site contractor (Irvin Banman) and conservation & engagement coordinator (Travis Muir) hosted several educational site tours at CGOP during the spring and summer of 2019, these included visits from the Cowichan community Elder College, Maple Bay Elementary School, and the Cowichan Valley Naturalists Society. NCC will continue to support the reintroduction of the Western Bluebird (*Siala Mexicana*) at CGOP through 2020, a program now led by the British Columbia Conservation Foundation (previously, in 2019, the project was led by the Cowichan Valley Naturalists Society). The 2020 program will focus on the installation and maintenance of nest site boxes, monitoring, feeding and outreach activities.

The weekly conservation volunteer event "Weedy Wednesdays" were held regularly at CGOP through years one-three of the land stewardship grant (aside from dates cancelled due to severe weather conditions or perceived fire-risk). See section 2, paragraph 2 (General Summary) for more details about activities, results and outcomes from this outreach activity during the reporting period. Planning for NCC's annual *In Bloom* event occurred throughout February and March of 2020. This event (planned for May 2nd) has been cancelled due to social distancing measures taken due to concerns and Provincial advisories related to COVID-19.

With the exception of a single neighbour, community members who raised concerns about the implementation of a prescribed burn at CGOP are generally supportive of this treatment method. An ongoing dialogue between NCC and the concerned neighbour continues, while NCC builds trust and shares information about the conservation rationale of the suggested burn plan. Background information shared to date includes the eco-cultural rationale for burn maintenance of Garry oak ecosystems and the mutual benefits of carefully managed burns. In addition, neighbouring landowners who expressed concerns about a prescribed burn were invited on site for a detailed explanation of the burn plan and walk-through of the associated safety measures.



Communicating about HCTF: Provide information on any activities specific to communicating about HCTF undertaken during the year.

HCTF was highlighted as a conservation partner on the 2019 *In Bloom* interpretive event program distributed to over 250 event participants (*see Photo 1*).

HCTF is recognized for land stewardship funding contributions as a "Partner in Conservation" on NCC's CGOP Featured Project web page: <u>http://www.natureconservancy.ca/en/where-we-work/british-columbia/featured-projects/salish-sea/cowichan-garry-oak-preserve.html</u>

Media Coverage: Provide a list of any articles or media coverage during the year.

Article discussing controlled burns in Garry oak ecosystems, focusing on CGOP and work completed in partnership with the BC Wildfire Service: <u>https://vancouverisland.ctvnews.ca/b-c-orders-controlled-burns-for-rare-garry-oak-ecosystems-on-vancouver-island-1.4581596?cache=almppngbro%3FclipId%3D89925</u>

In Bloom Wildflower Festival article:

https://www.cowichanvalleycitizen.com/community/in-bloom-wildflower-festival-celebrates-spring-incowichan-garry-oak-preserve/

5. PHOTOS

Include a minimum of three photos as part of your report, attached as separate JPG files. List the filenames below, plus a description of each photo.

Please note, a limited number of photos are available demonstrating work completed in the 2019 field season under the Land Stewardship Grant due to the inability to implement the prescribed burn.

Photo 1 File name and Photo Description:

<u>File Name</u> HCTFLandGrant_Final_Photo1_InBloom2019EventProgram.jpg

Photo Description

HCTF is recognized as a funder of land stewardship at CGOP on the back page of the 2019 *In Bloom* Wildflower Festival event program which was distributed to over 250 event attendees.



Photo 2 File name and Photo Description:

File Name

HCTFLandGrant_Final_Photo2_PrescribedBurnPolygons.jpg

Photo Description

Photo 2 displays the five polygons assessed for treatment with prescribed burn (total area 1.28 hectares). Though these areas were mapped during the 2018 field season, a physical assessment of fuel and site condition for was completed again in 2019 as part of the updated burn plan.

Photo 3 File name and Photo Description:

File Name HCTFLandGrant Final Photo3 IrvNurseryChat.jpg

Photo Description

NCC's site Contractor, Irvin Banman speaks to volunteers lining up alongside CGOP's native plant nursery as part of a restoration workshop held in March of 2019.

Photo 4 File name and Photo Description:

File Name

HCTFLandGrant_Final_Photo4_InBloomPollinatorTable.jpg

Photo Description

NCC's Conservation and Engagement Coordinator greets visitors to the "*Pollinator Partnership*" table, an interpretive educational table which was part of the 2019 *In Bloom* Wildflower Festival event.

Photo 5 File name and Photo Description:

File Name

HCTFLandGrant_Final_Photo5_WeedyWednesdayInvSpRemovaljpg

Photo Description

Weedy Wednesday volunteer, Roger Wiles, displays a bag full of English Ivy manually removed from the upper mead habitat area at CGOP.



6. ADDITIONAL DETAILS

Provide a description of any materials and supplies purchases funded by HCTF that are considered capital assets. See Final Year Reporting Instructions for information on Capital Assets.

No capital assets were purchased with HCTF land stewardship funding.

Provide any other information you wish to share with HCTF.

In spring and summer of 2020, monitoring of forty-three permanent sample plots will be completed. This work will focus on plant community and forest canopy composition, marking the fourth phase which has been completed at five-year intervals since 2000. Analysis and results of this work is expected to inform land stewardship work at CGOP in the future while providing an indicator to assess past land management decisions and they're effect on Garry oak ecosystem plant communities. NCC also hosts many long-term university-led research projects at CGOP, with the intent that outcomes will inform management and stewardship activities at CGOP. Currently, there are five active research permits for projects focusing on topics related to drought, plant herbivory, and Garry oak ecosystem restoration

7. SUBMIT YOUR GRANT REPORT

- Save this report using the Project # and grant year in the filename. Example: 1-123 Grant Report 2019-20
- Please send your Final Year Grant Report to reporting@hctf.ca
- Your report should include the following:
 - Completed Final Year Grant Report Form (this document)
 - o Completed Final Year Activities and Expenditures Report
 - Photos as JPG files
 - Copies of any print media articles (or provide links in report)
 - Invoice for remaining funds

By submitting this grant report, you certify that this report is an accurate reflection of project activities and expenditures per the HCTF Grant Agreement.

HCTF Land Stewardship Grant 2017-20 Final Year Activities and Expenditures Report

HCTF Project # <u>1-650</u>

		FROM PROPOSAL			ACTIVITI	IES & OUTCOMES REPOR	т	
Property/Complex Name:	Goal	Objective	Expected Outcome/Performance Indicators by End of Year 3	Activities	Activities Completed in the Final Year	Expected Outcome/Performance Indicators met? (Yes/No/Partial)	If Expected Outcome/Performance Indicators not met, provide an explanation	
	To effectively maintain and	Develop high-level d management planning	By June 2017, baseline inventory fieldwork and a report will be	Undertake resource inventory, analyze and compile current and archived resources in an accurate baseline inventory following NCC's standard template. (Year 1)	-	Yes (Completed in vr 1): Both a PMP and baseline inventory were developed, reviewed and approved for		
	found on the property in partnership with local	involvements with community involvement to guide resource conservation, habitat	complete. By December 2017, a formal property management plan will be complete. By March 2018, strategies, work plans and supporting documents will be complete.	complete. By December 2017, a formal property management plan will be complete. By March 2018, strategies, work plans and supporting documents will be complete.	In collaboration with stewardship partners in the Cowichan Valley including Cowichan Tribes, develop and create a formal property management plan following NCC's standard template. (Year 1)	-	CGOP following NCC PPSGs Yes (Completed in yr 2): NCC has implemented	-
Cowichan Garry Oak Preserve	stewards.	restoration and ennancement and human activities on CGOP.		Develop regular maintenance programs, invasives management strategy and staff/volunteer plans for site management, research and engagement programs. (Year 2)	-	stewardship and monitoring stratetgies guided by an approved restoration plan		
Cowichan Garry Oak Freserve	To effectively maintain and	d		Mechanical removal (mowing, shears, hand pulling) of remaining shrubby invasive species like Scotchbroom. (Year 1-3)	Ongoing throughout year 3, completed by NCC site contractor	Yes (Completed in yrs 1-3): Maintenance of exclosures and mowing of snowberry and		
	enhance the natural values found on the property in partnership with local stewards.	 Implement the property management plan to effectively steward the long term natural values of CGOP. 	By 2020, management of aggressive invasives will reduce invasive shrub extent by 20% of 2016 mapped levels; By 2020, management of exotic grasses will reduce invasive grass cover by 50% of 2016 mapped levels.	Maintenance of sheep grazing to treat exotic grasses (Year 1-3)	Ongoing throughout year 3, completed by NCC site contractor (and volunteers under the direction of NCC contractor)	exolic grasses was completed by a contractor. Mechanical removal of Scotchbroom, Laurel and English Holly was	-	
						completed by the contractor with conservation volunteer support		
Property Vision and/or Overall Management Goals for Property: NCC's Cowichan Garry Oak Preserve (CGOP) is one of the few remaining examples of an intact Garry oak ecosystem. The primary management goal for the preserve is to restore and protect critical habitat for rare				Expand the nursery and recruit greater diversity of seeds. (Year 1)	-	Yes (Completed in yrs 1-3:		
plants, invertebrates and birds, and provide opportunities for restoration, volunteer engagement and research in this ecologically significant ecosystem.	Restoration and Rer enhancement of the endangered Garry Oak res meadow ecosystems pro	Renovation and expansion of the nursery at CGOP to improve restoration work at the property.	By December 2020, expand the current nursery by 1000 square feet; By 2020, increase recruitment of cultivated rare seedlings and plant out an additional 50 seedlings every year.	Installation of irrigation to accommodate watering of seedlings. (Year 2)	-	Weeding and nursery maintenance completed by conservation volunteers with oversight by NCC site	-	
				Weeding and maintenance of cultivated seedlings (Year 1-3)	Ongoing throughout year 3, completed by NCC site contractor (and volunteers under the direction of NCC contractor)	contractor and staff		
			Additional 400 metres of restoration fencing to secure	Installation of 400 additional metres of restoration fencing to prevent deer from grazing sensitive habitat. (Year 1)	Installation of 400 additional metres of restoration fencing to prevent deer from grazing App sensitive habitat. (Year 1)		artial Completion yrs 1-3: poproved burn plan created in D18 & 2019, though weather Approved prescribed burn plan was ponditions prevented the completed. NCC's site contractor	
	Restoration and enhancement of endangered Garry Oak meadow ecosystems	Use of various approved techniques to manage invasive species and maintain the Garry Oak meadow ecosystem.	prescribed burns and mechanical treatment of invasives are used to reduce invasive species cover by 20% increasing the productivity of the Garry Oak meadow and providing onnortunities for the establishment of at least 1 new rare plant	Prescribed burns are completed annually in partnership with the Cobble Hill Fire Base to maintain Garry Oak meadow habitat by reducing shrub habitat. (Year 1-3)	Burn plan completed, site prepared, project partners engaged, public education and outreach activities complete	implementation of a prescribed burn on site despite site preparation and planning efforts. Native	prepared burn plots during the summer /fall of 2019, including the mowing of fire breaks and add'l fuel-load management. Weather conditions prevented	
			species population.	Planting out of native species cultivated in the preserve nursery and monitoring of over- wintering success (Year 1-3)	Ongoing throughout year 3, completed by NCC site contractor (and volunteers under the direction of NCC contractor)	species cultivated in the nursery were succesful planted at CGOP in yr 3.	implementation of a prescribed burn in 2019.	

1-678 Settlement Lands



HCTF Project Number: 1-678

1. PROJECT INFORMATION

Project/Property Name: Settlement Lands
Project Leader Name: John Millen / Erika Bland
Name of Organization: Denman Conservancy Association
Date of Report: June 23, 2020 (extension granted due to complications around COVID-19 pandemic)

Author of Report (if different than Project Leader): Erika Bland

Name of Organization: Denman Conservancy Association

Contact Information: dcalandmanager@gmail.com 250-702-7773

2. SUMMARY

Provide a general description of project work completed in the last year (500 words max).

A contractor was hired to construct an outdoor classroom/interpretive structure, near a vernal wetland designated for protection of endangered Taylor's Checkerspot Butterfly, was constructed at the property entrance in lieu of the Bird Blind planned in the original application.

200 ingrowing small trees were removed from the Butterfly Reserve. Signage and gates were installed at the pollinator garden. A wetland plant display was created. 10 beds were seeded with native pollinator host species and the garden was maintained, weeded and watered, with volunteer participation.

New distance markers installed on Taylor's Checkerspot monitoring transect. Transect trail maintained. Vegetation response experiment involving controlled removal of bracken fern was completed by Andrew Fyson, PhD botany. Monitoring was carried out for adult and larval Checkerspots and one larvae was confirmed within the breeding wetland near the pollinator garden.

4 wetland sites were monitored and data collected on water depth and water quality, as well as general observations. 6 volunteers were trained in the use of professional water testing equipment.

Protected Area signs were installed along Pickles and Lake Rds. New trail signage was installed on walking trails.

Scotch broom was removed from a total of 5ha of pollinator habitat by contractors and volunteers. 47 English holly plants were removed across the property. 16 hawthorne plants were removed. Everlasting pea was treated by digging from 0.2ha at the property edge. St. John's wort flowers were cut to discourage growth. Treatment will continue.

Please provide a general summary of overall project outcomes (500 words max).

This grant allowed DCA to complete necessary land management tasks associated with this newly established conservation covenant area. We are exceedingly grateful for this financial support.

We established a trail network with good signage, now regularly used. We installed boundary markers to inform neighbouring landowners. We established a parking area and installed bollards to prevent



vehicle encroachment, refurbished an out-of-commission bridge, and installed two information kiosks and 2 'protected area' road signs. We installed a cedar outdoor classroom structure, which will serve for many years to come as a focal point for nature education and bird and wildlife viewing. The at-risk olivesided flycatcher is regularly heard there. The outdoor classroom also provides shade to volunteers maintaining the newly installed pollinator garden, where plant host species for Taylor's Checkerspot butterflies and other native pollinators (wild strawberries, self-heal, yarrow, scouler's harebell, blueeyed-mary, marsh speedwell, thyme-leaved speedwell, red-flowering currant, baldhip rose, nootka rose, trailing blackberry, Salal and Oregon grape) are thriving. Pollinators including bees, wasps, ladybugs, and dragonflies are seen regularly on these plants. Signs were installed within the garden area to teach visitors about the plants and habitat. A water cistern and fencing were installed and the cistern is regularly filled by the volunteer fire department. A team of volunteers helps maintain the garden.

The 3.64ha butterfly reserve was enhanced through removal of ingrowing small trees and invasive species. A study of the effects of removal of bracken fern was carried out. Monitoring in the butterfly reserve revealed that Taylor's Checkerspot is still breeding in the reserve, despite declining numbers on the island. DCA created a Management Plan for Checkerspots at the Settlement Lands, and participated in meetings of the Regional Implementation Group. DCA hosted and presented at 3 'open houses' about Checkerspots.

The trail network originally proposed in the property management plan was revised slightly to remove the Marsh View Trail after biologists identified important wildlife values in this sensitive wetland habitat area. A "non-disturbance" area was demarcated to provide refuge for beaver, mink, deer, nesting waterfowl, and many species of resident breeding and migrating birds.

A 410m fence was installed at the Homestead Marsh in collaboration with the neighbouring farmer to keep cattle out of the wetland. Vegetation in the excluded area has regenerated extremely well. Two bat houses were installed at this marsh and are regularly monitored by DCA Biologist Jenny Balke. Water depth gauges were installed at 4 sites and water quality data are collected regularly by trained volunteers, using professional equipment purchased through grant funding from Environment and Climate Change Canada. Educational walks about botany, invasive species, birds, beaver and other wetland wildlife were led by biologists and DCA land manager through the life of this project. Newsletter articles were printed regularly informing the community about the grant work.

Finally, invasive species including Scotch Broom, English Holly, English hawthorne, Everlasting Pea, Periwinkle, and St. John's wort were treated and removed across 9.5 hectares of the property. We were able to employ 7 local people in these efforts, and 28 volunteers participated in work bees.

3. LESSONS LEARNED

Describe any problems or challenges that arose and how you addressed them in order to proceed with the project. What have you learned that would be valuable to share with others that may be undertaking a similar project?

The property Management Plan laid out plans to create a wildlife viewing structure at Homestead Marsh, and the original grant proposal laid out plans for a bird blind there. This proved unfeasible due to regulatory requirements and the decision to close the area to the public to protect it as a nondisturbance area for wildlife. In lieu of this bird blind, we created a wildlife viewing platform and outdoor classroom/interpretive structure in the butterfly reserve. Shifting our focus and site while



maintaining the project's overall objectives required some careful thought and lots of conversation by our Lands Committee.

Germination of seeds and growth of plants in the pollinator garden was poor in the first year, but improved over the 3 year grant. There are now numerous plants producing flowers and seeds there, and pollinators are seen using them regularly. Thrillingly, a Checkerspot larva was seen in the breeding wetland closest to this pollinator garden in Feb 2020.

Near the beginning of the 3-year grant period, someone was found to have removed approx. 10 small conifer trees near the property's northern boundary. This presented a major challenge as the neighbour thought the trees were on their land. With the help of a retired geologist with extensive survey experience, the boundary markers provided through this grant were installed and now provide clear guidance to neighbouring landholders about the location of property lines.

Removal of St. John's Wort through cutting only proved ineffective. Cutting was recommended initially since the infestation is located at the top of a steep slope, and cutting was deemed the best way to cause minimal disturbance to the slope integrity and to allow work to be carried out safely. However, the infestation remains. Earlier or varied attempts at different removal strategies such as digging would have allowed us to achieve a more thorough eradication of this patch of invasive plants within the grant timeline. Work will continue on removal of the plants in the coming years, with more focus on digging out the roots with minimal disturbance.

4. COMMUNICATIONS

Project Outreach Activities: Provide information on any outreach activities during the year that directly relate to the project.

DCA initiated a youth nature program in collaboration with the Denman Island Community School. We had planned to carry out a field trip with the students to the butterfly reserve to visit the new outdoor classroom and butterfly reserve in March 2020, but this activity was curtailed due to Covid19.

The land manager hosted a water quality monitoring training workshop in March 2020 prior to the pandemic restrictions, with 7 volunteers in attendance. From these volunteers, a team of regular wetland monitors has been established to continue our water baseline data collection beyond the life of the project.

In August 2019, DCA hosted visiting scientists from the National Lake Pulse project, who gave an informative presentation to over 50 islanders about their sampling activities in the Chickadee-Beadnell watershed.

DCA co-hosted an evening information session to present the latest information about Taylor's Checkerspot Recovery on Denman Island including at the Settlement Lands property, in February 2020 with 25 islanders in attendance, as well as a weekend open house in early March 2020 to share more information and recruit volunteers.

Communicating about HCTF: Provide information on any activities specific to communicating about HCTF undertaken during the year.



April 2019 DCA Newsletter article about invasive plants circulated via The Island Grapevine to 625 households on Denman Island. Signage installed at the pollinator garden shows the HCTF logo. Powerpoint presentation at Taylor's Checkerspot evening presentation and Open House acknowledged HCTF as project funder. Verbal acknowledgement of financial support at the Denman Island Christmas Craft Fair and Isfeld High School Ecofair, Lake Pulse dinner event. Monthly reports to presented to the DCA Board of Directors. DCA board members and Lands Committee members acknowledge that these grant funds have allowed us to accomplish many important outcomes that would not have been possible if only relying on DCA's small operating budget.

Media Coverage: Provide a list of any articles or media coverage during the year.

April 2019 DCA Newsletter article about invasive plants circulated via The Island Grapevine to 625 households on Denman Island.

5. PHOTOS

Include a minimum of three photos as part of your report, attached as separate JPG files. List the filenames below, plus a description of each photo.

Photo 1 File name and Photo Description:

File Name: 1-678-01-Pollinators in Garden-SelfHeal-GerryAmburyPhoto.JPG

<u>Description</u>: Photo of bee and fly species nectaring on *Prunella vulgaris* cultivated in the pollinator garden at the Butterfly Reserve. Photo donated by Gerry Ambury, a professional photographer and Denman resident.

Photo 2 File name and Photo Description:

File Name: 1-678-02-Pollinator Garden View.JPG

Description: Looking in from edge of the Pollinator Garden, with the new outdoor classroom structure in the background

Photo 3 File name and Photo Description:

File Name: 1-678-03-Garden Larval Host Plants.JPG

Description: Newly constructed in winter 2019, a demonstration of the larval host species used by Taylor's Checkerspot.

Photo 4 File name and Photo Description:

File Name: 1-678-04-Contractor and volunteer at completed outdoor classroom structure.JPG

<u>Description</u>: Contractor Stacey Borgstrom and volunteer J.R. after completing the construction of the Pagoda at the Settlement Lands Butterfly Reserve pollinator garden

Photo 5 File name and Photo Description:

File Name: 1-678-05-Volunteer Helping with Pagoda and Gates.JPG

<u>Description</u>: Keith Biddulph, one of the garden helper volunteers, puts finishing touches on the new gate at the pollinator garden.

Photo 6 File name and Photo Description:

File Name: 1-678-06-New Monitoring Transect Marker.jpg



<u>Description</u>: DCA Land Manager and Biologist Jenny Balke installed new 50m markers throughout Checkerspot monitoring transect.

Photo 7 File name and Photo Description:

File Name: 1-678-07-Broom at Main Parking Site-before-20170601.JPG

<u>Description</u>: A view facing west of the Settlement Lands parking site, where broom was growing densely. **Photo 8 File name and Photo Description**:

File Name: 1-678-08-Broom at Main Parking Site-after-20200322.JPG

<u>Description</u>: Same view at parking area, after broom removal, and also showing newly installed bollards to restrict vehicle access to parking zone, and new property sign, which has trail maps and more property info on reverse.

Photo 9 File name and Photo Description:

File Name: 1-678-09-Everlasting Pea Removal-Example-before.JPG

<u>Description</u>: An example of the area along Chickadee Place where everlasting pea was removed with flowers in full bloom before their removal.

Photo 10 File name and Photo Description:

File Name: 1-678-010-Everlasting Pea Removal-Example-after.JPG

Description: Same area with everlasting pea removed.

Photo 11 File name and Photo Description:

File Name: 1-678-011Trail Signage Example.JPG

<u>Description</u>: Photo of one of the many signs installed along newly developed trails in the Settlement Lands.

Photo 12 File name and Photo Description:

File Name: 1-678-012-Trail Repair Culvert Homestead Marsh.JPG

<u>Description</u>: Trail maintenance underway by volunteers and DCA Land Manager. Small sections of culvert were installed in a wet area trail crossing to minimize damage to wetland vegetation.

Photo 13 File name and Photo Description:

File Name: 1-678-013-Boundary Marking at Settlement Lands with Volunteer.JPG

<u>Description</u>: J Thornton and Erika Bland installing custom made boundary marker signs to clarify exact location of the north Settlement Lands Boundary, following unauthorized tree removal by neighbour. **Photo 14 File name and Photo Description**:

<u>File Name:</u> 1-678-014-Vegetation regrowth two years after cattle fencing installed at Homestead Marsh.JPG

<u>Description</u>: Vegetation has bounced back remarkably well along the edge of Homestead Marsh following the exclusion of cattle by installing a 410 metre fence there.

Photo 15 File name and Photo Description:

File Name: 1-678-015-Volunteers Removing Broom at Settlement Lands.jpg

<u>Description</u>: One of many volunteer work bees at the Settlement Lands to remove invasive species including Scotch Broom.

Image 16 File name and Photo Description:

File Name: 1-678-016-Wetland Wildlife Non Disturbance Area.JPG

Description: This map shows the location (blue) of the wetland non-disturbance area established at the Settlement Lands. This area has been closed off to the public with the exception of scientific monitoring activities including water quality monitoring by a team of trained volunteers.

Image 17 File name and Photo Description:

File Name: 1-678-017-Invasives Map Settlement Lands 2019.jpg



<u>Description:</u> Map of invasive species at the Settlement Lands as of April 2019. Scotch broom was removed across nearly the entire property. Most mapped instances of large English Holly plants were removed. Everlasting pea was removed, but will likely require continued treatment. St. John's wort was not removed but will continue to be a focus for invasive species control.

6. ADDITIONAL DETAILS

Provide a description of any materials and supplies purchases funded by HCTF that are considered capital assets. See Final Year Reporting Instructions for information on Capital Assets.

The purchase of a brush cutter and reciprocating saw (Years 1 & 2) funded through this grant will continue to serve DCA for years to come. Fencing at the Homestead Marsh to exclude the neighbour's cattle could be considered a capital asset. The Wildlife Viewing Pagoda is a capital asset that will stand as a reminder of the support of HCTF for all visitors to the Taylor's Checkerspot Butterfly Reserve.

Provide any other information you wish to share with HCTF.

DCA submitted a project change request for reallocating funds for the Bird Blind to the Outdoor Classroom Structure on 2019.06.24 that was approved by HCTF (Christina Waddle) via email on 2019.06.26.

Denman Conservancy is exceedingly grateful for this financial support. We have accomplished so much over the past 3 years as a result of this grant! THANK YOU!

7. SUBMIT YOUR GRANT REPORT

- Save this report using the Project # and grant year in the filename. Example: 1-123 Grant Report 2018-19
- Please send your Final Year Grant Report to <u>reporting@hctf.ca</u>
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 - Photos as JPG files
 - Copies of any print media articles (or provide links in report)
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By submitting this grant report, you certify that this report is an accurate reflection of project activities and expenditures per the HCTF Grant Agreement.

HCTF Land Stewardship Grant 2017-20

Year 2 Activities and Expenditures Report

	FROM PROPOSAL					ACTIVITIES & OUTCOMES REPORT		
Property/Complex Name:	Goal	Objective	Expected Outcome/Performance Indicators by End of Year 3	Activities	Activities Completed in the Final Year	Expected Outcome/Performance Indicators met? (Yes/No/Partial)	If Expected Outcome/Performance Indicators not met, provide an explanation	
	Maintain/increase populations of invertebrate species at risk including: Taylor's Checkerspot (TC)	Enhance Taylor's Checkerspot & other invertebrate species habitat focusing on areas with food & nectar plants for larvae & adults; Create a demonstration Butterfly Garden to	Debris from previous tree felling is removed from 0.5ha of existing Butterfly Reserve area to expose nectar & larval host plants; Creation of a 0.02ha demonstration Butterfly Garden involving 20+ volunteers; Invertebrate larvae & adults are observed using plants in the garden by year 3; 10 species of native plants known to be host plants for rare	Remove debris from 0.5ha of Butterfly Reserve area. Map 0.02ha butterfly garden area & existing plants. Design plan for supplemental butterfly-significant plants. Cultivate specific plant species (Year 1)	Remove 200 ingrowing small trees from Reserve Area.			
	(endangered); Dun Skipper; Common Wood Nymph; Western Pine Elfin; Western Pondhawk; Blue Dasher;	expand available habitat while providing education opportunities	Inverteorate species are established a self-propagating within the garben within 5 years from the time of its creation; 2 self-advatational visits are attended by local community school children & community members	Prepare sites for additional butterfly-significant plants using hand tools. Install fence and water cistern. Plant supplemental plant species. (Year 2)	Install garden gates. Create mini wetland pond garden - propagate larval host species (veronica spp) for Taylor's checkerspot. Seed 10 beds with native species. Document pollinator use of garden.	Yes		
Settlement Lands				Weed, water &maintain garden area throughout summer months to encourage plant growth (Years 2&3)	Maintain garden to encourage plant growth. Install information signs about pollinator host plant species.			
Settement Lands				Establish database (contractor 4hrs with volunteer intern 4 hrs) for recording of monitoring observations (Year 1)				
		Conduct scientific research & monitoring to evaluate over time the quality, characteristics & use of Butterfly Reserve and wider SL property by rare invertebrates (Taylor's Checkerspot and Dun Skipper)	Database established to record monitoring data & staff/contractors are trained in its use. TC larvae monitoring areas are selected & monitored 3x/week from February-April; 800m butterfly transect monitored 3x/week from April-June; Intensive botanical plot studies carried out for 2 years, 1x/week for 6 weeks in May/June. Reports on monitoring are produced; Priority activities & areas for invertebrate species are identified to create a 5-wear invertebrates Memt Plan specific to the SL property.	Monitoring (and associated data entry/reports) of TC larval area (40 hrs HCTF); adult butterfly transect (40 hrs DCA contribution); and intensive botanical study areas (48hrs HCTF) by contractors (Years 1-3)	Install numbered posts along 600m pollinator monitoring transect. Vogetation response study (bracken fern) and report completed by Andrew Fyson. Monitoring for Taylor's Checkerspot adults and larvae completed.	Yes		
				Identify priority management activities and areas and create Settlement Lands Threatened Invertebrates Management Plan (Year 2)	DCA participation Regional Implementation Grp for Taylor's Checkerspot in BC - consultation and review of current literature/reports on management for TCB.			
Property Vision and/or Overall Management Goals for Property: The Settlement Lands' rare Coastal Douglas-fir ecological community is to be protected both by a Conservation Coursearch hold by the Tort's fund for drift Linead Trut Fund.	Maintain/increase			Install 200 m of woven wire fencing along eastern boundary wetland edge (Contract labour and materials from HCTF; 40hrs labour in kind and DCA Land Manager) (Year 1)	Fence inspected; Native vegetation on newly fenced area is regenerating well following the exclusion of cattle there.			
Covenant, held by the Trust Fund Board (Islands Trust Fund TiP; and by on-going stewardship to conserve and enhance the property's rich biodiversity and valuable natural features. The Settlement Lands varied terrain with its numerous larget wetlands, portions of interconnecting creeks, steep rocky biuffs, slopes of various aspects, and extensive plateaus will continue to provide ecological connectivity and refugia for wildlife by its position in the centre of a large area of protected lands (Demman Island Provincial Park, ITF's Inner Island Nature Reserve and DCA's Central Park and Winter Wiren Wood). Overall management goals will emphasize conservation strategies for enhancing the survival of the endangered Taylor's Checkerspot butterfur, as well as the other 14 species at risk and the 6	populations or aquatic & bird species at risk including: Red-legged Frog; Common Beaver; Cuthroat Trout; Common Nighthawk; Great Blue Heron; Olive-sided flycatcher; Band-tailed piegon; Barn owl; Western Screech owl; Barn Swallow	Prevent current degradation of wetland riparian habitat and evaluate yearly changes in marsh water levels & quality	Neighbouring cattle are prevented from entering marsh and wetland habitat; 200m of fencing is installed along the eastern boundary of the property adjacent to Homestead Marsh; A program is established for ongoing monitoring of beaver activity and wetland levels; 2 water depth guages are installed; Beaver activities and wetland levels/quality are recorded monthly for 3 years; Bridge installed along existing trail at crossing of a stream connected to salmonid-bearing watershed headwaters	Install water depth guages in Homestead and Pickles Marshes (HCTF funds) (Year 1). Purchase water quality testing equipment & monitor wetland levels and quality monthly for 3 years (DCA contribution) (Years 1-3)	Wetland monitoring data collected at 4 sites. Yolunteer team established and trained to continue wetland depth and quality monitoring beyond grant timeline.	Yes		
				Install bridge along stream trail (materials HCTF; 20 hours in kind DCA contribution) (Year 2)	Bridge inspected and maintained.			
rare ecosystem communities. In addition, management goals will include providing opportunities for low-impact nature observation, scientific research, community outreach and education.		Provide safe community access to specific aquatic habitat areas to encourage community support for conservation and natural history	A 7.3 hectare non disturbance area for the protection of beavers and other wetland and bird species is identified and signage is installed to alert users to this area, bird billing & kirds are installed to the south of the wetland non-disturbance area; DCA sponsors 2 annual outlings to the site forcer do an avided how impact fulfilly induced.	Map out and select Wetland/beaver non-disturbance area and install signage to demarcate boundaries (Year 1) Design and install bird blind at watland non-disturbance	Consult local biologist on boundaries proposed for Non- disturbance Area.		Beaver and Wetland NDA surveyed and managed	
nature observation, scientific research, community outreach and education.		education while protecting habitat & native species through non- disturbance areas	Tocuse on guided low-impact wildlife viewing & education; Interpretive information survounding the importance of beavers, red legged frogs, marsh birds & other species is installed a the bird blind site;	Lessie and install birto birth at Wetardin non-distultibance area edge (Yea's), Design and install interpretive information for bird blind (Year 3), - PROJECT CHANGE: Construct outdoor classroom/interpretive structure at vernal wetland habitat for Taylor's Checkerspot Butterfly - change request approved by HCTF June 26, 2019 Conduct 2 educational outreach visits to bird blind with hired local biologists (10 hours in-kind) (Year 3)	Involves i Charkege: Construct outdoor classroom/interpretive structure at vernal wetland habitat for Taylor's Checkerspot Butterfly change request approved by HCF June 26, 2019 Planned activities at Outdoor classroom and garden area for March 2020 unable to happen due to Covid-19 school closure.	ruct Beaver and Wetland NDA surveyee pretive d habitat Butterfly- b y HCTF door ea for papen due re.		

Protect and enhance biodiveristy through the		Key areas for preservation of wildlife refugia are identified using the property baseline study (Balke 2016); Correspondence is initiated with	Identify key refuge areas through field and report research and comminications with adjacent property owners, carried out by contracted biologist/ecologist (4 hours contracted) and reviewed by DCA committee (4 hours in-kind) (Year 1)			
maintenance of wildlife refugia and ecologcal corridors within the SL property and with	Identify new, and maintain existing, ecological corridors/refugia for wildlife	w, and maintain existing, corridors/refugia for wildlife connectivity areas are identified and mapped; Boundary markers are identified at access of the secretura and in borson when exectivity a trans-	Mapping of refuge areas by contractor and Volunteer Intern (Year 1) in connection with DCA Protected Areas Network Mapping project below;	Mapping of wetland boundaries, wetalnd refuge area, invasive species infestations.	Yes	
adjacent protected areas		from adjacent lands is expected to occur	12 boundary markers (at SL boundaries with adjacent lands) and 2 Protected Area signs (along Lake Rd and Central Rd) are designed and installed by Land Manager (materials from HCTF funds; labour from DCA) (Year 1)	Yellow cedar Protected Area signs installed along Lake and Pickles Rds.		
		Safe trail network is created within biodiverse habitats to encourage	Clearing and subsequent bi-annual maintenance of trails carried out by Land Manager (16 hours HCTF Funds) and volunteers (in-kind) (Years 1-3);	Trail maintenace across the property was completed incl. clearing fallen trees and branches & culvert at wet area near inflow to		
	ecological connectivity areas via a well- defined, low-impact trails network that directs vicitors away from these areas	community support for conservation & to provide natural instory education; Directional signs & wayfinding maps are installed at key locations; 2 information klosks are installed alerting visitors to trails/non- diturbace areas & normalian educational information about wildlife &	Installation of wayfinding signage (10 signs) along trails (Year 2)	A final sign for the 'Overlook Trail' was fabricated and installed by DCA Land Manager.	Yes	
	irects visitors away from these areas while linking the SL property with xisting trails on adjacent lands	and serve from these areas a backback areas are provided and the server of the server	Installation of information kiosk (HCTF funds) (Year 2), parking barriers (Year 1) & butterfly kiosk (additional funds confirmed) (Year 1)			
Restore native plant habitat by reducing Invasive Species across the SL Property	Through the manual removal of existing plants, control the spread of a) Scotch Broom; b) English Holly; c) English Hawthorne; d) St. John's Wort; e) Perriwinkle; f) Everlasting Pea	12 volunteers contribute 120 hours to assist contractors in the removal of invasive species; 8Ha of broom is removed from clearcut areas, old logging landings; roadsides and trails; English Holly (<100 plants) and English hawthorne (<100 plants) are removed from the property; St.John's Wort, Perriwinkle and Everlasting pea is manually removed from 0.02ha area	A brush cutter is purchased and paid contractors (total 100 hrs, 50 of these HCTF funds) remove Broom from designated areas across SL property amounting to 10ha (Years 1-3)	Scotch broom removed from 3ha of butterfly reserve and 2ha of surrounding area using remaining HCTF funds as well as from HSP as match to HCTF contributions.		
			Land Manager locates and removes English Holly and English Hawthorne plants from SL property (16 hours) (Year 3)	27 large English Holly and 16 small Hawthorne plants were removed across the Settlement Lands.	Partial	Some St.John's Wort and Perriwinkle plants remain, as repeated cutting did not prove to be an effective treatment method for their complete removal. Treatment will continue by digging the
			Land manager (40 hours, 20 in kind hours), with volunteers, removes 0.01 ha of St. Johns Wort/Perrivinka and 0.01 ha of Everlasting Pea through digging and mulching (Years 18.2)	Everlasting Pea plants were dug up amounting to 0.2ha along Chickadee PL SLohn's Wort and Perriwinkle flowers cut in June 2019 to discourage growth. Consultation with professional botanist L Hermanutz to create plan for continued removal of invasive species across Settlement Lands.		plants to fully eliminate the infestation.

2-605

Windebank



HCTF Project Number: 2-605

1. PROJECT INFORMATION

Project/Property Name: Windebank

Project Leader Name: Joanne Neilson

Name of Organization: Fraser Valley Conservancy

Date of Report: October 31st, 2020

Author of Report (if different than Project Leader):

Name of Organization:

Contact Information:

2. SUMMARY

Provide a general description of project work completed in the last year (500 words max).

The final year of this project continued to focus on 2900 square metres of invasive species control (primarily blackberry and morning glory) north of the bridge at the site entrance. An additional 300 whips were installed in an attempt to stabilize the bank erosion in the north reach and shade out the invasives. We continued to mitigate trespasser damage through fence repairs and regular patrols of the site. Photo point monitoring was completed. Bob Schaefer, community adviser for Fisheries and Oceans Canada, visited the site to provide feedback and attended our community event in the fall. Mike Pearson trained the staff on invertebrate survey techniques and a monitoring protocol was developed to evaluate the health of the creek overtime.

We held a volunteer cleanup event in November in partnership with Mission Environmental Stewardship Society. This involved invasive control as well as 2000 pounds of garbage being removed, including several sets of tires. Bob Schaefer gave a talk about the effects of garbage on waterways, the importance of healthy streams and how salmon species are affected by human activities.



Thanks to a donation from Vancity Savings Credit Union a native pollinator plant demonstration garden was planted near the entrance to the site, to enhance the habitat and provide reference plants for future community events.

Please see the attached technical report for full details and maps outlining work completed in each year.

Please provide a general summary of overall project outcomes (500 words max).

This project enabled us to pursue our vision to restore riparian habitat, protect ecological integrity and biodiversity, and to engage the community in conservation at our Windebank Creek property. Despite setbacks we were able to meet our goal to re-create the riparian corridor the entire length of the reach. The habitat north of the bridge is the most suitable for salmon spawning and rearing and least impacted by the trespassing damage. The northern reach backs on to private properties, the neighbours in this section understand the importance of the stream habitat and keep us informed of issues as they arise.

We restored, maintained, and protected natural ecological processes and riparian habitat on the property by controlling over 80% of the invasive plants in the northern reach (a 3000 square meter area) and installing 1780 native trees and shrubs. We found the physical constraints of the site and the storm water impacts on the system limit our ability to create more spawning habitat. Through our surveys we have found the salmon spawn under the concrete bridge and in the northern reach, there is no room in either location to create more habitat. Instead the entire length of the creek is now well shaded with native species and we allow it to meander and change flow naturally within the site. Winter storm events regularly create new channels and pools that can be utilized by juvenile Coho.

We noticed a decrease in wildlife accessing this site, likely due to the increased human presence, however songbirds and pollinators utilize the area. The invertebrate composition of the stream is not ideal, we developed a monitoring plan so we can see if it improves along with the riparian health. Amphibian monitoring, using artificial cover objects (ACO), will not be possible as intended due to flooding and theft. Annual photo point monitoring was completed and will be used to track the stream conditions and riparian cover at this site.

The perimeter fencing was reinforced and repaired regularly, sensitive habitat signage was added, and over 25 cubic yards of hazardous waste was removed for the site.

We increased public involvement and establish the site as a focal point for environmental stewardship and conservation in the community. This was supported by a newspaper article in the Mission Record and two well-attended volunteer clean-up and planting events in partnership with Mission Environmental Stewardship Society and Fisheries and Oceans Canada staff.

One of the unintended outcomes of this project was the increased connections we now have with municipal staff and politicians about the importance of this site. We have been able to drive awareness about the damage being done to this urban system and are looking forward to how we can solve the issues together this coming year. While the project may not have evolved as we had initially intended, a long-term, sustainable solution to the anthropogenic challenges within this site are now within reach.



Once we resolve the trespassing challenge, FVC volunteers will be trained to take on components of monitoring this site; photo point monitoring, invertebrate surveys, and spawner counts. This will further engage the community at this site and introduce new members to the importance of urban creek stewardship.

3. LESSONS LEARNED

Describe any problems or challenges that arose and how you addressed them in order to proceed with the project. What have you learned that would be valuable to share with others that may be undertaking a similar project?

When we wrote this proposal, we underestimated the impact of homelessness and drug addiction on this urban conservation property. We have learned how this social issue impacts conservation. When we initiated talks with the task force members (RCMP, Fraser Health, District of Mission bylaws) the proposed solution was to cut down the trees and light up the area 24/7. While we explained that was not appropriate for this site, for a long time it appeared to be the only solution they were willing to consider. Over the 3 years the problem only got worse as the only homeless shelter for Mission is a block away and is unable to provide services at the level needed for the community. Only recently thanks to involvement from our local Member of Parliament have we been connected directly with the outreach program at the shelter and we now are working with a team to walk through the site weekly and do regular clean-ups. We are cautiously optimistic that this will resolve the issues at this site, and we can now replant areas that have been damaged.

The flows in this reach will continue to be impacted by storm surge events. There is little political will to resolve to address how development is impacting stream health. However, there is an interest in protecting the habitat downstream right next to the Fraser River. We will continue to work with our contacts at the District of Mission to keep them focused on protecting the whole watershed of this urban stream. Despite all the challenges of this site, Chum and Coho return to spawn in the fall, and juvenile Coho are regularly observed in the restored sections of the creek.

4. COMMUNICATIONS

Project Outreach Activities: Provide information on any outreach activities during the year that directly relate to the project.

Our outreach on this project last year was at a fall clean-up planting event and regular Facebook updates and website posts.

Communicating about HCTF: Provide information on any activities specific to communicating about HCTF undertaken during the year.



HCTF is acknowledged on our website as the primary funder for our work at Windebank Creek.

Media Coverage: Provide a list of any articles or media coverage during the year.

<u>https://www.missioncityrecord.com/community/mission-based-environmental-society-wants-to-clean-up-salmon-stream/</u>

5. PHOTOS

Include a minimum of three photos as part of your report, attached as separate JPG files. List the filenames below, plus a description of each photo.

Photo 1 File name and Photo Description: Scott from DFO talking about salmon in urban streams Photo 2 File name and Photo Description: Salmon mobile (drove out from Vancouver to support our event)

Photo 3 File name and Photo Description: Plants Placed (plants laid out waiting for volunteers to come along and plant them)

There are also photos in the attached technical report. If you would like any of them, please just ask and we will be happy to provide.

6. ADDITIONAL DETAILS

Provide a description of any materials and supplies purchases funded by HCTF that are considered capital assets. See Final Year Reporting Instructions for information on Capital Assets.

N/A

Provide any other information you wish to share with HCTF.

Thank you so much for supporting this project. While it did not turn out entirely as intended it provided a great opportunity for us to highlight to the residents of Mission, local politicians, and staff from a variety of agencies the importance of this urban stream. So many people commented that they didn't even know there was a stream there and were in disbelief that salmon would spawn there. It enabled us



to make important contacts that will help us continue discussions for long-term protection of the Windebank watershed.

HCTF Land Stewardship Grant 2017-20 Final Year Activities and Expenditures Report

HCTF Project # 2-605

			FROM PROPOSAL		ACTIVITIES & OUTCOMES REPORT		
Property/Complex Name:	Goal	Objective	Expected Outcome/Performance Indicators by End of Year 3	Planned Activities	Activities Completed in the Final Year	Expected Outcome/Performance Indicators met? (Yes/No/Partial)	If Expected Outcome/Performance Indicators not met, provide an explanation
	Restore the riparian habitat to protect the ecological integrity and biodiversity of the site.	t To restore, maintain, and protect natural ecological processes and riparian habitat on the property.	Elimination of >80% of the invasives throughout the restoration area, replaced with a canopy of native shrubs and trees.	Invasive plant removal at least four times per year. Combination of FVC staff and volunteer work parties. Plant ~2000 native plants on the property by the end of 2018/19 fiscal. Annual assessment of vegetation cover, monitor plant health, and augment as needed.	Invasive control completed in April, May, June, July, August, September and a volunteer event in November 1780 trees and shrubs planted, pollinator garden installed, photo point monitoring to assess vegetation cover	Yes	
	Restore the riparian habitat to protect the ecological integrity and biodiversity of the site.	t Increase spawning habitat for salmonids.	Increase access to spawning and refuge areas, throughout the reach. Provide new cover and off-channel habitat for juvenile Coho.	Consult with the District of Mission staff regarding stormwater management and future development plans to try and predict future impacts on site hydrology and the feasibility of complexing the stream at this site.	Consulted with both District of Mission and Ministry of Transportation staff regarding stormwater management and culvert maintenance. Little willingness on behalf of either organization to change their practices. Identified that the issue needs to be addressed at the political level.		
Windebank Creek				Assess (first year) and install woody debris refuges in appropriate areas of the stream (second year) that will be resistant to storm surge events by the end of 2018/19 fiscal.	After consultation with DFO habitat restoration staff, it was deemed unlikely any habitat complexing would withstand storm events. Decided to let complexing happen naturally instead by allowing the creek to change course within the site and increased vegetation. Trespassing and hazardous debris were identified as a bigger threat at this time.	Partial	The outcome was met using different means by protecting the areas the salmon are already using and hazardous waste removal. Less materials and supplies were needed, but more labour resources had to be invested to accomplish the tasks.
				Assess feasibility of converting the old detention pond at the north end into off-channel habitat for juvenile Coho (year 1 and 2). If feasible, seek out additional funding to complete the works in 2019/20 fiscal.	The position of this pond was found to be difficult to access for restoration work. Furthermore, DFO restoration staff advised that for refuge habitat to work at this location, regular sediment removal would be required. This is unrealistic at this location. Priority shifted to removing trespassers and the associated hazardous debris.		
Property Vision and/or Overall Management Goals for Property: The FVC's vision for Windebank Creek is to restore riparian habitat, protect ecological integrity and biodiversity, and to engage the community in conservation. The FVC's management objectives for the Windebank Creek property are as follows: • to restore, maintain, and protect natural ecological processes and riparian habitat on the property:	Restore the riparian habitat to protect the ecological integrity and biodiversity of the site.	To enhance habitat for native species, monitor for species at risk, and to gain better understanding of the requirements of the species habitat we are trying to conserve.	Complete inventory of fish, amphibians, birds and invertebrates using the site. A core group of volunteers will be training to undertake ongoing monitoring. Installation of supplementary nesting habitat for identified species (at least 10 structures). A long-term monitoring program implemented.	Complete surveys for fish, amphibians, birds and potentially pollinators using the site. Initiate protocols in first year, train volunteers to assist with ongoing surveys in years 2 and 3. Survey results will be used to guide the type and location of habitat features installed.	Based on recommendations from DFO and fish biologists, spawner and stream invert surveys were identified as the best indicators for this system and surveys were completed. ACO boards for amphibian surveys were stolen/washed away, no new species at risk were observed. The volunteer monitoring program is on hold until trespassing issue is resolved. Currently all volunteer events are group-only and after the site has been assessed for hazards.	Partial	The ability to volunteer-led surveys is hampered by the trespassing on site. Instead the work is being done in groups and with FVC staff for safety. Due to the vandalism and ice storm damage we felt it prudent to hold off on installing boxes at this time.
 to increase spawning habitat for salmonids; to enhance habitat for native species, monitor for species at risk, and to gain better understanding of the requirements of the species habitat 				Install and monitor 10 bird boxes on the property, plus bat boxes or other structures if deemed suitable as a result of site surveys in years 2 and 3.	On hold until trespassers are no longer using the site.		
we are trying to conserve; • to increase public involvement and establish the site as a focal point for environmental stewardship, education, and conservation in the community.	Engage the community in conservation.	To increase public involvement and establish the site as a focal point for environmental stewardship,	Secure perimeter fencing around entire site to deter trespassing. A supportive network of neighbours who contribute to the biodiversity of the site through maintaining their properties, as well as acting as site guardians. A functional	Maintain the perimeter fencing around property and establish positive relationships with neighbouring landowners along northern property line.	Ongoing repairs and maintenance completed during monthly walk throughs. Connected with neighbouring businesses and homeowners to reduce trespassing and protect the fish habitat.	Yes	The site has been secured. The interpretive area was not intended to be funded by this project, it was going to come
		in the community.	Salmonids in the Classroom raised fry.	the salmon-cycle and other species that use the site. Host a salmon fry release event in 2020.	On hold until trespassing is no longer an issue. Instead we hold regular group volunteer events at the site and established a pollinator garden.		rrom matching in-kind.

4-548

Elk Valley Heritage Conservation Area



HCTF Project Number: CAT18-4-548

Please refer to the Land Stewardship Grant Final Year Reporting Instructions when completing this report.

This report must be completed in conjunction with the Activities and Expenditures Report (spreadsheet) customized for your project based on your proposal.

1. PROJECT INFORMATION

Project/Property Name: Elk Valley Heritage Conservation Area

Project Leader Name: Richard Klafki, Canadian Rocky Mountains Program Director

Name of Organization: The Nature Conservancy of Canada (NCC)

Date of Report: March 31, 2020

Author of Report (if different than Project Leader): Kate MacKenzie, Stewardship Coordinator

Name of Organization: The Nature Conservancy of Canada

Contact Information: 250-812-0539, kate.mackenzie@natureconsercancy.ca

2. SUMMARY

Provide a general description of project work completed in the last year (500 words max).

In the final year of the Elk Valley Heritage Conservation Area (EVHCA) project, NCC staff focused on completing the Property Management Plan (PMP) update, where ecological targets, threats, and conservation priorities were reassessed in order to better inform stewardship activities for the next five years. Additionally, contractors were hired to plan and carry out herbicide treatments on high priority invasive plants, and to monitor the success of past treatments. Volunteers from the local community also came out to help pull invasive plants from around two restored wetlands, and to plant native species in the restored riparian areas of Wilson Lake. Projects completed in years 1 and 2 of the grant (e.g. Wilson Lake restoration, access management rehabilitation) were also revisited to monitor the effectiveness of those restoration activities.

Please provide a general summary of overall project outcomes (500 words max).



Activities that were completed on the EVHCA in the final year of grant CAT18-4-548 include the completion of a PMP update, invasive plant management actions, and effectiveness monitoring for projects carried out in years 1 and 2 of the grant.

Staff work in year 3 was particularly focused around the field work, data compilation and writing components of the PMP update. Using the Open Standards guidelines for the practice of conservation, NCC staff reviewed the Baseline Inventory document that was updated in year 1 and determined the primary conservation targets on the EVHCA property. After reviewing the threats and stresses related to each target, a series of management actions were outlined that will address those threats and guide NCC's management activities on the property over the next five years.

Invasive plant treatments were also completed in 2019 using funding from this grant, with treatments focused around the restored wetlands and in the two rehabilitated access management areas that were restored in year 2. High priority species such as Spotted Knapweed and Common St. John's-wort were targeted with herbicide treatments. These treatments complemented other invasive management activities on the property that were carried out by various partners (e.g. B.C. Hydro, Ministry of Transportation), which occurred along hydro transmission corridors, forestry roads, and in industrial sites. It was observed in 2019 that there have been significant reductions of Sulphur Cinquefoil in areas that were treated with herbicide in 2018, however further treatments will be required on this property in the future.

In 2019, NCC staff completed effectiveness monitoring of the wetland restoration project that was done in year 2 of this grant. Photo points and vegetation survey plots were monitored, and the Cows and Fish wetland health assessment protocol for lentic systems was implemented to track the health of the riparian areas over time. These surveys will be completed annually going forward.

Volunteers from the local community were invited to two separate volunteer events at Wilson Lake in May, 2019. The Elk River Alliance (ERA) was invited to run these events, which brought out a total of 30 students and 4 adult educators to pull invasive plants, plant live dogwood and willow stakes, and plant plugs of various shrub and wetland plant species around Wilson Lake and Hosmer Wetland. From these events, 10 large garbage bags of invasive plants were pulled and over 300 plugs were planted.

In 2019, NCC staff also completed follow-up monitoring of the access management sites adjacent to the Hosmer Main road that were rehabilitated in year 2 of this grant. Efforts to rehabilitate these areas and deter motorized use and illegal dumping have been successful, as there has been no evidence of motorized trespass. While there have been some outbreaks of invasive plants resulting from ground disturbance, NCC staff observed that the grass seed applied in 2018 has established successfully. It is expected that these sites will continue to naturalize over the next several years and provide functional habitat for wildlife such as Elk and Grizzly Bear.



3. LESSONS LEARNED

Describe any problems or challenges that arose and how you addressed them in order to proceed with the project. What have you learned that would be valuable to share with others that may be undertaking a similar project?

No major challenges were encountered in year 3 of the project. A valuable lesson learned this year was that having funds available for invasive plant management provides much-needed leverage for securing additional funds. This helps to significantly increase the amount of invasive plant management that can occur in a given year, and magnifies the positive impacts. Additionally, working with partners such as the East Kootenay Invasive Species Council, Elk River Alliance, and BC Hydro to conduct herbicide treatments and weed pull events on the EVHCA ensures a coordinated and strategic effort when it comes to controlling invasive plants.

4. COMMUNICATIONS

Project Outreach Activities: Provide information on any outreach activities during the year that directly relate to the project.

In May 2019, NCC staff coordinated with the ERA to deliver two volunteer activities at Wilson Lake and Hosmer Wetland. 30 students and 4 adult educators participated, focusing on pulling invasive plants from around the restored wetlands, as well as planting native shrubs and other wetland vegetation.

Communicating about HCTF: Provide information on any activities specific to communicating about HCTF undertaken during the year.

There were no 2019 communications due to the nature of the activities completed in year 3. It is expected that there will be many opportunities to recognize the contributions of the HCTF to the project in future years, as NCC staff will likely host more volunteer activities related to the restored wetlands.

Media Coverage: Provide a list of any articles or media coverage during the year.



No media coverage about the project occurred in year 3. In future years, NCC staff plan to report to the local community by way of a news release about the benefits of the rehabilitation of the access management areas once further monitoring has been done. HCTF and other funders will continue to be acknowledged as future stories are released.

5. PHOTOS

Include a minimum of three photos as part of your report, attached as separate JPG files. List the filenames below, plus a description of each photo.

Photo 1 File name and Photo Description:

Student volunteers.JPG – Group of student volunteers from Fernie, BC following a live-stake planting event at Wilson Lake in May, 2019, run by the Elk River Alliance.

Photo 2 File name and Photo Description:

Access management area_pre-restoration.JPG – View of one of the access management areas before year 2 rehabilitation and restoration activities, showing stock-piled woody debris. Photo taken in July, 2018.

Photo 3 File name and Photo Description:

Access management area_post-restoration 1.JPG – View of access management area in year 3 (one year following rehabilitation activities), showing signage and barrier to motorized access and native grass seed establishment. Photo taken in July, 2019.

Photo 4 File name and Photo Description:

Access management area_post-restoration 2.JPG – View of access management area in year 3 (one year following rehabilitation activities), showing good coverage of vegetation and lack of trespass by motorized vehicles. Photo taken in July, 2019.

Photo 5 File name and Photo Description:

Wilson Lake_inprogress-restoration 1.JPG – View of riparian areas around Wilson Lake immediately following restoration activities in year 2. Photo taken in August, 2018.

Photo 6 File name and Photo Description:

Wilson Lake_post-restoration 2.JPG – View of riparian areas around Wilson Lake in year 3 (one year after restoration activities), showing establishment of native grasses. Photo taken in July, 2019.

Photo 7 File name and Photo Description:

Wilson Lake_post-restoration 3.JPG – View of Wilson Lake in year 3 (one year after restoration activities), showing restored areas on the far shore and on-going gravel extraction activities on the near shore. Photo taken in July, 2019.



* All photo credits can be given to the Nature Conservancy of Canada

6. ADDITIONAL DETAILS

Provide a description of any materials and supplies purchases funded by HCTF that are considered capital assets. See Final Year Reporting Instructions for information on Capital Assets.

No materials or supplies were funded by HCTF.

Provide any other information you wish to share with HCTF.

The funding from HCTF has helped NCC address a range of management issues on the EVHCA. Over the course of this grant all the identified goals have been achieved despite not being completed in chronological order originally identified in the proposal. NCC appreciates the opportunity and flexibility that HCTF has shown allowing NCC to complete these tasks over the past three years. The collaborative work between NCC, HCTF and other neighbours has worked to maintain and enhance cross-valley animal movement corridors, reclaimed old gravel quarries into wetlands, controlled invasive plant species, updated the property management plan, and provided non-motorized recreation access while preventing illegal dumping.

7. SUBMIT YOUR GRANT REPORT

- Save this report using the Project # and grant year in the filename. Example: 1-123 Grant Report 2018-19
- Please send your Final Year Grant Report to <u>reporting@hctf.ca</u>
- Your report should include the following:
 - o Completed Final Year Grant Report Form (this document)
 - o Completed Final Year Activities and Expenditures Report
 - Photos as JPG files
 - Copies of any print media articles (or provide links in report)
 - Invoice for remaining funds

By submitting this grant report, you certify that this report is an accurate reflection of project activities and expenditures per the HCTF Grant Agreement.

HCTF Land Stewardship Grant 2017-20

HCTF Project # 4-548

Final Year Activities and Expenditures Report

			FROM PROPOSAL	ACTIVITIES & OUTCOMES REPORT			
Property/Complex Name:	Goal	Objective	Expected Outcome/Performance Indicators by End of Year 3	Activities	Activities Completed in the Final Year	Expected Outcome/Performance Indicators met? (Yes/No/Partial)	If Expected Outcome/Performance Indicators not met, provide an explanation
	Reflect conservation			update 2010 baseline inventory study, collaborate with local partners (Year 1)	Yes (combined with activity below)		Updated inventory data and collobration with local partners was
	Reflect conservation Plan (NACP) Reflect conservation management strategies set forth in Elk/Flathead Natural Area Conservation	Specific planning for this suite of sites and their varied threats	Completion of a Second Phase Property Management Plan	reassess ecological threats and conservation priorities to better inform stewardship activities on site (Year 1)	Yes	Yes	completed. Ecological threats and conservation priorities were reassessed, and conservation targets, threats and actions have been identified in an updated property management plan for the EVHCA.
Elk Valley Conservation Area				action planning (Year 1)	Not funded		
			Increase awareness of ecological sensitivity among property visitors, while implementing the conservation and stewardship strategies as outlined in the Property Management Plan	motororized recreation access management through route decommissioning, signage, and local awareness (Years 1 to 3)			2019 invasive plant treatments were carried out as planned, including a volunteer event to hand-pull invasive
		Implement updated Property Management Plan		gravel pit restoration wetland plan implementation (Years 1 to 3)		Yes	
	Plan (NACP)			invasive plant treatment (Years 1 to 3)	Yes		
Property Vision and/or Overall Management Goals for Property: The Elk River Valley properties have a range of issues to address (see attached							
example photos). Goals include: to maintain and enhance cross-valley animal movement corridors; reclaimation of commercial gravel extraction sites: control of invasive plant species, and: the provision of local, non-							
motorized recreation access and prevention of illegal dumping.							

5-288 Elkin Creek Nature Preserve



Final Year Grant Report #5_-288_

Project #_ 5_- 288_

Project Name: [Elkin Creek Nature Preserve 5-288____]

HCTF Note: This project accidentally used the incorrect template to report on this program. HCTF staff have removed some of the sections not relevant to the Land Stewardship Grant program

Grant Information for this Grant Year

Grant Agreement Year: 20____ - 20____ Conditional Grant Agreement #: CAT-_ CAT-_ 18-5-288___

Year Status of this Grant: Year _3_ of _3_ Years

Project Leader Name and Title: Wayne P. McCrory, RPBio. Director and Coordinator

Name of Organization: Valhalla Foundation for Ecology and Social Justice

Contact info: waynem@vws.org. Phone: 250-358-7796

Executive Summary of the Project (max. 500 words)

The rationale was to complete the decade long stewardship or our 97 ha Elkin Creek Nature Preserve in the BC Chilcotin over the HCTF grant period. The primary goal was to design and construct a 2 km wildlife-friendly fence to keep trespass range cows out of sensitive riparian/bottomland wildlife and songbird habitat and wetlands/streams important to 11 species of freshwater fish. Cattle were badly damaging these sensitive habitats. The secondary goal was to complete baseline inventory (wetland mapping, freshwater fish habitat) to be used for a long-term Stewardship plan. The conservation benefits is to enhance protection of sensitive valley bottom fish and wildlife wetland and grasslands habitats in a major wildlife corridor and bird migration route.

Summary of Activities for this Grant Year (100 words or less)

Briefly describe the current grant year accomplishments.

Two semi-volunteer work bees finished the 1.7 km wildlife friendly fence. Observations showed cows no longer able to access sensitive fish and wetland/riparian/meadow habitats because of the new fence. Monitoring in Jan/Feb. 2020 showed moose, wolves and other wildlife still able to move

through the valley corridor by crossing through or over the fence. Completed the long-term draft Stewardship Plan that needs to approved by the Board in May.

Activities Completed in this Grant Year

#	Activities	Timeline	Completed/ Partially Completed/ Not Completed	Explanation
O	bjective 1:			
	Complete Wildlife-Friendly Cattle Exclusion Eco-Fence	September, 2020	Fully completed	Delays were experienced by First Nations contractors being busy elsewhere. Foundation volunteers completed the fence in 2020
0	bjective 2:	1		
	Complete Nature Preserve Stewardship Plan	February 28, 2020	Freshwater fish & wetland inventory reports completed. CONFIDENTIAL Draft completed. Needs to be reviewed by Directors	2014 SCC Title Lands (not Crown Land) surround nature preserve. Issues with Xeni Gwet'in wishing to acquire all private land & also restrict access to such.
Ob	ojective 3:	•		
	Complete Boundary survey & delineation of boundaries	Feb. 2020	Partially completed	South boundaries slashed out with metal markers. Too expensive to survey all boundaries
Ob	ojective 4:			
	Complete research/caretaker cabin	Sept. 2020	Completed	Solar power, fridge, etc. NOT funded out of HCTF budget.

Measures of Success Achieved in this Grant Year

Refer to the Measures of Success in your approved proposal **for this grant year**. Briefly list measures completed—point form is ok — and expand on any details in the "Results and Discussion" section. Include any measures not yet achieved.

#	Measures of Success	Achieved/ Partially Achieved/ Not Achieved	Explanation			
Activ	Activity 1: Completion of 3 year fence project					

HCTF Final Year Grant Report #_5_-288-_

	<u>Sept. 2019</u> . Range cows in area but kept out of sensitive habitats	Achieved	Even during partial fence completion in 2018 most of the range cows were
	by fence.		kept out of sensitive habitats we are
	Jan. Feb. 2020. Biologist field		trying to protect
	track surveys. Results a huge		
	success. Indicated wildlife such		2018 winter fence monitoring also
	as wolves and moose not		showed wildlife moving through fence
	blocked by fence		
Activ	vity 2: Completion of Stewardship Pla	an	
	Draft Plan completed	Nearly achieved	Still has to be reviewed by Directors.
			Confidential document due to issues
			with First Nations adjacent Title lands.
Activ	ity 3: Mark surveyed boundaries better	and complete boundary	<u>y</u> survey
	Southern Lot surveyed boundaries	Partially	Former surveyor not available. Most
	marked better, including forming		important boundaries surveys of south lot
	new fenceline.		were already done. Too expensive to
			survey larger lot to north and not needed
			right nour
Activ	ity A: Complete pear final Caretaker/res	oarch cabin	right now
Activ	ity 4: Complete near final Caretaker/res	earch cabin	right now
Activ	ity 4: Complete near final Caretaker/res Done including new window, rodent	earch cabin Achieved	No HCTF funds were used.

Results and Discussion

Describe what was accomplished through the activities and measures completed in the previous section (including details on what you were not able to complete). Relate the contribution of this year's work to the overall project. Identify any problems or unforeseen issues and relate how these were addressed or will be addressed in future. Describe any project changes approved by HCTF during this grant year.

All projects were completed, it was a major year. The main unforeseen issue was that in 2017 a major forest fire in the region meant that our Xeni Gwet'in contractors did little work on the fence. This continued in 2018 due to the lucrative morel mushroom harvest and shortage of local subcontractors. VFE has to start bringing in their own subcontractors and volunteers in 2018 and then two ten-day each work bees in 2019.

Completing the Stewardship Plan that incorporated the new eco-fence and fish/wetland inventory reports mostly funded by HCTF combined with 15 years of previous stewardship improvements including major garbage, constructing a caretaker/research cabin, other wildlife and fish inventory and wetland mapping and previous experimental electric fences to try to keep trespass cattle out of main sanctuary habitats. Stewardship plan also incorporates previous cattle/ecodamage consultant's report done for VFE.

HCTF Final Year Grant Report #_5_-288-_

Describe the expected/observed outcomes – i.e., what difference did this project make for fish and/or wildlife conservation? What are the management implications or applications of your project?

It greatly enhanced the recovery of riparian areas and bluegrass bottomland meadows previously degraded by cattle over use to now recover. This will improve the sanctuary for various wildlife including ground-nesting grassland birds, grizzly bears and other species.

Freshwater fish habitat will now be protected from cattle degradation including small feeder streams important to the rearing of juvenile trout and other fish species.

Technical Report attached? Yes _x_

Technical Report CITATIONS:

No

COVER PAGE ONLY DUE TO CONFIDENTIAL ISSUES WITH FIRST NATIONS.McCrory, W. and S. Parr. 2020. ELKIN CREEK NATURE (*DENI BELH TENALQELH*) PRESERVE STEWARDSHIP PLAN: 2020. Valhalla Foundation for Ecology.

Durand, R. 2019. Ecosystem mapping of the Elkin Creek Nature Preserve. Report for Valhalla Foundation for Ecology.

Smith, G. and R. Holmes. 2018. The 2018 fish and fish habitat assessment of select locations at the Elkin Creek Nature Preserve. Report for Valhalla Foundation for Ecology.

Communications/Outreach Results

a. Project Outreach Activities

Activities undertaken this Grant Year

"Notes from the Field" sent to Foundation supporters and donors each year of grant. Valhalla Foundation website and newsletter still being worked on. Communications with Xeni Gwet'in First nation members and leadership (nothing formal).

b. Communicating About HCTF

Activities specific to communicating about HCTF undertaken this Grant Year

HCTF credited in the above-mentioned.

Articles/Media Coverage on this project attached?	Yes	No	х
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Please list attached articles:

No media has been done. This was a low profile project and Stewardship plan involves sensitive issues with First Nations adjoining Title lands.

Photographic Record

We often include engaging photos of HCTF projects on our <u>website</u>. While we appreciate photos embedded in your report, we need jpeg photo files (about 5 MB) attached separately.

Please ensure you attach photos jpegs and list the photo titles here:

EcoFence2020EastSideFishHabitat; EcoFenceWorking!Raphel'scowsoutsidefencefishhabitatSept2019; VolunteersEco-Fence-2-Sept2019; EcoFenceMonitorWildlifeCrossingswinter 2019-20

Lessons Learned

It was a learning curve designing a wildlife-friendly eco-fence to keep range cattle out of critical fish

and riparian/wetland habitats that worked since we did not have a lot to go on.

Project Spotlight

The Valhalla Foundation for Ecology manages a large (97 ha) nature preserve near BC's famous Nemiah Valley, homeland of the Xeni Gwet'in First Nation. We are the first land trust to be surrounded by Supreme Court of Canada (2014) Aboriginal Title lands, no longer "Crown Land". Completing a Stewardship Plan that includes coordinating our conservation efforts and protection of an ancient village site will be very important for our working relationship with the Xeni Gwet'in government. Designing and building an extensive wildlife friendly eco-fence to prevent ecological damage to sensitive riparian and freshwater fish habitats should be a model for others.

HCTF Land Stewardship Grant 2017-2020 Final Year Activites and Expenditures Report

HCTF Project # 5-288

	FROM PROPOSAL			ACTIVITIES & C	DUTCOMES REPORT	
Property/Complex Name:	Goal	Objective	Expected Outcome/Performance Indicators by End of Year 3	Planned Activities	Activities Completed in the Final Year	Actual Outcomes/Performance Indicators at Project End
	Restore and maintain critical wildlife and fisheries habitats	Protect a valley bottom mosaic complex of sensitive stream, riparian, wetland and valley bottomlan bluegrass meadow habitats	2 km of wildlife-friendly fencing is installed around the sensitive habitat complex to prevent trespass by cattle from free-range adjacent tands that damage multiple habitats by trampling and over-grazing, especially to fish- stream and riparian habitats.	Research, design and build wildlife friendly fence in spring (year 1) around senstivle habitats. Monitor and remove trespass cattle and repair fence. Monitor wildlife access. Fence inspection, monitoring and closing any gaps (year 2). Determine if wildlife such as winterine monce and seasonal prizzb hoars are able	Completed in Year 3 Completed in Year 3	In Year 2 with partial completion of fence and year 3 completion in fall, range cattle were successfully kept out of the protected riparian, bluegrass meadows and Elkin Creek fish habitat including rearing areas for rainbow trout in small side streams. Year 1 saw the planned fence completion stall by our Xeni Gwet'in contractors due to the large Hanceville fire. Year 2
Elkin Crook Natura Prosonya				to still access critical habitats Fence inspection, monitoring and closing any gaps (year 3). Determine if wildlife such as wintering moose and seasonal grizzly bears are able to still access critical habitats	Year 2 and Year 3 winter monitoring show moose, wolves and other wildlife able to go through and over fence. Grizzly bears in fall appear to be able to	nushrooms in the burn so work again stalled. In Sept. we organized a work bee. Year 3 we hired our own subcontractors and 3-4 volunteers and finsihed the fence with two 10-day work parties. Even then we had
LIKIII CIEEK Nature Freserve			A 10-year steward ship plan using Best Management	Habitat and species inventories by staff and consultants (Year 1)	Planning stage	We were lucky to find an experienced fish biologist and wetland specialist in the summer of 2018 who were
	Develop a 10-year stewardship plan	professional-level document with some p a 10-year local input to manage rdship plan and preserve over the	Practices for preserving high wildliffe/ecological values; based on technical inventory of habitats; fish-stream values, grizzh bear and other canrivores, moose and mule deer, brits, species ar tisk (e.g. rare plant communities, sharp-tailed grouse). Plan to include input from locals, tourism lodge, cattle rancher, First Nations, BC Parks. To include public access management to a nerarby provincial park and for hunting, trapping, research, etc.	Habitat and species inventories by staff and consultants (Year 2). Input from local ranchers, trapper, private land owner using property for access, First Nations and others	Year 2, Freshwater fish inventory and wetland/habitat mapping/report done. Some consultation with First Nations as well as private land owner who lives beyond. Good	availbable to do the work. The provided to be considerably more costly than we had originally budgetted but the Foundation was able to come up with the needed funds.
	long term high wetland, wildlife and connectivity values	long term high wetland, wildlife and connectivity values		Complete babitat and species inventories by staff and consultants (Year 3) and complete Stewardship planwith Best Management Practices.	Draft Stewarship Plan done in February 2020. Still needs to be reviewed by Foundation Board of Directors and approved in the spring. Not for public review since complex issues related to Xeni Gwet'in	
Property Vision and/or Overall Management Goals for Property: The Valhalla Foundation's long-term vision for its Elkin Creek Nature Preserve is to restore (by fencing out trespass cattle grazing) and				Complete existing boundary slashing and permanent metal posts for main areas of the preserve including areas to be fenced (Year 1)	Some slashing done	We did not have the funding to do the boundary survey of the north property (160 acres) but did complete the south 80 acres where the 2 km eco-fence was
Preserve is to restore (by tencing out trespass cattle grazing) and preserve a unique vallely bottom mossic of habitats including wetlands, riparian zones, important fish-bearing stream, bluegrass meadows and adjacent bunchgrass hillsides important for a great variety of wildlife, 11 freshwater fish species, Chinook salmon, species at risk, migratory and resident birds and others. Maintaining a major wildlife corridor for grizzly bears and other species and important whitering habitat for moose is an important goal. Our research cabin is used as a base for studies including an ogoing wolf diet study. Besides long-term preservation our goal is to use the planned wildlife friendly "ecological	Complete partial survey of boundaries and permanently mark	Make sure the main boundaries are clearly defined for the fencing project, access management	Main boundaries will be slashed out with permanent metal markers so that our fencing can be properly placed and people will know where the reserve is located	Complete boundary slashing and metal posts for other main areas of the Preserve (Year 2)	Mostly clearing at south end property for installation of fence. Same in Year 3.	completed in year 3. Considerable slashing of the property lines were done to install the fence, which followed most of the southern half of the south property. About 30 metal stakes were used to more permanently mark the boundares.
fence as a moder for people to learn to protect sensitive riparian and fish habitats from cattle grazing impacts. Our preserve also enhances protection of nearby Nunsti Provincial Park.						
Property Vision and/or Overall Management Goals for Property: The Valhalla Foundation's long-term vision for its Elkin Creek Nature Preserve is to restore (by fencing out trepasse zatile grazing) and preserve a unique valley bottom mosaic of habitats including wetlands, rigarian zones, important (fish-bearing stream, bluegrass madawos and adjacent bunchgrass hilisides important for a great variety of wildlife 11 freshwater fish species, Chinook salmon, species at risk, migratory and resident blunc species and important wintering habitat for moses is an important (fish valhaitaining a major wildlife coridor for studies including an on-going wolf diet study. Besides long-term preservation our goal is to use the planned wildlife friendly "ecological fence" as a model for propete to learn to protect sensitive riparian and fish habitats forn cattle grazing impacts. Our preserve also enhances protection of nearby Nunsti Provincial Park.	Develop a 10-year stewardship plan Complete partial survey of boundaries and permanently mark	Establish a professional-level document with some local input to manage and preserve over the long term high wetland, wildle and connectivity values Make sure the main boundaries are clearly defined for the fencing project, access management	A 10-year steward ship plan using Best Management Practices for preserving high wildlife/ecological values; based on technical inventory of habitats; lish-stream values, girzly bear and other carrivores, mosce and mule deer, birds, species at risk (e.g. rare plant communities, sharp-tailed grouse). Plan to include input from locals, tourism lodge, cattle rancher, First Nations, BC Parks. To include public access management to a nerarby provincial park and for hunting, trapping, research, etc.	Fence inspection, monitoring and closing any gaps (year 3). Determine if wildlife such as wintering moose and seasonal grizzly bears are able to still access critical habitats Habitat and species inventories by staff and consultants (Year 1) Habitat and species inventories by staff and consultants (Year 2). Input from local ranchers, trapper, briztel and owner using property for access, First Nations and others Complete babitat and species inventories by staff and consultants (Year 3) and complete Stewardship planwith Best Management Practices. Complete existing boundary slashing and permanent metal posts for main areas of the preserve including areas to be fenced (Year 1) Complete boundary slashing and metal posts for other main areas of the Preserve (Year 2)	Year 2 and Year 3 winter monitoring show moose, wolves and other wildlife able to go through and over fence. Grizyl bears in fall appear to be able to Planning stage Year 2, Freshwater fish inventory and wetland/habitat mapping/report done. Some consultation with Fist Nations as well as private land owner who lives beyond. Good Draft Stewarship Plan done in February 2020. Still needs to be reviewed by Foundation Board of Directors and approved in the spring. Not for public review since complex issues related to Xeni Gwet'in Some slashing done Mostly clearing at south end property for installation of fence. Same in Year 3.	we organized a work bee. Year 3 we hi subcontractors and 3-4 volunteers and fence with two 20-day work parties. Ev We were lucky to find an experienced wetland specialist in the summer of 20 availabale to do the work. The provide considerably more costly than we had budgetted but the Foundation was abi with the needed funds. We did not have the funding to do the of the north property (160 acres) but cost south 80 acres where the 2 km eco-fer completed in year 3. Considerable sidas property lanes where the 0 km eco-fer completed in year 3. Considerable sidas property lanes were done to install the followed most of the southern half of property. About 30 metal stakes were permanently mark the boundares.

5-289

Scout Island



HCTF Project Number: _5-289____

1. PROJECT INFORMATION

Project/Property Name: Scout Island Nature Centre

Project Leader Name: Sue Hemphill shemphill@xplornet.com

Name of Organization: Williams Lake Field Naturalists

Date of Report: Mar, 14, 2021

Author of Report (if different than Project Leader): Parts by Ken MacKenzie Project leader also contributed

Name of Organization: Iverson & MacKenzie Biological

Contact Information: email: klmacken@bcinternet.net

2. SUMMARY

Provide a general description of project work completed in the last 2 years (500 words max).

This final report actually covers 2019 and 2020 since we were given an extension and no report was done for 2019. Both years included extremes of moisture, which altered much of what we had planned. From June **2019** until snow fell, precipitation was above average and we went into winter with saturated soils. This level of moisture allowed many of the seeds in the seed bank to grow and meant the extent of weeds was far greater than had been mapped in 2017 and 2018. The mapping was updated in 2019 and plans for treatment added to. The management crew was able to begin work as soon as young plants appeared and 25-40 hours a week (25 hours paid staff and 15 hours volunteers) of mechanical removal of targeted species was done. As well, large thistle patches were mowed. Fencing was added to deter geese, and willow, cottonwood, and birch were planted. Yellow iris was to be tarped in 2019, but the material came too late to get it in place before the water rose again in September.

Spring through fall **2020**, there was unprecedented flooding throughout the area to the point that trails and boardwalks were destroyed and bridges had to be anchored. Goose fencing was useless (under water) as the geese nested and fed even further inland. So the value of this procedure could not be assessed. The tarped areas were torn apart so this procedure could not be assessed. The management crew again was able to start as soon as young plants showed and averaged 50 hours/week (paid staff mainly-as volunteers were busy saving bridges and boardwalks) of mechanical removal of the targeted species. An area of approximately 10 ha was treated for a variety of invasive species including bull thistle, common burdock, Canada thistle, common tansy, spotted knapweed, and deadly nightshade. The flooding destroyed 2018 and 2019 planting of competitive native species (willows, cottonwood, and birch). We were able to purchase and pot replacement plants that will be ready for planting in 2021.

The extensive and prolonged flooding in 2020 impacted both the growth of invasive plants and our ability to access them. Examples include: the single tansy patch on the Causeway was much reduced



and later growing. Hand pulling tansy was much easier than in 2019; Canada thistle thrived on the nonflooded areas, as usual, but did resume vigorous growth in flooded areas once the waters receded. Whole areas of cattails and bulrushes never greened up the whole summer. Their leaves never made it above the floodwaters. The result of this will not be known for several years.

An additional challenge was added in 2020 with the completion of the pedestrian bridge. The construction disturbed the area and opened it up to weeds, so we had to plant it to grass immediately and maintain the whole summer—protecting it from people who would not stay on the trails and geese. Increased traffic has provided a new vector of weed seeds especially spotted knap weed carried on the feet of people and their dogs from the past industrial site on the west side of the bridge. A crew from Invasive Species Council of BC, at our request, worked on removing spotted knapweed from the west end of the bridge to help slow this spread. We hope to continue this partnership to help control the spread of this weed to Scout Island.

Please provide a general summary of overall project outcomes (500 words max).

- The original plan developed included a species inventory, distribution, control/mitigation measures, and a monitoring plan. The inventory was correct but the extent and distribution of weeds had to be corrected in 2019. The increased precipitation meant weed growth exploded. The monitoring plan (measuring sizes of weed plots) turned out to be impractical because of the dynamic changes in growing conditions year to year. We now realize that monitoring distribution and extent is very difficult. The amount of time needed to do so is not realistic with our budget.
- 2. The predicted outcome to reduce the Incidence of Burdock, Stickseed, yellow toadflax, tansy, and Nightshade by 50% was not realistic. Yellow toadflax continues to be controlled by bio controls. Tansy continues to grow in one spot and mechanical treatment has kept it from spreading. There is an effective control of Yellow flag Iris which will be used in 2021 if needed (none grew in 2020 because of flooding). Burdock, Stickseed, and Night Shade continue to be widespread. It was not possible to assess if the incidence had been reduced by the extensive efforts in 2019 and 2020, because of the extremes of weather each year. Inventory done 2-3 times a season and ongoing mechanical control will be needed continuously.
- 3. The predicted outcome that areas dominated by Canada thistle and mustard would be removed and incidental Canada Thistle are controlled so patches do not form and spread again was unrealistic and this was very clear in the wet year of 2019. Again, inventory done 2-3 times a season and ongoing mechanical control will be needed. The effects of mowing on a regular basis appeared to be successful at first (2018) but with the return of a wet summer (2019) the effects of mowing were no longer visible.
- 4. The predicted outcome that geese would no longer be overgrazing so that native shrub species can establish was impossible to assess because of the flooding in 2020.
- 5. The predicted outcome that areas previously dominated by Canada thistle and mustard species would have established native trees and shrubs growing was partially met. We did raise shrubs and successfully plant them. However the flood of 2020 covered all of the areas planted and survival will probably be very poor (cannot assess until this spring). Realizing that plants would need to be replaced, we purchased more shrub and tree species and potted them in our nursery area. Once we know what survived and where, we will have a better idea where to plant.



6. The predicted outcome that classes, school environmental groups, and the general community will be engaged in stewardship of Scout Island Nature Centre and areas of the Nature Centre will be adopted by groups to monitor invasive plants, remove invasive plants, and enhance the native plants is happening. The community has been involved in removing invasive plants and planting native plants throughout the 4 years. We were not able to set up the adoption of sights in 2020 because of the flooding, but will in 2021. See Volunteer summary (#6below) for details

3. LESSONS LEARNED

Describe any problems or challenges that arose and how you addressed them in order to proceed with the project. What have you learned that would be valuable to share with others that may be undertaking a similar project?

Challenges

There have been major challenges with this project. The first were the fires and evacuation in 2017. Although the initial surveying, mapping and plan was done, it could not be updated and no actual management could happen because of the evacuation related to the fires. In 2018, we were again surrounded by fires. There was no evacuation, but heavy smoke made strenuous work impossible for at least 50% of the time. By the end of 2018, we had only completed 1/3 of our plan. A very wet 2019 increased weed production and the mapping of weed sites and plans had to be altered. We did this throughout the summer working with the weed management staff who were on site daily for other work so that there could be consistent weekly surveying and management of the weeds. Also in 2019, the City built a new pedestrian bridge connecting Scout Island Nature Centre with the "main land" on the west side of the Nature Centre. The disturbance left open sites for seeds. As well, the area west of the bridge is infested with spotted knap weed. Our volunteers discovered it and attempted to get the contractors to clean their vehicles and equipment between sites, but that did not happen. HCTF granted us an extension so that we could carry on with the plan in 2020. In 2020, there was flooding for much of the summer that affected access to many of the sites needing treatment. This focused the management work to the spots we could reach and good progress was made on those sites. The new pedestrian bridge also proved to be even more of a challenge. The increase in foot traffic to the Nature Centre was amazing. This was the only place to walk in town as the entire River Valley (a popular hiking area in town) was closed because of the flooding. More foot traffic means more weed seeds carried in. We are working at educating people to stay on trails and not bring the invasive weeds from the City side into the Nature Centre, but it is difficult. People tend to let their dogs run free on the City side and they run through the knap weed that is well established there. The Invasives Species Council was able to direct a crew to help with control of knap weed on the City side of the new bridge, and we hope this continues into 2021. We have not yet convinced the City to dedicate more funding to weed control on that side. The prolonged high water also seemed to have reduced growth of some invasive species. Some of the planted shrubs (willow whips and cottonwood seedlings) did not appear to have survived being immersed. That will be assessed in 2021. We have planting stock potted and ready to go to do replacements as well as to cover new areas. We are very grateful that none had been planted out before the flooding started. Covid restrictions in 2020, meant we could not organize our weed warrior groups as planned. Some work (bagging seed heads) was completed by two grade 7 classes in the fall.



Between fires, smoke and flooding this program has not been established. It has been added to our goals for 2021 (barring more flooding and/or more covid restrictions).

Lessons Learned

It was impossible to draw comparisons between techniques used (mowing, smother cloths, control of geese) because of the damage done by flooding. We had one year to observe repeated mowing of thistle and will continue this, as it looked positive. We know that stronger material needs to be used as smother cloths to withstand any flooding. We will be using smother material to control yellow Flag Iris if it shows in the future. We again, had only one year to observe the effects of fencing to repel geese. We will continue this.

We do know that mechanical treatments (digging roots out and composting, and bagging any flower/seed heads) does work. We noted that in a specific area along both sides of the Causeway where a dedicated effort was made over two years revisiting the spot many times, there appeared to be much less Canada thistle at the end of 2020. Intensive repeated removal of thistle in select areas on a yearly basis may be our only effective control measure.

The consensus among all involved with the invasive management work over the last 4 years (contractors, supervisor, and volunteers) is that the control of invasive weeds at the Nature Centre is no longer possible with just volunteers. Surveying must be done 2-3 times a season and a dedicated, paid, work crew available to stop established weeds from spreading and new ones establishing, especially spotted knapweed. Funding will be needed to pay for 25hours/week for 12 weeks. Volunteers can continue to supplement this work. The surveying and resulting maps of invasives from this project will be essential in planning and carrying this work into the future.

4. COMMUNICATIONS

Project Outreach Activities: Provide information on any outreach activities during the year that directly relate to the project.

All invasive plant management was reported at Field Naturalists meetings, in the newsletter, and on the Scout Island Facebook page. Weed management work was reported in the annul Trails report to the City and Cariboo Regional district. It is also described in the Scout Island Nature Centre Annual Reports, which are posted, on our website. Outreach is also done through word of mouth. People chat to the people working on weeds and our workers use the opportunity "educate."

Communicating about HCTF: Provide information on any activities specific to communicating about HCTF undertaken during the year.

Flooding took the front stage in 2020, and we did not do our planned activities to acknowledge HCTF and the weed management work. This will happen in 2021. A new kiosk is going up at the new pedestrian bridge this spring (unless we are flooded again). On that kiosk will be a plaque



acknowledging the HCTF. This kiosk will focus on helping visitors recognize they are in a nature centre and what they need to do to help keep it for nature. Weed prevention will be part of the information so this is the appropriate place for this plaque.

Media Coverage: Provide a list of any articles or media coverage during the year.

This did not happen in 2020. We were simply overwhelmed with flooding and keeping some programs running during covid. When the kiosk is up, we will highlight the contribution that HCTF made through our local paper and social media. This will allow us to also summarize the work done and the results as we will be able to see what plants survived the flooding.

5. PHOTOS

Include a minimum of three photos as part of your report, attached as separate JPG files. List the filenames below, plus a description of each photo.

Photo 1 File name and Photo Description: Successful Willow-Willow whips planted in 2018 growing successfully. 90% died during the 2020 flood

Photo 2 File name and Photo Description: Snowberry vs mustard—Deciduous shrubs successfully keep out the invasive weeds like mustard at Scout Island. We are trying to mimic that by planting native shrubs and keeping them growing until they can outcompete the weeds. We have plants ready to go for 2021 since the 2018 plantings were destroyed by flooding.

Photo 3 File name and Photo Description: Grade 7 digging thistle—The Outdoor Education classes are regularly at Scout Island. The students take part in weed control (digging roots and bagging seed heads) spring and fall each year.

HCTF Land

HCTF Project # 5-289

Final Year Activities and Expenditures Report

	FROM PROPOSAL						
Property/Complex Name:	Goal	Objective	Expected Outcome/Performance Indicators by End of Year 3	Activities			
Scout Island Nature Centre	Decrease the area covered by invasive plant species	Plan developed that details a multi year process that includes:species inventory; distribution ; control/mitigation measures; monitoring plan	Plan is successful in guiding the work carried out over the next 3 years	Invasive plant specialist does species inventory and distribution with support from staff Specialist researches and suggests mitigation/control techniques that is developed into a 2-3 year work plan with input from Field Naturalists Monitoring plan is designed by specialist and staff and contractor begins mitigtion steps taken late summer of 2017			
	Decrease the area covered by invasive plant species	Targeted Invasive plants are removed	Incidence of Burdock, Stickseed, yellow toad flax, tansy, and Nightshade is reduced by 50%	Contractor uses agreed mitigation techniques for burdock, toadflax, night shade, tansy, and stick weed contractor and staff monitor success of techniques and alter focus if needed 2019			
Overall Management Goals for Property: 1. conserve and restore the important wetland and upland habitat for wildlife, 2. provide a natural place for viewing and apreciating wildlife, facilitated by a system of walking trails within an urban setting, and 3. offer nature education and interpretation to all ages. The nature centre is on the migration path of hundreds of species of birds making this a prime site for bird watching spring and fall. Because of the varied habitats, numerous species of birds nest here and others come here to feed including white pelicans and double crested cormorants. Painted turtles, mink, mule deer and otters are commmon.				contractor uses agreed mitigation for Canada Thistle and mustard species			
		Patches of Canada Thistle and mustard species are removed and incidence controlled	areas dominated by Canada thistle and mustard are removed and incidental Canada Thistle are controlled so patches do not form and spread	contractor and staff monitor success of techniques and alter focus if needed 2019			
				contractor and staff design a plan for control after 2020			
		Geese over grazing and disturbance reduced	geese are no longer overgrazing so that native shrub species can establish	contractor and staff research techniques to deterring geese from overgrazed areas and consult with MOE (exclosures, planting of shrubs) and decide a technique to trial			
				inform public of plan			
		Direct method to an end		trial 2018-2019 and assess results			
	4	Plant native trees and shrubs and enhance growth of native plants already in place.	areas previoiusly dominated by Canada Thistle and mustard specieshave established native trees and shrubs growing	grow for 1 year in pots			
				transplant shrubs and trees (already growing in our nursery) into areas cleared of thistle and mustard			
				water and keep herbacious growth low to mitigate competiton 2018-2020 so that shrubs and trees can establish.			
	Community committed to maintaining and enhancing wildlife habitat	Classes, School Environmental Groups, and general community engage in stewardship of Scout Island Nature Centre	classes, groups, and individuals will have adopted areas of the Nature Centre to monitor invasive plants, remove invasive plants, and enhance the native plants.	assign designated areas to interested groups and individuals based on groups skill level and train them to assess the baseline (workshop on invasives and native species) for their adopted section -2017			
				veeds removed from each adopted site under the direction of staff and rea native species planted or cared for 2018-2019			
				dopted sites monitored for changes and groups decide how to maintain heir site to keep invasives out or at a manageable level.			

8-414 Quintal Floodplains



HCTF Project Number: _ CAT18-8-414_

Please refer to the Land Stewardship Grant Final Year Reporting Instructions when completing this report.

This report must be completed in conjunction with the Activities and Expenditures Report (spreadsheet) customized for your project based on your proposal.

1. PROJECT INFORMATION

Project/Property Name: Quintal Floodplain

Project Leader Name: Sarah Nathan

Name of Organization: Ducks Unlimited Canada

Date of Report: June 25 2020

Author of Report (if different than Project Leader):

Name of Organization:

Contact Information:

2. SUMMARY

Provide a general description of project work completed in the last year (500 words max).

The South Okanagan is a key region for nesting and migratory birds beyond waterfowl. Our Quintal Floodplain project is a mosaic of wetland, riparian and meadow habitats. Avian species at the site mirror this diversity of habitats: in addition to waterfowl, riparian and meadow dependant song bird species, feature highly as important beneficiaries of habitats at Quintal Floodplains.

In the first two years of this land stewardship grant, we completed weed control activities as well as a number of riparian plantings (i.e. planting of 200 Cottonwood trees, 150 Mountain Alders, 150 live stakes and an additional 500 grams of Alder seed at the site). Survival of these plantings has been mixed due to extreme water fluctuations at the site.

By the mid-point of year two, it was clear that the primary issue at this site is Russian Olive encroachment. In fall 2018, we noted that cut Russian Olive trees left on site after Year 1 had begun suckering. This was a surprise for us, and certainly an important lesson learned regarding control of Russian Olive. We chose to focus our remaining Year 2 efforts on removing these downed Russian Olive



trees. Removal and disposal of invasive plant material is challenging and costly given regulations against disposal, and bylaws against as well as risks associated with burning on-site. Fortunately, we were able to identify and retain a contractor who generously donated half of their time to mulch Russian Olive on site. This will help us expend more grant and other partnership funds on controlling other weeds, additional Russian Olive, and planting native species.

Given the threat that Russian Olive poses, especially to meadow habitats, and the progress that we made controlling Russian Olive in Year 2, we focussed our Year 3 efforts entirely on reducing presence of this plant at Quintal. We coordinated this work with Nature Conservancy of Canada (NCC). NCC owns and manages adjacent conservation properties, and DUC has partial conservation interests in these properties. NCC expressed that Russian Olive control is an important priority in this area for them also. Since Russian Olive is more likely to return to conservation properties when it is not controlled in adjacent areas, NCC and DUC aligned themselves in Russian Olive control efforts on the South Okanagan Properties.

Please provide a general summary of overall project outcomes (500 words max).

Quintal Floodplain is a 43 ha property. For our final grant year, we had a vegetation control contractor cut and treat Russian Olive throughout the property to the extent of budget available. The contractor was able to cut and treat Russian Olive on the entire property with the exception of the western boundary. While funds were not sufficient to completely remove Russian Olive trees along the western boundary, these trees were treated with a basal bark herbicide, and will continue to die back in spring/summer 2020.

3. LESSONS LEARNED

Describe any problems or challenges that arose and how you addressed them in order to proceed with the project. What have you learned that would be valuable to share with others that may be undertaking a similar project?

We quickly learned that Russian Olive is a critical threat to riparian and meadow habitat in the south Okanagan. We also learned that without removing and/or chemically treating cut Russian Olive trees, the trees will sucker and continue to threaten habitats. This drives up the cost of treatment significantly. We discussed these findings with conservation partners in the south Okanagan, including NCC and NTBC. Russian Olive is widespread throughout this region. Given the importance of meadow and riparian habitats for bird species in the Okanagan, it would likely be worth collaborating more broadly with the Ministry of FLRNORD Thompson-Okanagan Region as well as our ENGO partners to develop a broad control program for Russian Olive, analogous to DUC's Spartina program.



4. COMMUNICATIONS

Project Outreach Activities: Provide information on any outreach activities during the year that directly relate to the project.

Our outreach activities on this project focussed on liaising with conservation partners (in particular NCC) to collaborate on control of this invasive species. We hope to begin developing a partnership to continue managing Russian Olive in the Okanagan given the habitat values threatened by this tree in that region.

Communicating about HCTF: Provide information on any activities specific to communicating about HCTF undertaken during the year.

We communicated about this project in a story on our website, here: https://www.ducks.ca/stories/invasive-species/fighting-russian-olive-in-the-okanagan/

We completed social media posts regarding this project and our partnership with HCTF on our Facebook page here:

https://www.facebook.com/ducinbc/?hc_ref=ARSLlab7riVoiPKboFMScGFZXxImPZPVkeOH88ze9xCjNFK2 arr6y3CAoSRCVjHKYA8&fref=nf&_tn_=kC-R_

Media Coverage: Provide a list of any articles or media coverage during the year.

We communicated about this project in a story on our website, here:

https://www.ducks.ca/stories/invasive-species/fighting-russian-olive-in-the-okanagan/

We completed social media posts regarding this project and our partnership with HCTF on our Facebook page here:

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Include a minimum of three photos as part of your report, attached as separate JPG files. List the filenames below, plus a description of each photo.

Description of Photos: All three of these photos depict Russian Olive removal activities on Quintal; specifically, mechanical removal of trees and suckers.

Photo 1 File name: Quintal Russian Olive Control 1

Photo 2 File name: Quintal Russian Olive Control 2

Photo 3 File name: Quintal Russian Olive Control 3

Photo 4 File name: Quintal Russian Olive Control 4

6. ADDITIONAL DETAILS

Provide a description of any materials and supplies purchases funded by HCTF that are considered capital assets. See Final Year Reporting Instructions for information on Capital Assets.

Provide any other information you wish to share with HCTF.

7. SUBMIT YOUR GRANT REPORT

- Save this report using the Project # and grant year in the filename. Example: 1-123 Grant Report 2018-19
- Please send your Final Year Grant Report to reporting@hctf.ca
- Your report should include the following:
 - Completed Final Year Grant Report Form (this document)



- o Completed Final Year Activities and Expenditures Report
- Photos as JPG files
- Copies of any print media articles (or provide links in report)
- Invoice for remaining funds

By submitting this grant report, you certify that this report is an accurate reflection of project activities and expenditures per the HCTF Grant Agreement.

HCTF Land Stewardship Grant 2017-20

Final Year Activities and Expenditures Report

			FROM PROPOSAL	ACTIVITIES & OUTCOMES REPORT			
Property/Complex Name:	Goal	Objective	Expected Outcome/Performance Indicators by End of Year 3	Activities	Activities Completed in the Final Year	Expected Outcome/Performance Indicators met? (Yes/No/Partial)	If Expected Outcome/Performance Indicators not met, provide an explanation
	Establish healthy riparian zones alongside restored wetlands.	Eradicate invasive plants on berms alongside restored oxbows.	Canada thistle, purple loosestrife, and other invasive plants removed from riparian zones around restored oxbows.	Spring/summer monitoring by staff to identify areas requiring further treatment for invasive plants (annual).	Spring monitoring showed that some Russian olive persist though signeficantly reduced due to control efforts	Partial	We learned over the course of this grant that Russian Olive is a key threat to native vegetation diversity in the Okanagan Region. As such we shifted our focus from native plantings of riparian areas to control of Russian Olive. Russian Olive threatens both riparian and meadow habitats, encroaching on both. This results in a marked reduction in ripariand diversity, and elimination of meadow habitat upon which species at risk (e.g. Bobolink) depend.
				Refinement of treatment plan and site visit with weed removal contractor (annual).	Contractors strongly recommended focussing on Russian Olive control.		
				Chemical treatment of invasive plants by contractor (annual spraying in summer). May shift to mechanical treatment as the incidence of Canada thistle is reduced and native plant density increases at site.	shifted to mechanical and chemical control of Russian Olive		
Quintal Floodplain Est ri alor		Increase native riparian plant density on berms alongside restored oxbows.	Diverse community of native shrubs and trees (snowberry, rose, etc.) established in riparian zones around restored oxbows (3.5 hectares total).	Fall monitoring by staff to determine survival of planted stock and identify areas requiring further planting treatment (annual).	Shifted to Russian Olive control. Fall monitoring indicated pronounced reduction in meadow habitat.	d Partial	Survival of native plantings was approximately 50%. This did increase native riparian diversity. Reduction in Russian Olive also reduces the pressure on native plant diversity, though clearly this property would need significant investiment in ongoing management to truly accomplish these goals.
	Establish healthy			Refinement of planting plan and site visit with planting contractor (annual).	We shifted our focus to Russian Olive control rather than planting, which had mixed success in Year 1		
	riparian zones alongside restored wetlands.			Infill planting and seeding to increase native plant density and discourage re-establishment of invasive plant species along berms. (Estimate 3,300 shrubs/trees planted over 3 years: Year1: 2,000; Year2: 900; Year3: 400. Note, seed may include non-native species selected to discourage re- establishment of fast-spreading invasive plants.)	We shifted our focus to Russian Olive control rather than planting, which had mixed success in Year 1		
Property Vision and/or Overall Management Goals for Property: Ducks Unlimited Canada's vision for the							
Quintal Floodplain property is a mosaic of healthy valley- bottom wetland, riparian and meadow habitats supporting a biologically diverse community of wildlife,							
including waterfowl, other avifauna (such as COSEWIC- listed Western Yellow-breasted Chat (Endangered), Western Screech Owl (Endangered), Bobolink (Threatened), and Long-billed Curlew (Special Concern)), amphibians, and others.							
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HCTF Project #

<u>8-414</u>