

# Englishman River Habitat Status Report:

## A Backgrounder on the Health of the Watershed in 2013

### Preface

The purpose of this backgrounder is to provide an overview of the ecological health of the Englishman River watershed, by highlighting results of a report recently completed by a local fisheries biologist:

#### **Englishman River Habitat Status Report.**

For the Mid Vancouver Island Habitat Enhancement Society

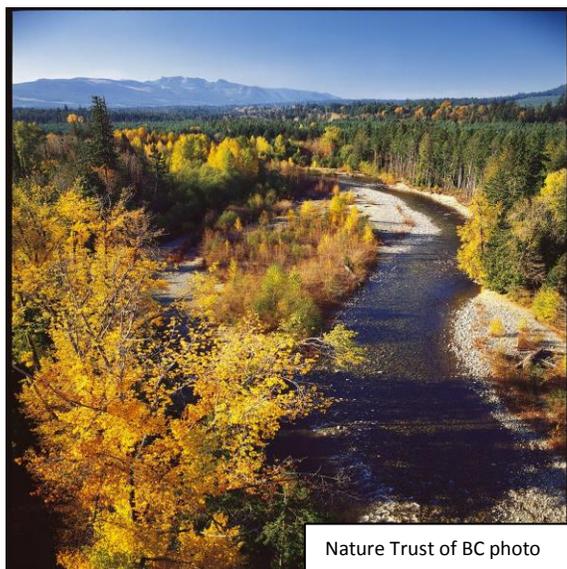
The Report is based on a review of published reports compiled over the past 25 years, focusing on the river's aquatic ecosystems. These include:

- 40 reports assessing fish and fish habitat in the river and tributaries
- 3 reports assessing the health of the estuary
- 3 reports focused on the surface water flows and groundwater aquifers of the Englishman R. basin.

Six experts were also interviewed for their opinions on the future of the river.

A desired outcome is that readers will be more aware of the challenges this watershed faces in the future and how to take action NOW to ensure its long term health.

Find the report at: <https://MVIHES.bc.ca>



**Englishman River Watershed**

### Context

The status of salmon habitat in the Englishman River watershed is a product of the areas long history (100+ years) with the logging industry. Over 88 percent of the watershed is owned by two private timber companies, who actively manage these productive forest lands for softwood lumber production. Today, the forests are dominated by healthy second growth stands, however the river has been slow to respond to the changes harvesting brought to the basin's hydrology.

The estuary has also had a long history of human development impacts, beginning with diking, to allow farm development in the 1870's. This was followed by dredging for log storage in the 1950's and more recently, resort development.

Urban development pressures within the watershed have increased in recent years, with small tributary streams under increasing threat of poor land development practices.

Planning for future land development in the Englishman River watershed is a complex challenge and balance between public demand for housing, economic realities of the region (including jobs) and established social and cultural traditions of the affected communities. To ensure the planning process and stakeholders are well informed, a solid understanding of the basin's aquatic resources and riparian values is essential.

The Englishman watershed supports anadromous (sea-run) and resident fish species/stocks, which in aggregate contribute to significant First Nations, commercial and sport fisheries. The river serves as a source of drinking water for residents of the City of Parksville and Nanoose Bay. The watershed also provides critical habitats for many important wildlife species. For all of these reasons, local residents have expressed a strong desire to preserve and protect the watershed's natural capital for future generations.

The main objective of the report is to provide a baseline overview of the aquatic habitat attributes of the Englishman River. The report will allow stakeholders to understand current watershed conditions, so we can monitor changes into the future. This review of over 25

# Englishman River Habitat Status Report:

## A Backgrounder on the Health of the Watershed in 2013

years of field work, provides valuable guidance to land and water use planners concerning critical features, habitats and related resources for the Englishman River basin.

### The Report is Structured in Three Parts

The report is structured to meet the information needs of different audiences, from senior land and resource managers to elected officials and concerned residents who must understand the issues and commit to change if the river is to remain the heartbeat of the Oceanside area.

#### Part 1 Habitat Summaries:

➡ **Written for all stakeholders, this is a compilation of the biophysical condition of the reaches of the Englishman River and its tributaries (w/references).**

#### Part 2 Habitat Pressures:

➡ **Written for area resident and land planners, provides a review of the dominant forces that have shaped the rivers biophysical conditions, and the role land development plays.**

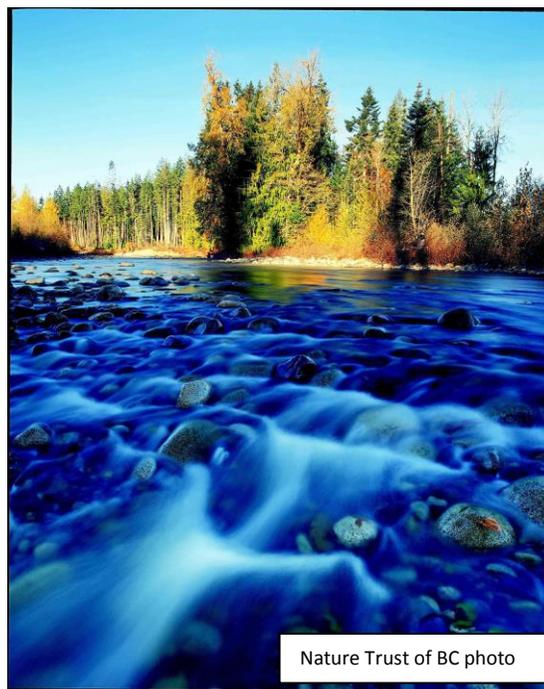
#### Part 3 Restoration and Monitoring Programs

➡ **Written for all stakeholders, this section discusses the importance of collaborating on habitat restoration and monitoring projects.**

### Key Findings:

- All five species of Pacific Salmon are found in the Englishman River watershed. The adult spawner salmon populations in the river are generally far stronger than they were 20 years ago (Chinook 20X, Chum 4X, Coho 5X, Pink 10X). The only exception is Steelhead which has not shown a similar response.
- Sidechannels are an effective tool in habitat restoration for many species of fish. The Clay Young Sidechannel in the RDN Park on the west side contributes a huge proportion of the Coho smolts and other species to the river.

- Sidechannel installations are not always reliable unless properly engineered. Two earlier sidechannel sites on the Englishman River were lost or decommissioned due to flooding or lack of consistent water supplies
- For 35 years The Nature Trust of BC has been working to conserve the lower reaches of the Englishman River, relying on partnerships and a number of conservation tools to secure key estuarine habitats and riparian woodlands. Fee simple acquisitions, donations of land, conservation covenants and tax benefits have resulted in more than 300 ha of conserved land which includes the ER Regional Park and many other areas that benefit the health of the river. In the Englishman River Watershed the MOE Wildlife Management Area protects the river's estuary and riparian areas up to the falls as well as the riparian corridor of Morison Creek.



Nature Trust of BC photo

### Englishman River: Competing Demands for Water

- In 2001, the Englishman River was recognized as the most endangered river in BC. A report: [Englishman River Watershed Recovery Plan](#)

# Englishman River Habitat Status Report:

## A Backgrounder on the Health of the Watershed in 2013

provided the foundation for documenting the watershed condition, including fish and habitat in 2002. Further studies have provided the basis for restoration of the Englishman River since then. The main river restoration projects were undertaken by the BC Conservation Foundation (BCCF) in subsequent years; 2003, 2004, 2005, 2006.

- The historic logging impacts on the river's morphology are such that even with sediment sources from streambanks accounted for, there is significant stockpiled sediment in the channel still available for transport and deposition in the lower river
- Low flows in the summer months were a significant concern for rearing salmon and trout populations. While this is still a concern today, the situation has been improved considerably with water releases from Arrowsmith Lake.
- There is a need to monitor and review all the in-stream restoration sites, to assess performance and effectiveness. This will provide further direction on the best approaches to use in the future.



**Partners in Monitoring Watershed Health**

- Volunteer Stewards have contributed significantly to the restoration of this watershed. Almost all restoration work done in Shelly Creek, Morison Creek, Swayne Creek and Centre Creek was done by Streamkeepers.

They have contributed significant projects in the mainstem and estuary as well.

- The estuary is a series of interlocking ecosystems with high value components, each supporting the other. There are upland treed areas, shrub margins, river banks, intertidal sedge/grass benches and sub tidal eelgrass. Studies in 2009 found a decline in the native plant community due to the spread of invasive plant species, anthropogenic shoreline alteration and invasive waterfowl grazing.



**Clearing Invasive Broom in the Estuary**

- The stormwater from the streets of Parksville discharge into the estuary with many water samples failing the B.C. Standards for Drinking Water and Aquatic Life for coliform, metals and PAH.

### Salmon Habitat Indicators.

The following physical conditions were identified as having a negative impact on the health of local salmon populations:

1. **Loss of bank stability;** leading to reduced water quality and reduction in potential Large Woody Debris.
2. **Reduction of in-stream channel complexity;** caused from the past logging and disturbance of riparian vegetation, cross stream yarding and dredge mining, all of which are responsible for

# Englishman River Habitat Status Report:

## A Backgrounder on the Health of the Watershed in 2013

bank erosion, channel aggradation, and channel instability.

3. **Increased sedimentation;** leading to a reduction of spawning success and reduction in wetted areas during low flow periods.

**The question is “how do we as a community ensure the watershed’s future health?”**

We think the answer is twofold:

- i. Site specific restoration projects to improve habitat function.
- ii. Monitoring for watershed health

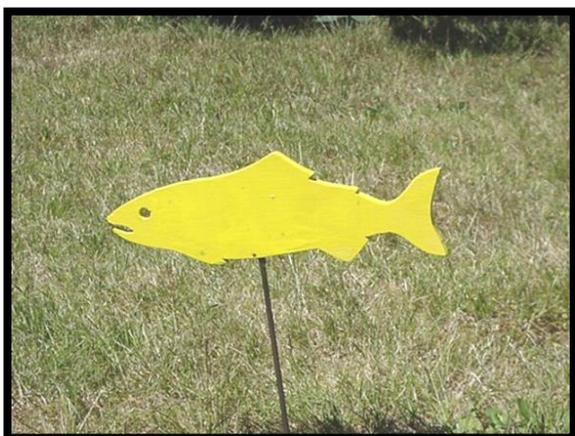
invasive species management, storm water quality improvements and more monitoring



**Englishman River Estuary**

### Potential Restoration Projects:

The lower reaches of the Englishman River are the highest value reaches of the river for fish habitat, but the headwaters may still be in control of the fate of fish living in the mainstem. Restoration work must remain in balance between upper and lower reaches. The list of past habitat restoration projects reflects a balanced approach among upper watershed and lower watershed restoration.



**A Salmon Friendly Lawn marker**

### Estuary:

The report identifies threats to water quality from storm water inputs and invasive species (including wildlife) that have overtaken many native plant communities and threaten others. The habitat quality of the estuarine areas has declined as a result of the vegetation and human developments.

Recommendations include invasive plant removal,

### Englishman River (main stem):

The construction of off-channel habitat along the main stem, to provide rearing and spawning refuge from the fluctuating flows, has been successful. There may be more opportunities to install more off-channel sites or improve the existing sites (habitat complexity/spawning gravel/water supplies). There are erosion and deposition areas along the main stem that should be addressed such as the “clay banks”, just below the South Englishman River confluence and the aggraded bars above and below the old Highway crossing. There are other small but locally significant habitat/bank stability issues that occur when conifers are failing on the adjacent banks (i.e. Martindale Road Scout Canada/Parry’s Campground).



**Englishman River Regional Park**

# Englishman River Habitat Status Report:

## A Backgrounder on the Health of the Watershed in 2013

### Headwater Reaches:

Bank stability work has been addressed on Island Timberlands property in the upper watershed, based on their "Watershed Assessment", completed a few years ago. The monitoring of erosion/sediment sources from logging operations must remain a top priority. The forest companies have agreed to be proactive on this issue in the past.



### Forest Lands of the Englishman Watershed

It is important to recognize Island Timberlands and Timberwest for their active "partnership" role in the many conservation projects along the lower reaches of the river. Company staff attends the Englishman River Steering Committee meetings and share knowledge and resources, which is very appreciated.

### Englishman River Tributaries:

#### Shelly Creek

There has been no documented restoration on this creek. Recent field assessments indicate Shelly Creek is important "off channel" salmon habitat, that should be protected. There are barrier culverts on the creek at almost every road crossing that, if repaired, could offer further improvements to migration for both salmon and resident trout. Water quality is also an issue, from poor land development practices.



Shelly Creek: Monitoring of Coho Smolts at Fence

#### Morison Creek

This creek has potential projects with fish barrier removal, riparian protection and farm stewardship (fencing, planting, sediment removal, erosion protection).



Morison Creek: Restoration Project

#### Centre Creek

This long flat tributary lacks cover, pool depth and habitat complexity throughout its length. Restoration work has been almost annual since 2004 and more is planned in 2013 by the MVIHES and the Pacific Salmon Foundation Community Salmon Program.

# Englishman River Habitat Status Report:

## A Backgrounder on the Health of the Watershed in 2013



Centre Creek: Large Woody Debris Placement

### Volunteers Needed for Watershed Monitoring!

There is a need for local folks to step-up and volunteer some time to assist in the important task of monitoring. Here are some examples of projects you can become involved in:

#### Water Quality Monitoring

- Measuring water flows in the summer.
- Collect water quality samples

#### Fish Monitoring

- Operate downstream traps to enumerate salmon smolts.
- Fry Salvage in pools on the river during summer flows.

#### Observe Record Report

- Take the Streamkeepers Course and learn more.

#### Photo Point Monitoring

- Take photos at key areas on the river and at special sites such as claybanks

#### Restoration Structures

- Participate in a systematic review of all fish habitat structures installed since 2002.

#### Invasive Species Monitoring

- Participate in mapping and awareness

#### Public Awareness

- Assist in promoting community awareness of the issues.

Anyone interested should contact us at [info@mvihes.bc.ca](mailto:info@mvihes.bc.ca)

#### Conclusion:

The future of the Englishman River watershed is at a crossroads. The many reports and studies have provided a strong foundation in “restoring” the river’s natural features and functions. Much of this work has only been successful through the collaboration and funding partnerships established between the agencies, local governments, stewardship groups and forest companies who make up the Englishman River Steering Committee.

Today’s challenge will be to develop a framework of monitoring and restoration that will maintain the health of the watershed. The only way we can achieve this objective is to engage our local community in recognizing the importance of this valuable watershed, and how they can become involved in the river’s stewardship.

We wish to acknowledge the financial support received from the following organizations for this project:

