



Millstream Fishway Project

Project Objective: Construct a fishway that will allow fish a means to ascend past Atkins Road and access 8+ kilometers of fish habitat.

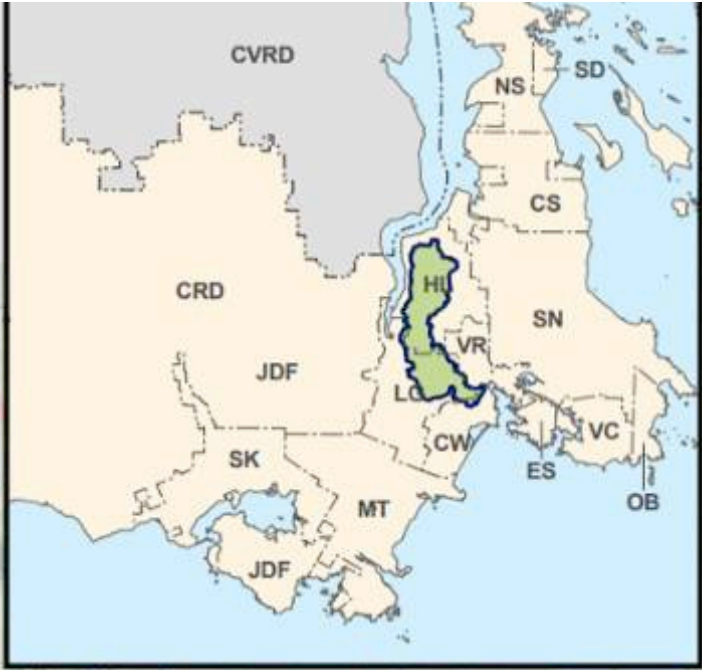
Executive Summary

Currently fish passage is blocked by the presence of a 4 metre high 'perched' culvert located on Millstream Creek at Atkins Road. If fish were able to ascend past this culvert, an additional 8+ kilometers of fish habitat would be available to them. Constructing a fishway would allow fish a means to pass Atkins Road and access this habitat indefinitely. Multiple groups including the Goldstream Volunteer Salmon Enhancement Society (GVSEA) volunteers, the City of Langford, the Town of View Royal, the City of Colwood and many others have spent over 20 years improving fish access upstream from tidewater to Atkins Road with 2016 returns of 700+ coho adults. If the fish can ascend past Atkins Road, an additional 8+ kilometers of fish habitat will be available to them for spawning and rearing areas for their offspring.

Project Description:

The Millstream Watershed consists of all the land that drains into Millstream Creek, which subsequently flows into Esquimalt Harbour, near the city of Victoria B.C. A large portion of the watershed is located along the eastern flanks of the Gowlland-Tod Range in the Highlands, and also includes urbanized areas in Langford and Colwood.

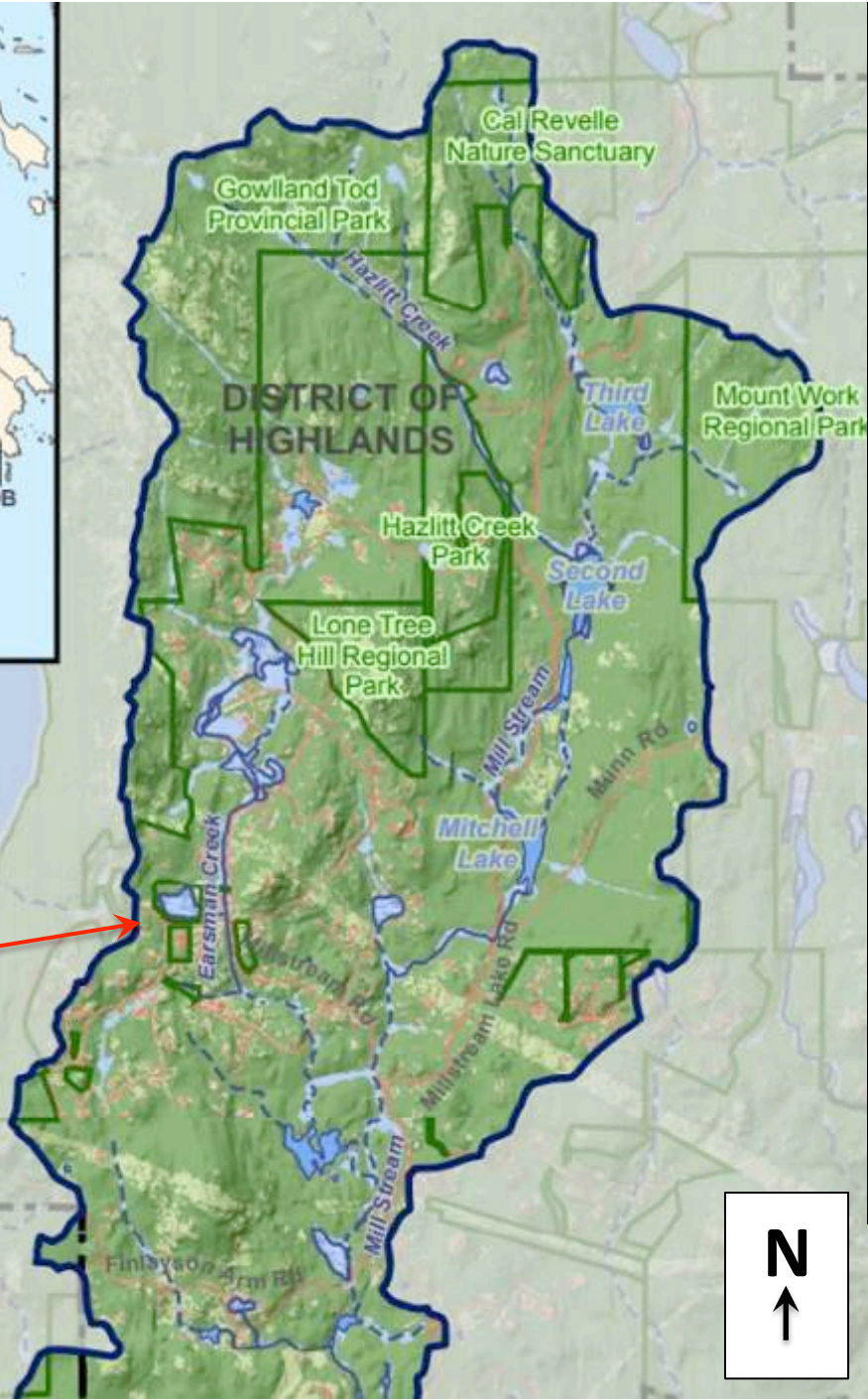
The 2017-18 phase of the project will involve engineering study and design, as well as partnership development. PSS has 15+ years' experience in assembling partnerships and sees this as a 'natural' with multiple 'wins'. This partnership would potentially include the City of Langford, the City of Colwood, the District of Highlands, the Town of View Royal, CRD Parks, Ministry of Transportation and Infrastructure, the Pacific Salmon Foundation, GVSEA, Victoria Fish and Game Association and other volunteer groups. We expect that we will help start new Streamkeepers groups with direct interest in the salmon that will be spawning in people's backyards. As well, private companies such as Ecoasis Developments and others are invited to participate in the project as sponsors and as a source of volunteers. Activities involved in the 2017-18 phase include a background data review, a hydrologic assessment, a hydraulic assessment, a topographic survey, a culvert conditions assessment, fishway concept development and design selection. The construction of the fishway is scheduled for 2018-19.



Upper Millstream Watershed

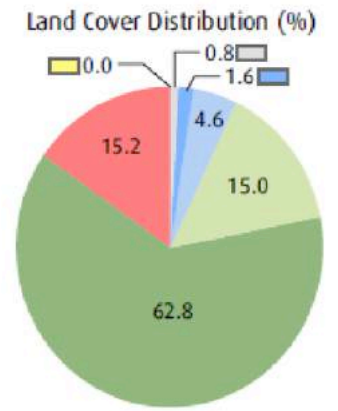
District of Highlands

**For lower half of watershed,
see next slide 'Lower
Millstream Watershed'**



- M Municipal Hall
 - School
 - Seasonal Creek
 - Creek
 - Park
 - Watershed*
- Total Watershed Area: 2842 ha
- * Boundaries are approximate and affected by stormdrain networks

- Land Cover (2011)**
- Unclassified
 - Lake, Pond
 - Riparian Area, Seasonal Wetland
 - Grass, Shrub, Bare Ground, Exposed Rock
 - Tree Cover
 - Building, Road, Parking Lot (Impervious Surface)
 - Agricultural Field



Habitat Acquisition Trust (HAT)
2011 Land Cover Mapping
The data set covers the CRD (excluding the Gulf Islands)
Data is also available in cover densities
Data is available for 1985, 2005 and 2011
Percentages may not add up to 100 due to rounding



Lower Millstream Watershed

District of Highlands

↑
**For upper half of
watershed, see previous
slide 'Upper Millstream
Watershed'**

**Bear Mountain
Resort (Ecoasis)**

City of Langford

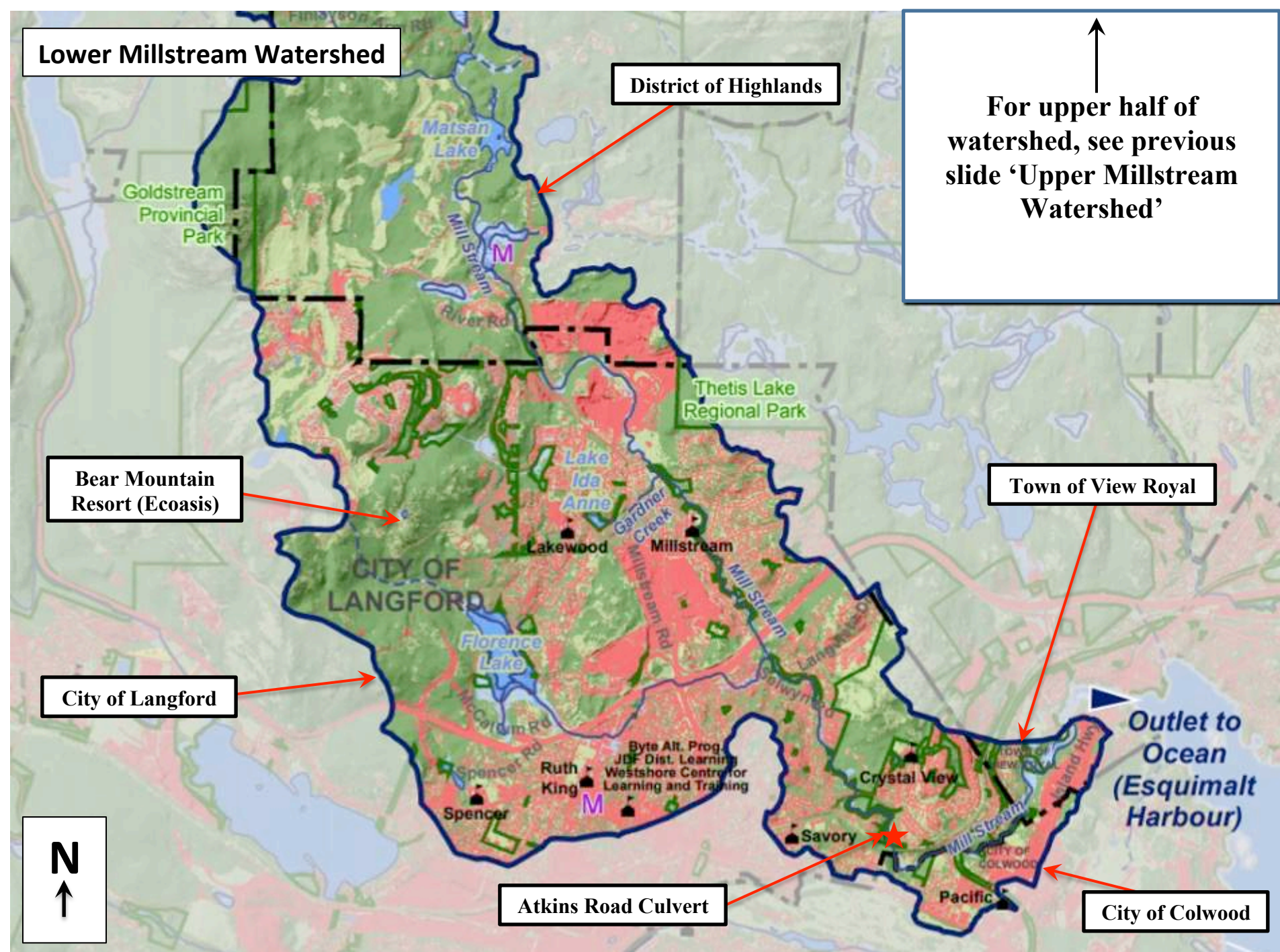
Town of View Royal

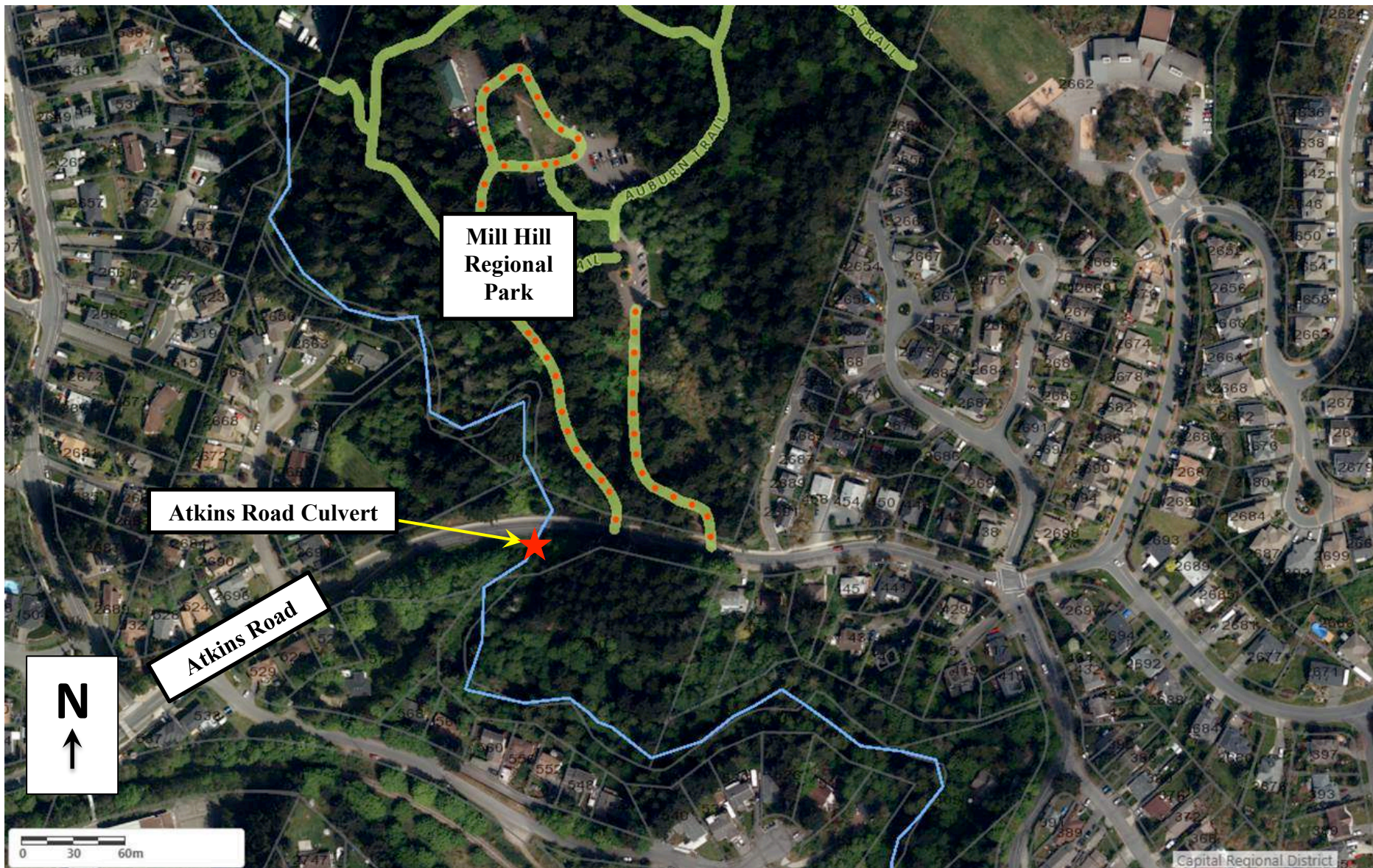
Atkins Road Culvert

City of Colwood

**Outlet to
Ocean
(Esquimalt
Harbour)**

N
↑







Finlayson Arm Road

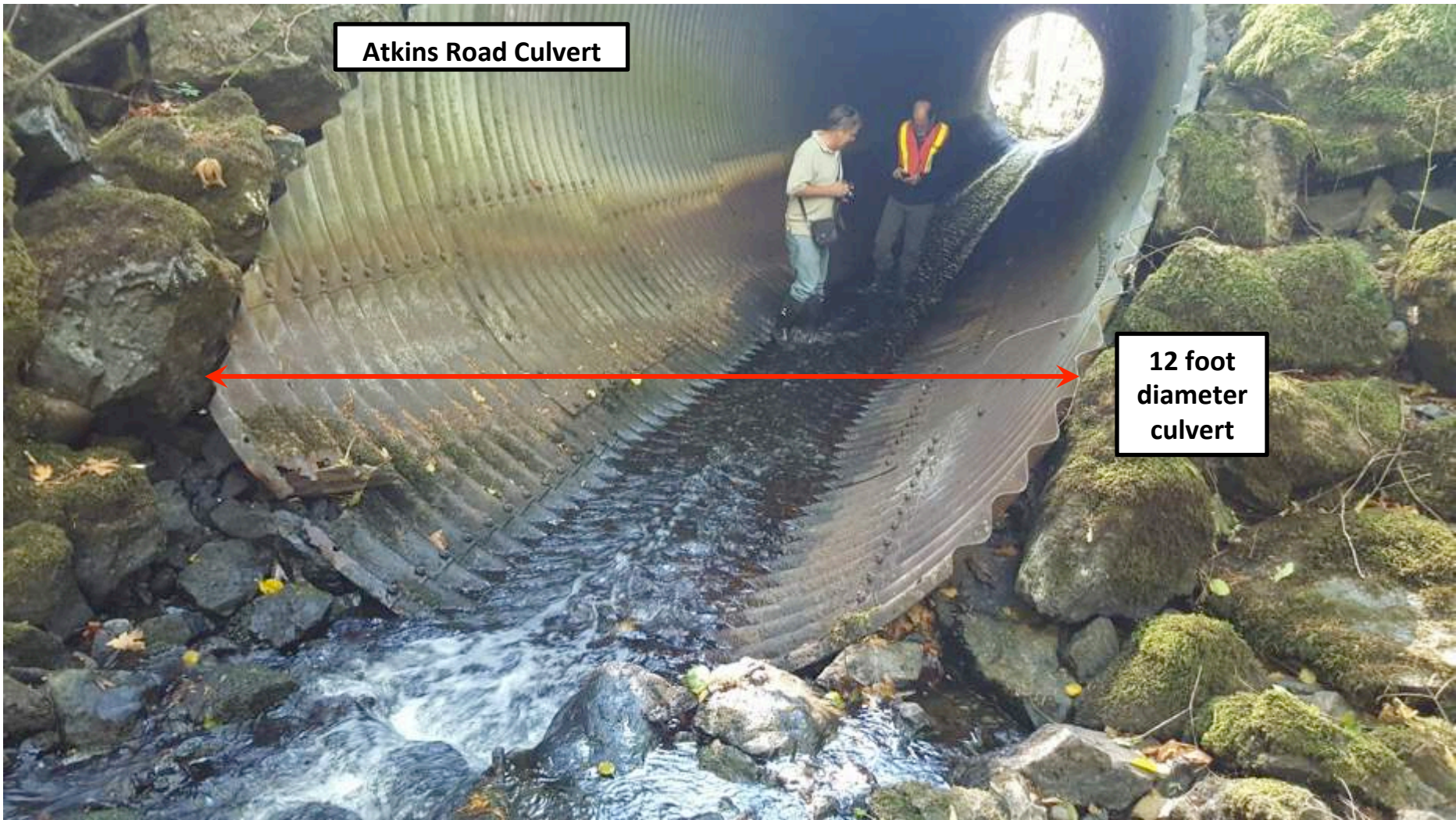
Atkins Road Culvert

**12 foot
diameter
culvert**



Atkins Road Culvert

**12 foot
diameter
culvert**



2017 – 2018 PROPOSED PROJECT SUPPORT – DESIGN PHASE:
Minimum \$40,000 matching funds raised by OCTOBER 1, 2017

Proposed Project Support for 2017-18					
Organization Name	\$ value of cash support	\$ value of in-kind support	\$ Total	(C)onfirmed, (P)otential	
Town of View Royal	2,500	1,400	3,900	P	in-kind estimate: 20 staff hrs @ \$70/hr
City of Langford	10,000	1,400	11,400	C	in-kind estimate: 20 staff hrs @ \$70/hr
City of Colwood	4,000	1,400	5,400	P	in-kind estimate: 20 staff hrs @ \$70/hr
District of Highlands	2,000	1,400	3,400	P	in-kind estimate: 20 staff hrs @ \$70/hr
CRD Parks	3,000	3,000	6,000	P	
Pacific Salmon Foundation	0		0	C	don't fund design work
Private Business - Ecoasis, others	10,000		10,000	C	
Victoria Fish and Game Protective Association	5,000		5,000	C	
Goldstream Volunteer Salmon Enhancement Association	5,000	1,000	6,000	C	
Province of BC - Ministry of Transportation and Infrastructure	5,000		5,000	P	
Province of BC - Other*			0	P	
DFO Recreational Fisheries Conservation Partnerships Program (RFCPP)	40,000		40,000	C	contingent on matching funds
Total	86,500	9,600	96,100		
* new programs? Reestablish fish and wildlife programs (former NDP government)					

2018 – 2019 PROPOSED PROJECT SUPPORT – CONSTRUCTION PHASE:
Minimum \$205,000 matching funds raised by MARCH 31, 2018.

Proposed Project Support for 2018-19					
Organization Name	\$ value of cash support	\$ value of in-kind support	\$ Total	(C)onfirmed, (P)otential	
Town of View Royal	5,000	1,400	6,400	P	in-kind estimate: 20 staff hrs @ \$70/hr
City of Langford	25,000	7,000	32,000	P	
City of Colwood	10,000	1,400	11,400	P	in-kind estimate: 20 staff hrs @ \$70/hr
District of Highlands	5,000	1,400	6,400	P	in-kind estimate: 20 staff hrs @ \$70/hr
CRD Parks	12,000	12,000	24,000	P	
Pacific Salmon Foundation	40,000		40,000	P	
Private Business - Ecoasis, others	40,000		40,000	P	
Victoria Fish and Game Protective Association	25,000		25,000	P	
Goldstream Volunteer Salmon Enhancement Association	5,000	2,000	7,000	P	
Province of BC - Ministry of Transportation and Infrastructure	25,000		25,000	P	
Province of BC - Other*			0	P	
DFO Recreational Fisheries Conservation Partnerships Program (RFCPP)	205,000		205,000	C	contingent on matching funds
Total	397,000	25,200	422,200		

* new programs? Reestablish fish and wildlife programs (former NDP government)

7.1. RFCPP budget for 2017-18:

b) Detailed description (services, rates, fees, etc.)		c) Amount requested from RFCPP	d) Other support	e) Total amount	
a) Expense category	Human resource costs				
Engineering: Hydrologic Assessment and Fishway Design Project Manager + Partnership Building (Ian Bruce) - 120hrs @ \$75/hr + GST = \$9,450 Principal (NHC) - 7hrs @ \$225/hr + GST = \$1,653.75 Engineer II (NHC) - 81hrs @ \$170/hr + GST = \$14,458.50 Engineer V (NHC) - 272hrs @ \$105/hr + GST = \$29,988 Technician III (NHC) - 132hrs @ \$100/hr + GST = \$13,860 Subcontractor I (NHC) - 4hrs @ \$170/hr + GST = \$714 Subcontractor II (NHC) - 60hrs @ \$120/hr + GST = \$7,560 Admin/Clerical (NHC) - 60hrs @ \$80/hr + GST = \$5,040 Stewardship and Streamkeepers Development, Communications = 180hrs @ \$37/hr = \$6,660 Reporting + presentations - 100hrs @ \$35/hr = \$3,500		\$38,900	\$53,984	\$92,884	X
a) Expense category	Travel and related costs				
Mileage - 2000km @ \$0.52/km + GST = \$1,092 Hotel for Engineer (NHC) - 2 nights @ \$150/night + GST = \$315			\$1,407	\$1,407	X
a) Expense category	Contract or professional service costs				
Surveying - \$1,100		\$800	\$300	\$1,100	X
a) Expense category	Printing and production costs				
Printing/courier (NHC) - \$200 Signage - \$2,000		\$300	\$1,900	\$2,200	X
Add a line (+)					
Total:		\$40,000	\$57,591	\$97,591	

- The total amount requested from the RFCPP (column C, bottom row) must equal the total cost to the RFCPP for all activities in section 6.1.

7.2. RFCPP budget for 2018-19:

b) Detailed description (services, rates, fees, etc.)		c) Amount requested from RFCPP	d) Other support	e) Total amount	
a) Expense category	Human resource costs				
Engineering: Contracting, construction, performance monitoring Project Manager (Ian Bruce) - 200hrs @ \$75/hr + GST = \$15,750 Project Mgmt (NHC) - \$2,000 Permits and Approvals (NHC) - \$1,000 Planning and Contractor Selection (NHC) - \$10,000 Construction (NHC) - \$30,000 Performance Monitoring (NHC) - \$3,000 Performance Monitoring (PSS) - \$10,000 Environmental Monitoring - 60hrs @ \$35/hr = \$2,100 Labour - 150hrs @ \$40/hr = \$6,000 Stewardship, Reporting, admin, etc. - 50hrs @ \$37/hr = \$1,850		\$68,208	\$13,492	\$81,700	X
a) Expense category	Travel and related costs				
Mileage - 2000km @ \$0.52/km + GST = \$1,092		\$1,092		\$1,092	X
a) Expense category	Contract or professional service costs				
Excavation and hauling equipment: \$55k Tree work and removal: \$11k Site setup, access, mobilization, notice of project, safety, management: \$11k Traffic control: \$11k Pumps and environmental controls: \$11k Surveying - \$1.1K		\$75,000	\$25,100	\$100,100	X
a) Expense category	Purchase, lease, maintenance or repair of equipment, materials or supplies				
Concrete, inc. forms, reinforcement, labour, pumps, materials: \$100k Riprap, incl. delivery: \$40k Gravel: \$20K		\$60,000	\$100,000	\$160,000	X
a) Expense category	Printing and production costs				
Printing/courier (NHC) - \$200 Signage - \$500		\$700		\$700	X
Add a line (+)					
Total:		\$205,000	\$138,592	\$343,592	

• The total amount requested from the RFCPP (column C, bottom row) must equal the total cost to the RFCPP for all activities in section 6.2.

Event Objective: To educate and raise awareness about the Millstream Fishway Project and its benefits.

There will be **Stream Tours** of both upstream and downstream of culvert. Upstream tour of CRD lands to show habitat that will be accessible when the fishway is installed. Downstream the tour will show the culvert outlet and approach habitat



Learn more about this Peninsula Streams Society project at www.PeninsulaStreams.ca or call 250-363-6596

Organization description:

Peninsula Streams Society helps coordinate stream restoration and habitat conservation in the Greater Victoria area. We provide our associated groups with the technical expertise and resources to help achieve their goals. Our goal is to achieve healthy aquatic habitat that supports self-sustaining populations of native species in both freshwater and marine environments. We accomplish this objective through research, restoration, innovative projects, public education and private land stewardship. Charitable Status # 865001457RR0001

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