THE COWICHAN:

A CANADIAN HERITAGE RIVER

10-Year Monitoring Report (2003 – 2013)

Submitted to:

Canadian Heritage Rivers Board

Submitted by:

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EXECUTIVE SUMMARY

Flowing 47 km from Cowichan Lake easterly to Cowichan Bay, the Cowichan River is first and foremost part of the traditional territory of the Cowichan First Nation. They have lived on its banks, plied its waters, used and cared for its resources for thousands of years. In recent history the river has become renowned for excellent fishing, natural beauty, whitewater recreation in the winter and swimming/tubing in the summer.

The main stem of the river was designated as a Canadian Heritage River in 2003. Under the Canadian Heritage Rivers program, it is the responsibility of managing jurisdictions to prepare a ten-year monitoring report to ensure that the river continues to possess the outstanding natural, cultural and recreational values for which it was designated. This report provides a chronology of events of the last 10 years and examines the condition of the natural, cultural and recreational values for which the river was designated. Changes and threats to the values are documented. The study reports on the Canadian Heritage River System Integrity guidelines and provides an update on the action items from the management plan entitled "Managing the Cowichan River as a Canadian Heritage River" (2003).

Like many rivers near urban centres, the Cowichan River is somewhat vulnerable to the impacts of human population growth and the accompanying potential for habitat loss and degradation due to land use changes, pollution and invasive species. Climate change predictions forecast changes to water flow regimes, water temperatures, and a rise in sea level with potential impacts to the Cowichan River estuary.

Further investigation into its cultural heritage values is bringing more evidence to light. For the most part, recreational values have remained intact and recreational activities have been steadily increasing. A major exception involves fishing-related cultural and recreational values. Both Cowichan Tribes food fishery and recreational fisheries have suffered from declining Chinook returns that have resulted in seasonal closure of the river to fishing.

In the 10 years since its designation as a Canadian Heritage River, many significant events have served to strengthen or improve the natural, cultural and recreation values and their stewardship:

- Formation of the Cowichan Stewardship Round Table – a forum to share information, identify communities of interest, rank projects at a watershed scale, pool resources, attract funders, and enable a new way of conducting stewardship business;
- Completion of a visionary Cowichan Basin Water Management Plan (CBWMP) with 89 strategic recommendations for improving water supply/demand management to the year 2031;
- Formation of the Cowichan Watershed Board (pursuant to the CBWMP) and its work to implement the CBWMP, establish targets for a healthy watershed and undertake projects with the objective of achieving those targets;

- Formation and work of the Cowichan Lake and River Stewardship Society and One Cowichan;
- Ongoing work by local stewardship groups;
- Restoration of Stoltz Bluff, a significant source of suspended sediment;
- Expansion and continuation of the Annual River Clean-up;
- Completion of the Trans Canada Trail on both sides of the river;
- Addition of parkland adjacent to the river;
- Opening of the Cowichan Estuary Nature Centre to help educate the public about watersheds and
- Active management of sediment in the lower portion of the river to restore fisheries productivity and protect adjacent communities

The Cowichan River is at the forefront of collaborative stewardship and is held up as a model for river stewardship throughout BC.

This report has determined that the natural, cultural and recreational values of the Cowichan River remain intact. The river is worthy of continued designation as a nationally significant river within the CHRS.

TABLE OF CONTENTS

Cowichan Heritage River Decadal Monitoring Report

1.0 INTRODUCTION

In recognition of its exceptional natural and cultural heritage values, and recreational values, the main stem of the Cowichan River was nominated as a Canadian Heritage River in 1998 and designated in 2003. The Canadian Heritage River System (CHRS) is a national river conservation program. A cooperative effort by the federal, provincial and territorial governments, the CHRS promotes river heritage conservation and encourages sustainable management through recognition of the country's outstanding rivers. Designation as a CHR includes a responsibility to prepare a 10-year monitoring report to ensure that designated rivers continue to possess the remarkable heritage values for which they were originally nominated.

The Cowichan River flows 47 km from the outlet of Cowichan Lake to the estuary in Cowichan Bay. It meanders through Douglas-fir and hemlock forests, canyons and narrow flood plains for much of its length. From the City of Duncan the river passes through fertile lowlands until it reaches the estuary. For thousands of years the Cowichan First Nation have lived here, their lives intimately connected with the river. They are the original stewards of the river and maintain strong ties to it. The natural environment of the Cowichan basin gave rise to salmon and trout populations that sustained the Cowichan First Nation and more recently attracted international attention. With Cowichan River Provincial Park protecting half of its length the Cowichan River is an extremely significant recreation corridor on Vancouver Island. Starting with the Cowichan First Nation, the Cowichan River has a strong history of local stewardship that continues today.

The objectives of the Cowichan 10-year monitoring report are to:

- Identify any major changes and events that have occurred with regard to the Cowichan River since its designation in 2003.
- Review the natural, cultural, and recreational values for which the Cowichan River was nominated, and to determine which of those values it still possesses, and identify any threats to those values.
- Review the stewardship values (values agreed to by stewardship groups active in the watershed) of the Cowichan River system, and to identify ways in which they can be incorporated into long-term management plans.
- Review the actions outlined in *Managing the Cowichan River as a Canadian Heritage River* to determine whether or not, and to what degree, the actions have been accomplished.
- Update the natural and cultural values of the Cowichan River to reflect the updated CHRS national framework documents.

The original nomination document was written in narrative form prior to the establishment of the current CHRS natural (2001) and cultural heritage values frameworks (2000). Therefore an additional objective of this report is to record the natural, cultural and recreational values in the new tabular format.

2.0 BACKGROUND

The Cowichan River flows easterly 47 km from its headwaters at Cowichan Lake to its estuary in Cowichan Bay on the east side of Vancouver Island (Map 1). It supports freshwater, estuarine and marine ecosystems that provide habitat for a rich variety of fish, wildlife and plant species. Over half of the riparian area falls within Cowichan River Provincial Park. The park was established in 1995 after being identified in the Vancouver Island Land Use Planning process as an area that should be protected. The primary role of Cowichan River Provincial Park is to protect the natural values associated with a scenic and world-renowned salmon-bearing river.[1]

In September 1995 the Cowichan River was nominated to the British Columbia Heritage Rivers system on the basis of its outstanding natural, cultural and recreational values and as a leading example of community support and co-operation with respect to river stewardship. In 1997 the British Columbia Heritage Rivers Board recommended the Cowichan River for Canadian Heritage River System (CHRS) status. In January 1999, the river was nominated for to the CHRS in recognition of its rich variety of natural and human heritage values and outstanding recreational opportunities. The focus of the nomination was on the main stem and those lands directly adjacent to it. However, recognition was given to linkages with the drainage as a whole. The character and integrity of the Cowichan River is directly dependent upon the health of the network of

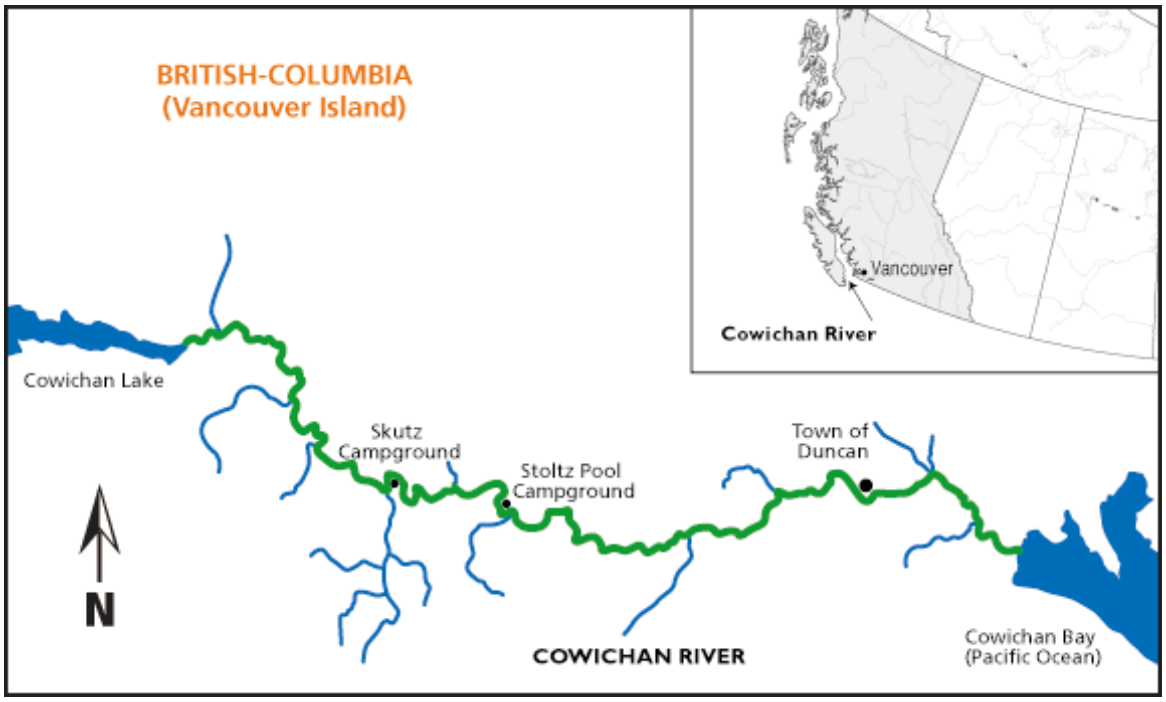
[1] Cowichan River Provincial Park Purpose Statement and Zoning Plan (2003)

tributaries and the management of natural influences and human activities throughout the basin. A management plan "*Managing the Cowichan River as a Canadian Heritage River*" was completed in 2003. With a management plan in place, the Cowichan River was designated a Canadian Heritage River.

Much has transpired since the river was designated a Canadian Heritage River. New forces have come to bear on the natural, cultural and recreational values for which the river was nominated. Changes are coming from forces originating within the valley such as land use, and from forces outside the valley, such as climate change, invasive species and ocean survival rates of salmon.

Cowichan Elders have a teaching "*Nuts'amat Shqwaluwun*" which means "Working together with one heart and one mind". The Cowichan River has a long history of people working together for the health of the river and all life that it supports.

Figure 1: Context Map: Cowichan River



3.0 METHODOLOGY

The main approaches used to gain information about activities and changes on the Cowichan River since designation are:

- Review of the Cowichan River CHRS nomination documents to clarify relevant river values and intergrity guidelines;

- Review of annual reports submitted to the CHRS Board;
- Secondary source research;
- Interviews with key individuals;
- Online survey.

John Scull

4.0 CHRONOLOGY OF EVENTS

Table 1 lists specific events, actions, research and studies that have occurred on the Cowichan River since its designation as a Canadian Heritage River in 2003.

Table 1. Significant Events, Actions, Research or Studies Since 2003

Year	Significant Events, Actions, Research or Studies Since 2003
ongoing	The **Cowichan River Hatchery**, which is a partnership between the Cowichan Tribes and Fisheries and Oceans Canada to enhance the Cowichan and Koksilah River salmon stocks, obtain stock information, increase fish production, provide employment, contribute to the local economy and improve relations between the partners, has been operating continuously since 1978..
yearly	**Fish counting fence** set-up and monitored by Cowichan Tribes and DFO to count the number of salmon returning to the river to spawn.
yearly	**River Clean-Up** – a yearly event formerly lead by the Cowichan Community Land Trust. Now a two day event co-ordinated by the Cowichan Lake and River Stewardship Society in conjunction with Cowichan Tribes and the Cowichan Watershed Board. In the most recent river clean-up in 2012, volunteers (snorkelers, scuba divers, swimmers, boaters, shore walkers, truckers) removed 1.7 tons of refuse from the river including 4,000+ empty bottles and cans.
2003	Cowichan River officially designated as a Canadian Heritage River. Fall of 2003 saw extreme low flows in the Cowichan River, a reflection of a changing and dynamic climate. **Ad Hoc Water Management Committee** (a multi-stakeholder group with representatives from Cowichan Tribes, Catalyst Paper, City of Duncan, Department of Fisheries and Oceans) convened to deal with looming water crisis in the Cowichan River. Rains fell days before storage capacity in Cowichan Lake was exhausted.
2004	**Cowichan Stewardship Roundtable** (CSRT) established as a forum to share information, identify communities of interest, rank projects at a watershed scale, pool resources, attract funders, and enable a new way of conducting stewardship business on the Cowichan River. It is interdisciplinary and ecosystem based, and blends a technical and management working group representing the community of interests that benefit from the CSRT. Membership is inclusive and is open to other organisations, the private sector, and individuals who express interest in the process, can add value and build consensus. This model for community engagement/leadership has been applauded and adopted elsewhere in the Cowichan Valley Regional District (CVRD) and Canada. **Cowichan Estuary Ecological Strategies Literature Review and Workshop** funded by the BC Ministry of Water, Land and Air Protection and co-ordinated by the Cowichan Community Land Trust. The review and workshop focussed on the ecological health of the Cowichan Estuary and assessed priorities for restoration and monitoring programs. Water quality and habitat loss were identified as the primary issues facing the Cowichan Estuary. High resolution orthophotography was flown for the entire Cowichan River corridor in the fall by Cowichan Tribes. Hulq'umi'num Treaty Group published *'A'lhut tut et Sulhween: "Respecting the Ancestors" – Report of the Hul'qumi'num Heritage Law Case Study* (McLay et al. 2004). This report explored Central Coast Salish Hul'qumi'num customary law regarding archaeological sites in their traditional territory, and

Year	Significant Events, Actions, Research or Studies Since 2003
	includes a consideration of threats to archaeological sites and ways to ameliorate them along the river.
2005	• **Cowichan Recovery Plan** completed for the Cowichan Treaty Office. The overall goal of the plan is to outline a strategy for the recovery of those species of cultural and economic importance to Cowichan Tribes and other parties. The plan encompasses the Cowichan River and Koksilah River watersheds, the Cowichan Estuary, and Cowichan Bay. The plan includes discussions of stock status, habitat status, uncertainties in knowledge, recovery goals, recovery actions, and implementation. The implementation of the plan was to be done jointly by Cowichan Tribes, Canada and BC through the new Cowichan Stewardship Roundtable process. • **Light Detection and Ranging (LIDAR)** and orthophoto survey flown for the lower Cowichan River from the White Bridge down to the estuary by Cowichan Tribes. • **Gravel management**. A well designed and carefully managed series of gravel removal measures were undertaken during low water in the summer of 2005 to deal with ongoing sedimentation in the lower system, deepen the channel and improve fish survival in the Lower Cowichan. Measures were arranged through the Cowichan Tribes. • Cowichan Tribes hosted a public event "Journey in Honour of our Salmon". Over one hundred people walked along the river and ceremonies were held on the streambank. • November 5, a plaque commemorating the Cowichan River's designation to the Canadian Heritage Rivers System was installed at the Quwutsun Cultural Centre. • Brian Thom's Doctoral Thesis, *Coast Salish Senses of Place: Dwelling, Meaning, Power, Property and Territory in the Coast Salish World*, examined the connection that Coast Salish people have with the land and how such connections are articulated in discussions of Aboriginal title and land claims. The significance of cultural places along the Cowichan River, and threats to those places, are discussed.
2006	• The BC Government established the **Living Rivers Trust Fund** to create a legacy for the province based on healthy watersheds, sustainable ecosystems and thriving communities. The Cowichan River has been a beneficiary of this fund. As of May 2012 BC Conservation Foundation/Living Rivers had invested $1,156,799 and obtained an additional $2,050,476 from partners in Cowichan Watershed projects, since the program's inception in 2006 – 2007. Virtually all investments have been on priorities identified in the 2005 Cowichan Recovery Plan, with strong support from the Cowichan Stewardship Round Table. • Provincial Riparian Area Regulations enacted by the CVRD and Municipality of North Cowichan. Any development within 30 m of a stream or lake requires an assessment by a Qualified Environmental Professional. The Regulations apply to parts of tributaries to the Cowichan River, as the river has a 30 metre Stream Protection and Enhancement Area from top of bank.
2006	• **Stoltz Bluff Restoration Project**. One of the most remarkable river restoration projects in Canada. The challenges of the project were daunting: divert a one kilometer stretch of the Cowichan River; dry out the channel; move over 40,000 cubic metres of river sediment, keep 30,000 stranded fish alive; , bypass over 3,000 river recreationalists during the summer, and return the river post-project to its original course. This Restoration Project stabilized the Stoltz Bluff over the Cowichan River. This silt bluff was eroding over many years and releasing massive amounts of fine

Year	Significant Events, Actions, Research or Studies Since 2003
	sediment into the river. This erosion resulted in the destruction of critical fish habitat and spawning grounds and adversely affected water quality downstream. The survival rate of Cowichan Chinook Salmon and Steelhead was less than 6% in some years and these species were in danger of not achieving biological replacement. A coalition of local partners used the heritage river designation of the Cowichan to help mobilize community and financial support from a diverse range of stakeholders. The partnership roundtable for this project was facilitated by the Cowichan Stewardship Roundtable and included active participation by Cowichan Tribes, federal and provincial government agencies, industry, NGO and community representatives. • Since this project was completed the ecological integrity of the river has improved, spawning grounds have been restored and recreational use has been enhanced. Not only was this project a remarkable engineering milestone, but it showcases the benefits of a multi-agency community stewardship approach to river conservation.
2007	• Completion of the **Cowichan Basin Water Management Plan** with 89 recommendations related to water supply augmentation, demand management, ecosystem protection, flood control, monitoring/reporting, public education and improved water governance over a 25 year period (to 2031). The plan is a partnership of Cowichan Valley Regional District, BC Ministry of Environment, Fisheries and Oceans Canada, Cowichan Tribes, and Catalyst Paper Corporation. The process began in 2004 and involved a forum with representatives from a diverse cross-section of interested parties. The plan and supporting documents are available at http://www.cvrd.bc.ca/index.aspx?NID=779. • Completion of the **CVRD Regional Parks and Trails Master Plan,** that defines the direction, policies, priorities and actions for the regional parks program 2007-2022. The plan recommended the acquisition of lands on the north side of the Cowichan River for a Cowichan Valley Trail.
2008	• CVRD regional parks referendum – parkland acquisition fund established. • **Cowichan Valley Trail opened,** as part of the TransCanada Trail. The trail provides hiking, biking, horseback riding opportunities and access points to the Cowichan River. • Flood of Record on the Koksilah system. • Completion of 70.2 Mile Trestle and New Five Fingers Side-Channels fish habitat restoration project the culmination of a multi-year initiative aimed at restoring extensive, productive habitat lost due to flood control dike construction in the late 1970's.
2009	• **National River Conservation Award to the Cowichan Stewardship Roundtable for the Stoltz Bluff Restoration Project**: see 2006 above. • Completion of the Cowichan and Koksilah Integrated Flood Management Plan • 1 in 7 year flood event impacts the lower Cowichan system and the City Of Duncan • **Cowichan Lake and River Stewardship** Committee formed to plan actions for the stewardship of the Cowichan Lake and Cowichan River (precursor to the Cowichan Lake and River Stewardship Society of 2011). • **Lower Cowichan /Koksilah River Integrated Flood Management and Mapping Plan**, The CVRD, in partnership with Cowichan Tribes, the City

Year	Significant Events, Actions, Research or Studies Since 2003
	of Duncan and the District of North Cowichan (DNC), retained Northwest Hydraulic Consultants (NHC) to update existing floodplain mapping and to develop an Integrated Flood Management Plan for the Lower Cowichan-Koksilah River floodplain, including major tributaries. The plan is based on ecological principles and suggests a number of phased in works, primarily dyking. Four jurisdictions, each with a different set of dyking standards, worked together on a unified approach. • In the fall, a 1 in 7 year flood on the lower Cowichan River impacted communities and resulted in over $1 million in damages.
Year	**Significant Events, Actions, Research or Studies since 2003**
2010	• The **Cowichan Watershed Board** was formed to oversee and direct the implementation of the Cowichan Basin Water Management Plan. The mandate of the Board is to provide leadership for sustainable water management to protect and enhance environmental quality and the quality of life in the Cowichan watershed and adjoining areas. The Board is unique in that it is a partnership between Cowichan Tribes and local government (the CVRD) in conjunction with the federal and provincial governments. It is co-chaired by an elected member from each of the CVRD and Cowichan Tribes. See http://cowichanwatershedboard.ca/. • The Cowichan Stewardship Roundtable updated its 100 Year Vision for Recovery of the Cowichan River that was originally assembled in 2002. • The BC Provincial River Forecast Center conducted an Inflow Forecast Model for Lake Cowichan to assess potential impacts of climate change on water availability in the area and downstream in the Cowichan River. • **Memorandum of Understanding: Lower Cowichan/Koksilah Rivers Integrated Flood Management** was signed between CVRD, City of Duncan, Cowichan Tribes, District of North Cowichan, creating a collaborative, cross jurisdictional approach to flood management. • Cowichan Tribes hosted a workshop: **The Changing State of the Cowichan Estuary & Importance to First Nations,** to discuss potential research projects on aquatic management in the Cowichan River, including: freshwater habitat utilization in the lower Cowichan by downstream-migrating Chinook juveniles, the difference in salmon health and numbers in channels with and without Yellow Flag Iris, and whether wild and hatchery smolts are living in different habitats and eating different foods, among other issues. • **Cowichan Lake and River Stewardship Society** (formerly the Cowichan Lake and River Stewardship committee) was granted non-profit status -. • TimberWest replaced several old bridges with new, fish and sediment friendly bridges in the upper watershed. • Living Rivers conducted the following projects: - Stoltz Bluff annual maintenance and remediation monitoring; - Cowichan Lake outlet spawning gravel placement; - Cowichan lakeshore erosion study; - Broadway run slope stability study; and - Cowichan Steelhead and resident trout stock monitoring.

Year	Significant Events, Actions, Research or Studies Since 2003
	• Ministry of Highways helped to restore a tributary stream of the Cowichan River that resulted in 5000 m^2 of new wetted fish habitat.
2011	• Cowichan Lake and River Stewardship Society (CLRSS) completed two river bank stabilization projects using willow cutting and native plants to stop erosion and protect property and habitat. CLRSS also undertook a number of education and outreach activities including a riparian education brochure and installation of educational signage on tributary creeks to raise awareness of those habitats. • Seven targets for watershed health were agreed to in principle by the Technical Advisory Committee of the Cowichan Watershed Board and endorsed by the Board. 1. Water quality 2. Estuarine health 3. Salmon sustainability 4. Water conservation 5. Watershed IQ 6. Summer conservation flows 7. Increase riparian protected areas • Lower Cowichan Koksilah Sediment Management Plan funded for $1.3 M with a target to develop a long term plan for ongoing flood reduction and ecosystem health • Initiatives supported by the Cowichan Watershed Board and its partners included: - A Water Conservation Workshop for local water purveyors - Irrigation Water Conservation Workshop for local farmers - Lakeshore Erosion Workshop for Cowichan Lake residents - A groundwater takings and trends survey through the BC Ministry of Forests, Lands and Natural Resources (MFLNRO). - A Water Use and Knowledge Survey (doorstep interviews of 560 homes in the watershed). - Preliminary LiDAR and cadastre mapping related to a long term solution to ensuring adequate summer flows in the river in face of climate change. - Numerous watershed tours to raise awareness of issues related to the watershed and river. • Broadway Run Slope Stability Geotechnical Assessments were completed to assess the probability and likely impact of further slope failures due to bank erosion. This site is the second greatest sediment threat to upper Cowichan fish habitat quality behind Stoltz Bluff (which was remediated in 2006 – 2007).
2012	• **Cowichan Estuary Nature Centre** opened in Cowichan Bay, offering watershed programs to school groups. • Commencement of the **Cowichan Watershed Partnership Project**, a collaborative initiative involving the Cowichan Watershed Board, Cowichan

Year	Significant Events, Actions, Research or Studies Since 2003
	Valley Regional District (CVRD), Cowichan Tribes, BC Ministry of Environment, federal agencies, and a variety of local conservation groups and stakeholders. This two year, $200,000 project is intended to initiate the restoration and protection of water quality in the Cowichan Watershed. Year one will focus on the lower watershed. Sampling and monitoring will be expanded to include the Cowichan Lake area in year two. • Additional initiatives supported by the Cowichan Watershed Board and its partners included: - A second Irrigation Water Conservation Workshop for local farmers; - Pilot project –hands on river field trip experiences for grade 4-5 students; - Phase 2 of the ground water takings and trends study, including relationships with river flows (intended to support an updated water budget model); - Ongoing LiDAR and cadastre mapping related to a long term solution to ensuring adequate summer flows in the river in face of climate change; - Numerous watershed tours to raise awareness of issues related to the watershed and river. - Major sediment wedge removed on the north arm of the Cowichan River. - Formation of One Cowichan a citizen run group with the vision of local control of the Cowichan watershed. - Public meeting hosted by the province to discuss water management. - Integrated Flood Management Strategy: Construction of dyking works in the lower estuary begun to protect communities on both sides of the river. - Genevieve Hill's Doctoral thesis, *A Native Archaeology of the Island Hul'qumi'num:Cowichan Perception and Utilization of Wetlands*, examines the disparity between western and indigenous perception of wetlands and how this impacts the practice of commercial archaeology in BC. Archaeological sites along the Cowichan River and throughout the associated wetlands are discussed, threats identified, and steps to protect sites are outlined. • Cowichan Valley Naturalists and Cowichan Land Trust organized the first **BC Rivers Day** on the Cowichan River. This is planned to be an annual event.
2013	• **Integrated Flood Management Strategy:** Construction of dyking works continues on the lower Cowichan. • **Cowichan Chinook Recovery Workshop** of experts held in early March to identify critical Chinook habitat and threats. Workshop results were reported to the community in April. Lower summer flows during migration, gravel deposition in the lower Cowichan and climate change were identified as major threats to continued health of the Chinook run. • MFLNRO supported additional LiDAR and cadastre mapping of the Cowichan Lake shoreline to support discussions of short term solutions in support of adequate flows in river given climate change impacts, and hosts public forum at Lake Cowichan to solicit comments on proposed measures. Local partners including DFO, CVRD, Catalyst Paper also developed materials for workshop. • Cowichan Lake Shoreline Management Workshop held in Town of Lake Cowichan, April 24-25, 2013. This workshop examined past, current and future threats to the ecological integrity of Cowichan Lake shorelines and riparian habitats and developed a strategic framework for improving shoreline development practices, stewardship and collaborative decision-making to the year 2023.Sediment management continued in selected

Year	Significant Events, Actions, Research or Studies Since 2003
	locations on the river. • Cowichan Watershed Board and Fisheries and Oceans Canada completed a bathymetric assessment of Cowichan Lake as background information related to ensuring adequate flows in the river in the face of climate change. • CVRD expanded Sandy Pools Regional Park on the river by acquiring a 5 acre parcel and obtained grant funding to restore the degraded fishing infrastructure and boat ramp. • Watershed Resiliance workshop presented by Polis Project on Ecological Governance (University of Victoria and the Environmental Sustainability Research Centre (ESRC), Brock University) and hosted by Cowichan Watershed Board. • Summer: o Comprehensive summer/fall water quality survey continued, focusing on upper watershed with spot checks in lower watershed; o Continued Phase 2 of the ground water takings and trends study including relationships with river flows intended to support an updated water budget model continues; o Completion of LiDAR cadaster project; o Water quality workshop for agriculture sector; o Cowichan Watershed Board delegate(s) attended the Canadian Heritage Rivers Conference to share information and experiences on local governance and innovations being made in the Cowichan Valley; o Reinstatement of Heather Mountain Snow Course to support flow management; o Annual river cleanup; and o Watershed tours resumed. • Watershed Balance model develop for areas watersheds to assist public to achieve watershed runoff targets and ensure fish and watershed health • CVRD and partners reopen Central sector liquid waste plan process for update

5.0 NATURAL HERITAGE VALUES

5.1 Background

The Cowichan River was designated a Canadian Heritage River based on these natural heritage values as outlined in the document "Managing the Cowichan River as a Canadian Heritage River" (2003), with additional descriptions taken from the nomination document:

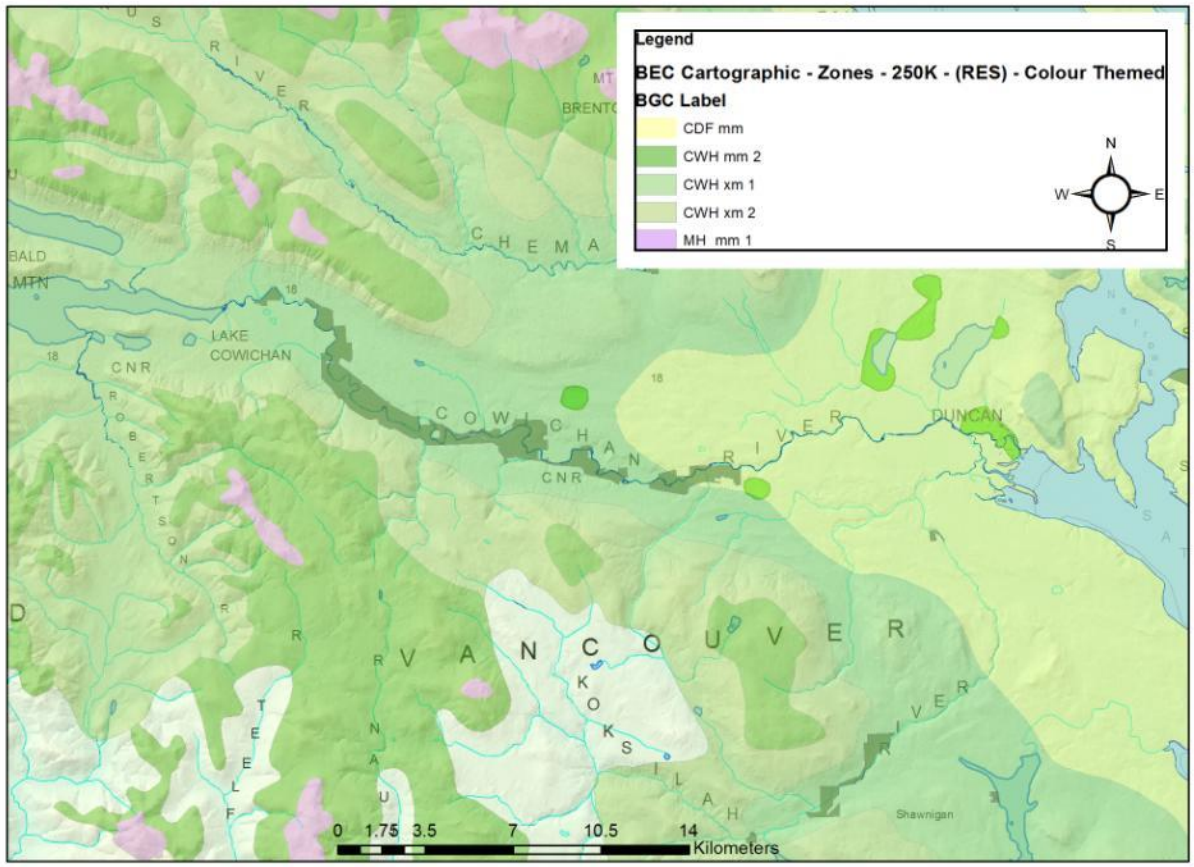
- **Hydrology:** The Cowichan is typical of most Vancouver Island rivers, exhibiting a pattern of peak winter flows during the months of November to February and low summer / early fall flows from July through October.
- **Physiography:** The landscape contains evidence of geologic events including glaciation and past tectonic and orogenic activities.
- **River morphology**: The River's three distinct gradient sections are excellent examples of high energy erosional environments through to low energy depositional landforms in the lower river including estuary evolution and the river's intertidal zone.
- **Biotic environments:** Aquatic ecosystems include freshwater, estuary and intertidal zones. Terrestrial ecosystems include representation of Pacific maritime terrestrial ecosystems. The upper reaches of the Cowichan River pass through excellent examples of the Coastal Western Hemlock biogeoclimatic zone that occurs widely throughout Vancouver Island. The lower reaches have excellent examples of the Coastal Douglas-fir biogeoclimatic zone, which is exclusive to the southeastern coast of Vancouver Island and the Sunshine Coast, and is among the rarest and most fragmented biogeoclimatic zones in the province. **Fauna:** The Cowichan River system is considered one of the most valuable and productive salmon and trout streams on Vancouver Island, supporting a broad community of species including coho, Chinook and chum salmon, steelhead, rainbow and brown trout, resident and anadromous cutthroat trout and Dolly Varden char. The ecosystems of the area provide habitat for species which represent an array of wildlife typical of Vancouver Island. The estuary and lowland tributaries to the Cowichan River are on the Pacific flyway and provide important winter habitat for thousands of migratory birds and waterfowl.

Though not noted at the time of designation, the Cowichan River also provides an excellent example of the Pacific salmon forest, illustrating the close ecological interrelationship of salmon, bears and coastal rain forests.

A new national framework for natural heritage values has been developed since the Cowichan River was nominated in 1998. The values for which the Cowichan River was nominated are summarized in the following table according to the new framework: "A Framework for the Natural Values of Canadian Heritage Rivers, 2nd Edition. 2001".

The table follows the format outlined in Schedule 7, Table 2 of Canadian Heritage Rivers System Principles, Procedures and Operational Guidelines DRAFT 2012.

Figure 2: Biogeoclimatic (BEC) Zones in the Cowichan River Valley



CDF mm = Coastal Douglas Fir moist maritime

CWH mm2 = Coastal Western Hemlock montane moist maritime

CWH xm1 = Coastal Western Hemlock eastern very dry maritime

CWH xm2 = Coastal Western Hemlock western very dry maritime

MH mm1 = Mountain Hemlock windward moist maritime

NATURAL VALUES

HRS Natural Framework (2001) Themes & Sub-Themes	Natural Heritage Values	Significant Actions, Research, or Studies	Changes or Threats to Nomination Values
1 HYDROLOGY			
1.1 Drainage Basins	Pacific Ocean Basin; stream number 1 (the Cowichan flows directly in the ocean at Cowichan Bay.	None	None
1.2 Seasonal Variation	Period of highest flow is November to February ~ 90m^3/s; period of lowest flow is July to September ~ 8 m^3/s. Cowichan River late summer low flow is regulated by a weir at Cowichan Lake. Established under a provincial water license for forestry purposes, it is a tool to ensure adequate flows during the dry season for extractions by the Catalyst pulp mill and to enhance riverine fish habitat and survival.	There is a large collaborative effort underway to establish local control of the Cowichan Lake weir operations so it may be used more effectively to maintain minimum summer flows. There is a large collaborative local effort underway to create a common approach to manage increased winter flows and flooding. A memorandum of understanding was signed in 2010 between the four local governments, recognizing their commitments to an ongoing, long-term, Lower Cowichan/Koksilah Rivers Integrated Flood Management Program.	Climate change is altering weather patterns in the valley. Average inflow from April to September has declined.[2] Declines in September are potentially problematic for return migrating Chinook which begin to arrive in late August - early September. Coho and chum generally arrive in October- January and are thus not at risk from reduced river flows. Inflow appears to be increasing in the winter.[3] Projections are that water temperature will increase with climate change and that late summer flow will decline.

[2] KWL, Sutherland, Craig (2012). Cowichan Lake Weir, Provisional Rule Band Operating Rules –Technical Memorandum. Prepared for BC Conservation Foundation.
[3] KWL, Sutherland, Craig (2011). Cowichan Watershed – Climate Change Impact Assessment – Technical Memorandum. Prepared for BC Conservation Foundation.

HRS Natural Framework (2001) Themes & Sub-Themes	Natural Heritage Values	Significant Actions, Research, or Studies	Changes or Threats to Nomination Values
1.3 Water Content	Physical Property: Insignificant sediment load (0-50mg/l). Chemical Property: Low (0 – 50 mg/l) total dissolved solids.	2006 Stoltz Bluff remediation significantly reduced the river's annual total sediment load Water Quality Objectives were first established in 1989 for the Cowichan River. Attainment monitoring has been done in 2002, 2003, and 2008, and again in 2012. An updated objectives and attainment report was produced by the BC Ministry of Environment (MoE) in 2011 that looked at the 2002, 2003 and 2008 data. Cowichan Lake Water Quality Objectives were published by MoE in 2011. As part of a large scale watershed comprehensive area based monitoring program, sampling was conducted in the Cowichan River in 2012. A report is in progress and preliminary results show the Cowichan River still meets water quality objectives for turbidity and TSS as well as for fecal coliforms and E coli for recreational water uses. The comprehensive survey will include Cowichan Lake and its tributaries in 2013.	Broadway Run is a potentially serious sediment source. A geotechnical/ engineering study for remediation is underway.
1.4 River Size	Mean annual discharge 55 m^3/s[4] - small river of < 85 m3/sec. Length 47 km	None	None. See note above under 1.2 seasonal variation.
2 PHYSIOGRAPHY			

[4] http://www.bccf.com/steelhead/focus8.htm

HRS Natural Framework (2001) Themes & Sub-Themes	Natural Heritage Values	Significant Actions, Research, or Studies	Changes or Threats to Nomination Values
2.1 Physiographic Regions	West Coast Ranges.[5]	None	None
2.2 Geological Processes	Bedrock formation: sedimentation Surficial Material Formation: Glacial Transport and Inundation	None	None
2.3 Hydrogeology	Pervious bedrock, with surficial unconsolidated materials of medium porosity	The highly productive sand and gravel aquifers are used extensively for municipal, industrial (primarily fish hatcheries) and agricultural purposes. "Water Issues" report in 2005 noted twenty mapped aquifers within the Cowichan basin. The BC Provincial government has been monitoring groundwater in the lower Cowichan River aquifers since the mid 70's. DRASTIC mapping and analysis of area completed in partnership with CVRD, VIU and MOE. This study identifies areas of high groundwater vulnerability based on depth to groundwater, geology, land use and other variables. In addition model protective bylaws were developed. Agricultural Land use mapping and water demand model completed for region in partnership with the CVRD, Ministry of Agriculture, Partnership for	None

[5] CHRS (2001) Framework for the Natural Values of Canadian Heritage Rivers. P. 23

HRS Natural Framework (2001) Themes & Sub-Themes	Natural Heritage Values	Significant Actions, Research, or Studies	Changes or Threats to Nomination Values
		Water Sustainability and Pacific Climate Impacts Consortium. The program identified agricultural land use and water demands on both surface and groundwater resources spatially throughout the region as well as incorporating climatic projections. A study soon to be released by BC MFLNRO examined groundwater samples taken at a number of high capacity wells from 2002 – 2007 and 2011. The report concluded that groundwater quality of these aquifers is excellent when compared to the Guidelines for Canadian Drinking Water Quality. Through support from the CVRD, Cowichan Watershed Board, BC MFLNRO and MoE, in partnership with Simon Fraser University, began an interdisciplinary study in 2011 to develop a water budget and look at cumulative impacts of groundwater extraction and their potential impact on habitats in the river.	
2.4 Topography	Shallow gradient <1km/km. The upper river is characterized by a relatively low gradient of approximately 1:500. The central portion of the river, between Skutz Falls and Holt Creek, reaches a gradient of approximately 1:200. The river flattens out below Holt Creek, especially beyond Somenos Creek confluence, which marks the approximate end of	A topographic survey of the lower Cowichan River was done in 2005 using LiDAR technology and aerial photography. The LiDAR surveys supported the Lower Cowichan / Koksilah River Integrated Flood Management Plan in 2009. Based on LiDAR (2012) flown for the CVRD coastal area (approximately 1km coastal zone) a sea level rise impact analysis was recently completed. The 10cm + accuracy mapping was used to apply the provincial sea level rise mapping methodology to the coastal area. The analysis identified coastal	While natural, the historic channel realignment and development on the natural floodplain has resulted in ongoing sediment deposition in the mainstem of the Cowichan River from below the Allenby Road Bridge to the estuary. Current work by local partners to develop a long term sediment management strategy and strategic removal of sediment is intended to restore natural river function.

HRS Natural Framework (2001) Themes & Sub-Themes	Natural Heritage Values	Significant Actions, Research, or Studies	Changes or Threats to Nomination Values
	upstream tidal influence. Height above sea level is 0-400 m.	zones impacted as well as the relative changes to water depth. In addition, the analysis undertook a preliminary review of infrastructure and key features which will be impacted within the zone. Further analysis of drift cell morphology and impacts to estuarine and critical ecological health are anticipated in the years to come, based on available financial resources and partnerships.	
3. RIVER MORPHOLOGY			
3.1 Valley Types	Concave-walled, narrow floodplain.	None	None
3.2 Channel Types	Meandering with Estuarine in the lower river.	None	None
3.3 Channel Profile	Swift Water – regular shallow gradient with notable surges.	None	None
3.4 Fluvial Landforms	Depositional landforms: deltas (lower river), braiding and oxbows; Erosional Landforms: undercuts.	2006 Remediation of Stoltz Bluff (see Chronology of Events table). Diking upgrades in the lower Cowichan River in 2013	None
HRS Natural Framework (2001) Themes & Sub-Themes	**Natural Heritage Values**	**Significant Actions, Research, or Studies**	**Changes or Threats to Nomination Values**
4. BIOTIC ENVIRONMENTS			
4.1 Aquatic Ecosystems	Riverine systems: Contains elements of middle-order zone (region of sediment transport, variable discharge)	Cowichan Community Land Trust held numerous Streamkeepers workshops. Cowichan Land Trust conducted Eel Grass	Improved awareness and stewardship of aquatic ecosystems, both riverine and estuarine. Introduction of aquatic invasive species, e.g.,

HRS Natural Framework (2001) Themes & Sub-Themes	Natural Heritage Values	Significant Actions, Research, or Studies	Changes or Threats to Nomination Values
	and lowland zone (region of sediment deposition; fine sediment substrate; stable discharges; and high species diversity). Estuarine systems: Subtidal zone (substrate is continually submerged). Importation of hundreds of tonnes of marine nutrients annually to terrestrial ecosystem via return migrating chum, Chinook, steelhead and coho salmon.	restoration projects in the estuary. 2012 opening of the Cowichan Estuary Nature Centre, which is now hosting programs for school groups on river and estuarine ecosystems. 2005: Cowichan River riparian mapping was completed by Madrone Environmental Services Ltd as part of the Cowichan River Recovery Strategy. The mapping provided a GIS map inventory of riparian areas, condition and restoration potential and priority within the Cowichan river Watershed.	pumpkinseed (*Lepomis gibbosus*) the American bullfrog (*Rana catesbeiana*) the mat forming diatom (*Didymosphenia geminata*) Yellow flag iris (*Iris pseudoacorus*) and knotweed (*Polygonum spp.*) The influence of introduced brown trout (*Salmo trutta*) as a predator on native salmon fry is unknown. The effect of the recent introduction of pink salmon (*Oncoryhnchus gorbuscha*) to the system also remains to be studied.
4.2 Terrestrial Ecosystems	Ecozone: Pacific Maritime. Ecoregion: Eastern Vancouver Island.	None	None
5. VEGETATION			
5.1 Significant Plant Communities	There are small pockets of the red-listed Garry Oak Ecosystem (GOEs) within the Cowichan River Provincial Park.	The Garry Oak Ecosystem Recovery Team (GOERT) has developed a Species at Risk Manual and an Invasive Species Manual for GOEs. (www.goert.ca). 2009 Cowichan Tribes/BC Parks joint invasive species removal project targeting knotweed, yellow flag iris, broom. 2012 CVRD Draft Invasive Species Strategy was completed.	Invasive species are increasing. Climate change.

HRS Natural Framework (2001) Themes & Sub-Themes	Natural Heritage Values	Significant Actions, Research, or Studies	Changes or Threats to Nomination Values
5.2 Rare Plant Species	At point of nomination, a detailed survey of rare vegetation had not been carried out along the Cowichan River. The 2003 management strategy for the Cowichan River noted the presence of rare plants including cup clover (*Trifolium cyathiferum*), blue-eyed mary (*Collinsia graniflora*) and the white fawn lily (*Erythronium oregonum*)	None	None
6. FAUNA			
6.1 Significant Animal Populations	Fish: Diversity: The Cowichan River supports 3 species of salmon, and 4 species of trout, including steelhead and anadromous cutthroat trout..	2005 Cowichan Recovery Plan mainly focused on salmon, which are culturally and spiritually important to the Cowichan people, but also addresses resources and habitat issues. The plan includes discussions of stock status, habitat status, etc. 2010 CVRD State of the Environment report completed.	There is general agreement within the Cowichan Stewardship Roundtable (which deals with local fisheries issues) that the highest risks to fish in the freshwater ecosystem stem from low water flow, high water temperature, and sediment loads from bank erosion. Additionally, the loss of rearing area in the lower river is significant.[6] Enumeration of Coho in the Cowichan by Fisheries and Oceans Canada staff has abated in

[6] 2010 CVRD State of the Environment Report

HRS Natural Framework (2001) Themes & Sub-Themes	Natural Heritage Values	Significant Actions, Research, or Studies	Changes or Threats to Nomination Values
			recent years. Tributaries and side channels of the Cowichan mainstem are important nursery and rearing habitat for steelhead, cutthroat and brown trout, and Coho salmon. There have been significant changes in river characteristics, (e.g., loss of side channel and wetland habitat), which was previously important for the rearing of Coho and Chinook salmon juveniles, particularly those spending more than one year in freshwater before migrating to sea. Recent diking and removal of large woody debris has further altered the river's habitat diversity. Invasive species (see 4.1 above)
	Birds: Population size and diversity: over 200 species of birds are found in the Cowichan River valley.	The estuary lies within the Pacific Flyway and is a designated Important Bird Area. Annual winter bird counts continue.	None
6.2 Rare Animal Species	At point of nomination, a detailed survey of rare animals had not been carried out.	None	None

5.2 Condition of Natural Values since Designation

Like rivers around the world, the Cowichan is experiencing pressures from population growth, changing land use and changes brought about by a changing climate. To plan for and manage the potential impacts of these pressures requires the co-operation of many different organizations. There are a number of stewardship groups working for the health of the river and consequently maintaining the condition of the natural heritage values of the river:

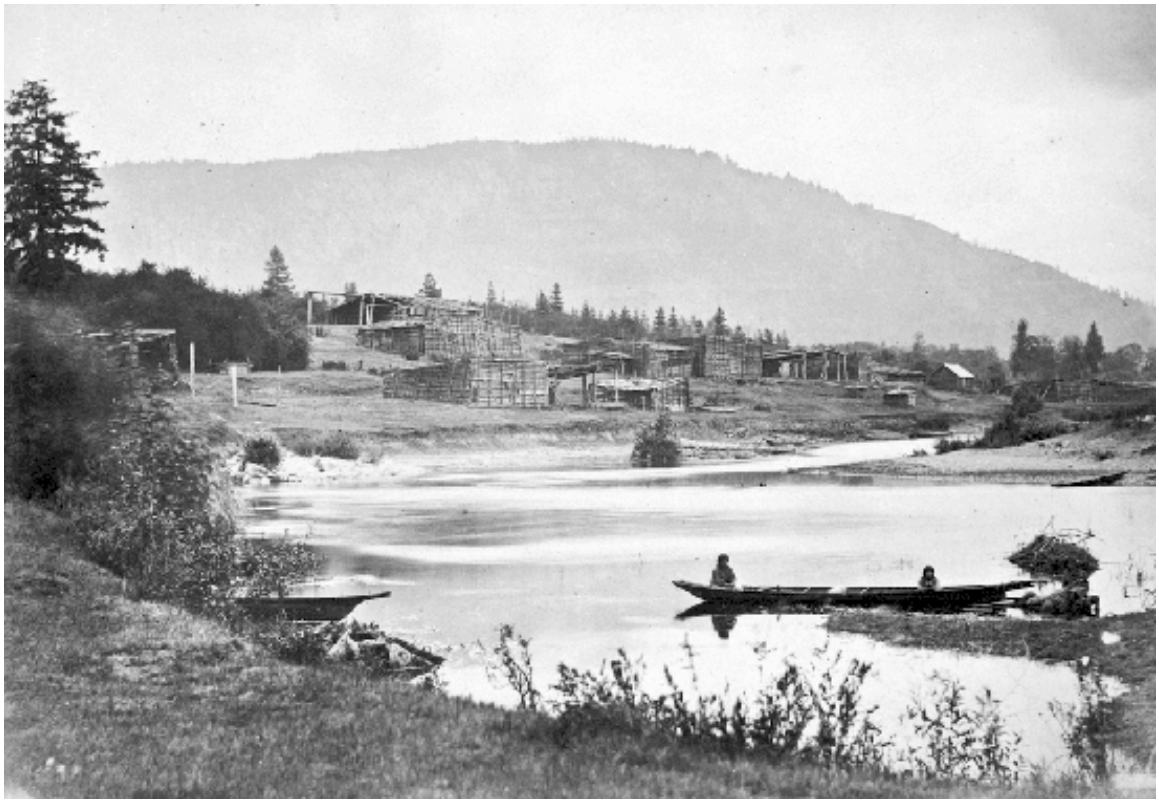
The Cowichan River Stewardship Roundtable arose out of a drought on the river in 2003 as a forum to share information, identify communities of interest, rank projects at a watershed scale, pool resources, attract funders, and enable a new way of conducting stewardship business. It is interdisciplinary and ecosystem based, and blends a technical and management working group representing the community of interests that benefit from the CSRT. Membership is inclusive and is open to other organisations, private sector, and individuals who express interest in the process, can add value and build consensus.

The Cowichan Watershed Board came about as a recommendation of the Cowichan Basin Water Management Plan that was completed in 2007. The Board's mandate is to provide leadership for sustainable water management to protect and enhance environmental quality and the quality of life in the Cowichan watershed and adjoining areas.

Other stewardship groups include: Somenos Marsh Wildlife society, Quamichan Watershed Stewardship Society, Cowichan Land Trust, Cowichan Valley Naturalists and the Cowichan Lake and River Stewardship Society

The river passes through several jurisdictions including: Cowichan Tribes, Cowichan Valley Regional District, Town of Lake Cowichan, District of North Cowichan and City of Duncan. Responsibilities for managing natural values also fall to federal and provincial government agencies. There is an increasing trend of collaboration in the valley among these agencies and the many non-government organizations, such as the The Cowichan River Stewardship Roundtable, The Cowichan Watershed Board and other stewardship groups, to undertake joint projects, from water management planning (Cowichan Basin Water Management Plan 2007), to water quality monitoring, to major restoration projects like the Stoltz Bluff Restoration Project that received the National River Conservation Award of Merit in 2009. Since this project was completed the ecological integrity of the river has been improved, spawning grounds restored and recreational use enhanced.

Due to people and organizations in the valley working together in an inclusive and collaborative way the natural heritage values for which the Cowichan River was designated a Canadian Heritage River have been maintained.



Quamichan Village (Courtesy of Royal BC Museum BC Archives, Image D-00692, Frederick Dally, 1866-1870)

6.0 CULTURAL HERITAGE

"Every bend has a name, every hill a story, every dark pool a tradition…" p. 3 of Robert Brown.

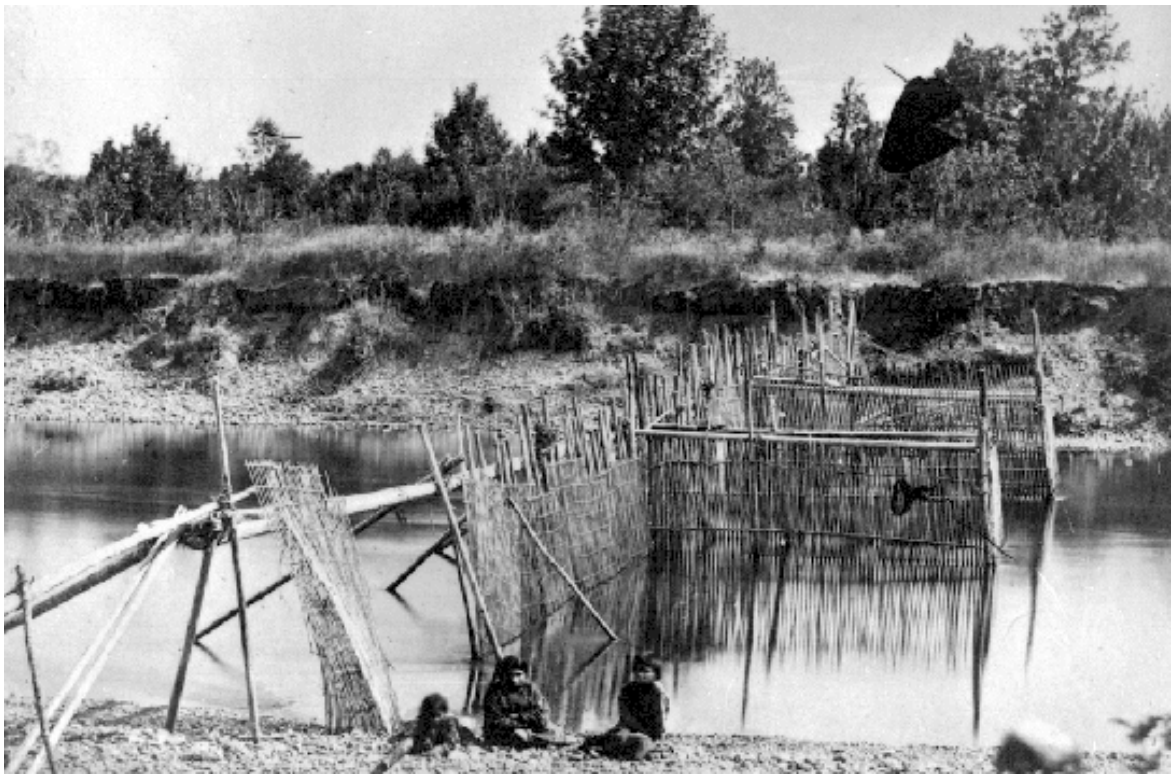
6.1 Background

The Cowichan River was designated a Canadian Heritage River based on the following cultural heritage values outlined in the document "Managing the Cowichan River as a Canadian Heritage River" (2003), supplemented with descriptions from the original nomination document:

- Resource Harvesting: The Cowichan River is first and foremost the traditional territory of the Cowichan First Nation. They have lived on its banks, plied its waters, used and cared for its resources for thousands of years. This reciprocal relationship between Cowichan people and their River is an enduring one. The Cowichan people are recognized as having relied heavily on the salmonid populations that exist in the river, as well as a variety of other fish species, plants, and animals associated with the river and near shore marine environment. They are notable for having traditional weir sites along the river (Rozen 1977, 1978; Marshall 1999; HTG 2005) Once Europeans moved to the area, the Cowichan River became internationally renowned for sport

fishing and canoeing. Cowichan Tribes still uses the river as a food fishery, and the sport fishery remains very active. Catalyst's paper mill in Crofton is also licensed to draw water from the Cowichan River, and maintains the weir at the head of the river.

- Water Transport: The Cowichan River has long been used as a transportation route, first by the Cowichan people, and subsequently by early non-native inhabitants. It was also used by industry to move timber harvested inland down to Cowichan Bay where it could be shipped out. The running of logs negatively impacted the river and estuary, as soil erosion increased and people with land in the estuary complained that parts of their fields were being destroyed by logs rushing past, and by the clearing of log jams by explosives.
- Riparian Settlement: Cowichan First Nations have been active along the river since time immemorial. Resource gathering, spiritual activities, and the development of Cowichan culture all occurred along the river. Large permanent villages were located along the lower river and have been continuously inhabited to the present. Named places of cultural significance are found along the entire course of the river, and speak to a deep and abiding relationship with this feature of the landscape. Many early farms were established along the lower river and throughout the estuary to make use of the rich soils and water supply. Several road and railway bridges have been constructed across the river, and pathways have been developed along the river, all facilitating access throughout the valley and to the river itself.



Weir on the Cowichan River (Courtesy of Royal BC Museum BC Archives Archives, Image G-06604, ca. 1900)

CULTURAL VALUES FRAMEWORK

CHRS Cultural Framework (2000)	Cultural Heritage Values	Significant Actions, Research, or Studies	Changes or Threats to Nomination Values
1. RESOURCE HARVESTING			
1.1 Fishing	As noted in the nomination document the salmon resources of the Cowichan River and its tributaries were, and continue to be, of central importance the Cowichan First Nation, one of the major first nations on Canada's west coast. Recreational fisheries continue to be a major local pursuit and attract thousands of visitors to the river every year.	Stoltz Bluff remediation was done to improve spawning habitat downstream. Some modifications have been done in hatchery management of Chinook salmon. Pink salmon were introduced to provide other angling opportunities, though this may result in undesired feedbacks. Effectiveness monitoring was conducted by LGL Ltd and BCCF in 2010 and 20111. Both reports are available from BCCF and the Pacific Salmon Commission (joint funders) The Quwutsun Cultural and Conference Centre is open to visitors each summer and has examples of the traditional fishing tools on display.	Pacific Salmon harvest rates have varied from year to year and across different fish species. However, total run size, catch and harvest rates have usually been lower for South Georgia Strait, coho and Chinook in the last 10 years than historic norms. Declines of Coho and Chinook salmon in the Cowichan since 1990 have been among the most dramatic in the South Georgia Strait area.
	The diverse resources and the accessibility of the Cowichan river have resulted in continued use by the Cowichan First Nation, as well as a high quality recreational fishery and commercial enterprises.	None	None
1.2 Shoreline Resource Harvesting	Not described as a value at point of designation. Cowichan First Nation collected a variety of plants along the river, including cedar for structures such as houses and canoes, and as a raw material for tools, containers, clothing etc., as well as a variety of plants, such as black cottonwood, horsetail, western red cedar, western yew, skunk cabbage, tule, reed, cattail,	None	None

CHRS Cultural Framework (2000)	Cultural Heritage Values	Significant Actions, Research, or Studies	Changes or Threats to Nomination Values
	broad leafed maple, devil`s club, red alder, black twinberry, red and blue elderberry, wild crabapple, nootka rose, salmonberry, willow, stinging nettle, cinquefoil, and all wetland plants including moss, wapato, and Labrador tea. Many of these plants are still harvested.		
1.2.1 Trapping of fur bearing animals	Not described as a value at point of designation.	None	None
1.2.2 Collection of aquatic plants	Not described as a value at point of designation. Various studies were undertaken prior to designation, including Hodding & Marshall 1997; Turner & Bell 1971 a,b, and work by the Hul'q'umi'num Treaty group, all indicating that a wide variety of aquatic plants were collected and used by Cowichan people, now and throughout their long history.	None	None
1.2.3 Hunting of birds and land animals	Briefly discussed at point of nomination, stating that the Cowichan First Nation hunted for deer and elk along the river. Cowichan First Nations have, and continue to hunt for birds and land mammals that come to the river and estuary. These include many varieties of waterfowl, fur bearing creatures such as mink and beaver, and large animals such as deer and elk. Non-natives have also hunted these animals since they arrived in the area.	None	None
1.2.3 Mines and quarries	Not described as a value at point of designation.	None	None

CHRS Cultural Framework (2000)	Cultural Heritage Values	Significant Actions, Research, or Studies	Changes or Threats to Nomination Values
1.3 Extraction of Water	Not described as a value at point of designation.	None	None
2. WATER TRANSPORT			
2.1 Commercial Transportation	The Cowichan River is an ancient link between Cowichan Lake and the coast, and has been used by Cowichan First Nations and their ancestors since time immemorial. It has also been used by non-Natives as a travel route.	None	None
	The Cowichan River was historically used for log running, ending in 1908 due to log loss, erosion, financial cost, and the damage done when log jams were removed with dynamite.	None	None
2.2 Transportation Services	Log handling facilities were constructed on Cowichan Lake and in the estuary at Cowichan Bay.	None	None – the log handling terminal in the Cowichan estuary is still in use, though now it is serviced by roads.
2.3 Exploration & Surveying	Not described as a value at point of designation.	Robert Brown wrote about his exploration of the river. His book "Vancouver Island. Exploration. 1864" is now available on-line through Google.[7]	None
3. RIPARIAN SETTLEMENT			
3.1 Siting of Dwellings	"In the 1800s, the Cowichan Bay area was the central location for the largest Indian tribe on the west coast of British North America." (ELUC. 1980)	None	None
	The Cowichan River and estuary is the location of numerous former and current Cowichan First Nations village sites. Indian Reserves, based on pre-existing land use, are present along much of the river, especially along the lower stretches.	Various studies have been done on First Nations' use and occupation of the river valley (Thom 2005; Marshall 1999; Hill 2012; Rozen 1977, 1978, 1985) some of which have been made public. Several archaeological excavations have also taken place along the river.	Changes to the river such as straightening, dredging, diking, farming, and development have all had impacts on cultural heritage sites both prior to and after designation as a heritage river.
	Numerous dairy farms were established along the lower Cowichan river, making use of the rich	None	Run off from dairy and other farms has increased algal growth in lakes and streams

[7] Robert Brown (1864). Vancouver Island. Exploration. books.google.ca/books?id=SNwOAAAAYAAJ&printsec=frontcover&source=gbs_ge_summary_r&cad=0#v=onepage&q&f=false

	soils of the estuary.		that feed into the Cowichan River mainstem,
CHRS Cultural Framework (2000)	**Cultural Heritage Values**	**Significant Actions, Research, or Studies**	**Changes or Threats to Nomination Values**
3.2 River-based Communities	Not specifically described as a value at point of designation. Numerous Cowichan villages of various size are located along the river, including T'eet'qe, Xinumsum, Lhumlhumuluts', Qw'umiyequn', Kwamutsun, and S'amuna (S'amunu), Quwe'mun. Some of these villages are still home to large numbers of Cowichan First Nation members.	None	Sediment accumulation, sediment removal, and erosion have historically impacted village sites along the lower river, and continue to do so.
3.3 River Influenced Transportation	Not specifically described as a value at point of designation.	None	None
4. CULTURE & RECREATION			
4.1 Spiritual Association	Cowichan spiritual activities incorporated elements of the river and landscape.	Brian Thom's Doctoral thesis (2005) discusses senses of place and uses Cowichan as a case study. Numerous places of various use were discussed in this document. Threats to such sites were addressed in Genevieve Hill's Doctoral thesis (2012).	Numerous sites of spiritual significance to the Cowichan First nation exist along the Cowichan River. While they may not be easily recognizable to those who have not been educated about their significance, they do exist and must be protected. Erosion and erosion protection measures such as diking and bank armouring, had a negative impact on some such sites, but studies to monitor these impacts have not been undertaken.
4.2 Cultural Expression	The Quw'utsun' Cultural and Conference Centre was built on the banks of the Cowichan River at Duncan in order to showcase cultural heritage, tradition, and economic development of the Cowichan People.	None	None
4.3 Early Recreation	At point of nomination, no early recreational activities were listed as a cultural heritage value.	None	None – picnicking and pleasure boating still occur on the Cowichan River.
5. JURISDICTIONAL USES			
5.1 Conflict &	At point of nomination, no military conflicts	None	None

Military Associations	were identified.		
5.2 Boundaries	Not specifically described as a value at point of designation.	None	None
5.3 Environmental Regulation	Not specifically described as a value at point of designation.	Provincial Riparian Areas Regulation came into effect in 2006.	None

6.2 Condition of Cultural Values since Designation

As with the Natural Values, the cultural values for which the Cowichan River was nominated are under pressure from changes to the river, and from development along its course. Archaeological and other cultural sites are being negatively impacted by increased sedimentation and remediation measures. Historic modifications to the river (i.e., straightening and diking) have altered sedimentation and flow rates which, in turn, have necessitated remediation measures (i.e., dredging and gravel extraction from the lower river) which have negatively impacted village sites, burials, archaeological and cultural sites. Residential and commercial development along the Cowichan River has had negative impacts on both archaeological sites and access to traditional use sites, such as ritual bathing locations.

Historical heritage values, such as the use of the river as a transportation route for logs and for early European residents, fell out of use well before designation. However, the nature of these activities, such as boating and fishing, has continued in a recreational form. Transportation has been replaced with pleasure boating and tubing, and hunting has been replaced with sport fishing and park use.

While there have been negative impacts to heritage sites along the river, there have also been an increase in the amount of attention given to cultural heritage preservation. The Quw'utsun Cultural and Conference Centre continues to showcase traditions, art, and history for the public. Several large scale studies in to Cowichan culture history have been undertaken (Rozen 1977, 1978, 1985; Hodding & Marshal 1997; Marshall 1999; McLay et al. 2004; HTG 2005; Thom 2005; Hill 2012), some of which are publically available. Furthermore, a great deal of research has been undertaken by the Hul'q'umi'num Treaty Group in order to provide evidentiary support for their treaty claims. This venue is inadequate to discuss the depth and breadth of Cowichan heritage values, but it must be acknowledged that Cowichan culture history is long standing and ongoing, and that the Cowichan River plays a vital role in the lives of the Cowichan First Nation.

Much research into traditional ecological knowledge and cultural heritage has been done in the Cowichan Valley, since designation in 2003 and before. Some of this material is not publically accessible as it is currently being used in the land claims process by the Hul'q'umi'num Treaty group. Numerous archaeological sites, countless toponyms, and oral tradition indicate that settlement and activity along the river is of great antiquity. Recent research focused on the river and wetlands of the Cowichan Valley indicates that many more sites of cultural significance exist than have been identified by archaeologists to date (Hill 2012).

The natural values and cultural values of the Cowichan River are inextricably linked. While the logging industry no longer makes use of the river for transportation, and while boat travel has diminished in favour of road travel, these aspects are maintained in the public memory through various museums (Quw'utsun' Cultural Centre, Cowichan Valley Museum, BC Forest Discovery Centre, Royal BC Museum etc.). Many of the reasons that early non-native inhabitants made use of the river are the same reasons that residents

and visitors now recreate along this corridor. Overall, the Cowichan River continues to exhibit the cultural values for which it was nominated to the CHRS.

BC Parks

7.0 RECREATIONAL VALUES

7.1 Background

The Cowichan River was designated a Canadian Heritage River based on the following recreational values as outlined in the nomination document:

- Hiking, walking, nature appreciation: long before there were official trails along the Cowichan, people were walking along it, exploring different areas of the river. In the early 1960s, the Cowichan Fish and Game Association constructed a footpath from Cowichan Lake to the property owned by the club, known as the Cowichan Valley Footpath. Since then the trails have been extended and the Cowichan Valley Trail now runs along the length of the river from the lake to Glenora Trailhead Park. Walking and hiking were noted as the most frequent and consistent activities along the Cowichan River.
- Sport Fishing: the Cowichan River was historically very popular with sport fishermen the world over, and remains very popular today. Salmon and trout populations attract sport fishermen of all sorts, for both daily and extended fishing trips.
- Kayaking and Canoeing: Originally a form of transportation, canoeing became popular among early non-native inhabitants and visitors to the Cowichan River. This activity remains a popular activity from October to June when water levels allow.
- Swimming and tubing: the Cowichan River has always a popular destination for swimmers, but in recent years the number of tubers has increased dramatically. Due to the warm water, interesting scenery, and multiple access points tubers frequent the Cowichan when water levels allow.
- Camping and Picnicking: much of the upper Cowichan River runs through or along park land which is used for picnicking and camping. BC Parks, CVRD and the District of North Cowichan have developed day use sites providing excellent access to the river. Cowichan River Provincial Park, which covers 1,414 hectares along the upper river, provides 43 camping spaces and access to the river and its trails.

RECREATION VALUES

CHRS Recreational Capability – Themes & Sub-Themes	Description of Current Situation	Significant Actions, Research or Studies	Changes or Threats to Nomination Value
1. BOATING			
1.1 White-water Canoe, Kayak & Raft	The Cowichan is regarded as one of the premier whitewater rivers on Vancouver Island and is heavily used for both kayaking and canoeing, especially from October to June when water levels are adequate.	Slalom kayak race hosted each April for the last 11 years as part of Canoe Kayak BC. April 2013 - Vancouver Island Whitewater Paddling Society held the Cowichan "Youth Kayak Festival". The University of Victoria Kayak Club makes regular runs of the river through the winter months.	None
1.2 Extended Canoe Tripping	Not described as a value at point of designation.	None	None
1.3 Day Paddling & Rowing	Day paddling opportunities exist. New forms of boating are making their way onto the river, such as pontoon boaters, drift boaters and water masters (a type of bottomless, inflatable dinghy used for fishing).	None	Low water levels at certain points of the year have had an impact on the frequency with which people kayak and canoe.
1.4 High Speed Boating	Not described as a value at point of designation.	None	None
1.5 Motorized Pleasure Cruising/Houseboats	Not described as a value at point of designation.	None	None
1.6 Commercial Tour Boats	Not described as a value at point of designation.	None	None
1.7 Sailing	Not described as a value at point of designation.	None	None

CHRS Recreational Capability – Themes & Sub-Themes	Description of Current Situation	Significant Actions, Research or Studies	Changes or Threats to Nomination Value
2. ANGLING			
2.1 Day Angling	The river is widely considered one of the finest trout fishing streams in British Columbia. Brown trout were introduced to North America from Europe in the 1930s for recreational fishing. They have since established a resilient and self-sustaining population in the upper river. The Cowichan River is one of only a few rivers supporting brown trout in BC. The Cowichan is an extremely popular venue for day angling, especially during the winter months (steelhead), early spring (trout) and fall (salmon). The river has numerous access points for bank fishermen, and also has boat launch and boat take-out facilities for drift boats and pontoon boats.	In 2002/2003, the Vancouver Island Winter Steelhead Creel Survey was undertaken. Anglers from the island were interviewed to assess steelhead catch rates and rates of compliance with fishing regulations. While other areas of the Island showed poor steelhead returns, the Cowichan River maintained relatively high angler activity and catch rates.	Concern over diminishing Chinook stocks has resulted in the closure of the Cowichan River to fishing during extreme low water levels when Chinook return to the river to spawn (mid-August to November),. In some instances, sections of the river have remained open to fly fishing only. Social media, Youtube and blogs are changing fishing. Favourable fishing reports on a well-followed blog can lead to more people fishing on the river the next day. [8] Some of the active anglers note that tubing has had a negative impact on some fishing spots, due to the dumping of garbage and rowdy behaviour, however no studies have been conducted to ascertain whether the activities of the tubers are having a direct impact on the fish or only on the enjoyment of the anglers.
2.2 Weekend Angling	Weekend angling is popular. Guide outfitters and lodges offer overnight stays. Anglers also make use of local accommodation in Duncan and Lake Cowichan (e.g. motels, hotels, bed and breakfasts). Provincial campsites located close to the river (e.g. Stoltz Pool) are used regularly by anglers, even in the winter months (for the steelhead fishery).	None	As above for day angling.
2.3 Extended Angling	None.	None	None

[8] http://www.fishingvancouverisland.org/forum/cowichan-river-reports-t979-60.html

CHRS Recreational Capability – Themes & Sub-Themes	Description of Current Situation	Significant Actions, Research or Studies	Changes or Threats to Nomination Value
Vacation			
2.4 Fly Fishing	Though it was not specifically mentioned at point of designation, this value can be included under the "fishing" value, Fly fishing is a very popular activity on the Cowichan River	Fly fishing is often used as a management tool on the Cowichan to allow angling opportunities when other gear-types are closed. There is a "Fly Fishing only" stretch of the river between Stanley Creek (in the village of Lake Cowichan) down to the 70.2 Mile Trestle Bridge	None
2.5 Ice Fishing	N/A	N/A	N/A
2.6 Specific Fish Species	See 1.1		
3. WATER CONTACT/CONTENT			
3.1 Swimming and tubing	Swimming and tubing are very popular in the summer months due to the Cowichan's warm water, interesting and enjoyable environments, and easy access. It is also when water levels are lower.	The Tube Shack opened offering tube rental with complimentary shuttle.	Tubing has become extremely popular along the Cowichan River. Concomitantly, there have been many calls for stronger policing of the tubers on the river as they have been associated with an increase in garbage and some are known for their rowdy behaviour. Garbage from these activities has become a concern.
CHRS Recreational Capability – Themes & Sub-Themes	**Description of Current Situation**	**Significant Actions, Research or Studies**	**Changes or Threats to Nomination Value**
3.2 Water Skiing	N/A	N/A	N/A
3.3 Snorkel/Scuba	Not described as a value at point of designation. Survey participants noted that they had snorkeled on the Cowichan River, but the number and frequency is fairly low.	None	
4. WATER-ASSOCIATED			
4.1 Trail Use (hiking,	In the early 1960s, the Cowichan Fish	The Trans Canada Trail was completed	None

CHRS Recreational Capability – Themes & Sub-Themes	Description of Current Situation	Significant Actions, Research or Studies	Changes or Threats to Nomination Value
walking, cycling)	and Game Association constructed a footpath from Duncan along the length of the river to Cowichan Lake in response to concern over diminishing public access to the village. The multi-use Trans Canada and Cowichan Valley Trails run in close proximity to the river on both sides.	on both sides of the river in 2011 with the conversion of the rail line on the north side. In a public survey, hiking and walking the trails along the Cowichan River was the highest rated, and most consistent of activities on the River.	
4.2 Camping	Camping and picnicking along the banks of the river is commonly associated with swimming and tubing in the summer and with fishing, canoeing, and kayaking on a year round basis.	None	None
	At point of designation, there were 72 camp sites in Cowichan River Provincial Park. The park was, established in 1995, and included 741 hectares along the river (with plans to purchase a further 531 hectares of private land to enhance protection).	The park has been expanded to 1,414 hectares to enhance protection of recreational values along the river.	The closure of Skutz Falls campground in 2009 reduced the number of campsites available in the park from 72 to 43.
4.3 Hunting	At point of nomination, hunting was mentioned as a recreational value but not discussed in detail. Cowichan River Park is closed to hunting.	None	None
5. WINTER ACTIVITES			
5.1 Snowmobiling/Dog Sledding	Not described as a value at point of designation.	None	N/A
5.2 Cross-country Skiing	Not described as a value at point of designation.	None	N/A
5.3 Skating	Not described as a value at point of designation.	None	N/A

CHRS Recreational Capability – Themes & Sub-Themes	Description of Current Situation	Significant Actions, Research or Studies	Changes or Threats to Nomination Value
6. NATURAL HERITAGE APPRECIATION			
6.1 Wildlife	Wildlife viewing is listed among the popular recreational activities occurring along the river	Construction of the Cowichan Estuary Nature Centre in 2012.	Closing of the Freshwater Eco-Centre education centre in 2004 due to a lack of funding .Some rooms of the Freshwater Eco-Centre building are still in use by local stewardship groups. Increased outreach and interpretation has been undertaken by volunteer stewardship groups..
6.2 Vegetation	Briefly described at point of designation as part of the aesthetic enjoyment of the natural environment present along the river	See Section 5 of the Natural Values table	None
6.3 Vistas/Scenic Quality	Briefly described at point of designation as part of the aesthetic enjoyment of the natural environment present along the river	None	Additions to CVRD park systems at John's Road, Sunrise Road, and Glenora Riverside Park , in 2005-6, provide greater access to the scenic quality of the Cowichan River. Garbage attributed to tubers has been cited as a negative impact to the scenic quality of the river. The annual Cowichan River Clean Up has been organized to begin to respond to this concern.
6.4 Geological Features/Water Features	The diversity of the river channel enables visitors to appreciate a variety of natural features along the length of the river.	See sections 1,2, & 3 of the Natural Values table	None
7. HUMAN HERITAGE APPRECIATION			
7.1 Historic Sites	Not described as a value at point of designation.	None	None
7.2 Cultural Landscapes	Not described as a value at point of designation.	None	None

CHRS Recreational Capability – Themes & Sub-Themes	Description of Current Situation	Significant Actions, Research or Studies	Changes or Threats to Nomination Value
7.3 Sporting Events/Activities	Not described as a value at point of designation.	None	None
7.4 Cultural Events/Activities	Not described as a value at point of designation.	None	7.2 None

BC Parks

7.3 Condition of Recreational Values since Designation

Visitors to the Cowichan River enjoy year-round access and undertake a wide variety of recreational activities. Walking, hiking, and nature appreciation are reportedly unhindered by changes to the River itself.

There is an increased awareness of recreation opportunities on the river given the advent of social media, such as Youtube and blogging to name a few. Favourable fishing reports blogged about on the internet have been noted to result in increased fishing presence on the river the following day. A search for "Cowichan River" on Youtube turned up 7540 results with videos on fly fishing, snorkeling, rafting, etc.

Diminishing salmon returns over recent years (most notably chinook salmon) have led to a decrease in angling opportunities as a result of seasonal angling closures. Increased frequency and severity of summer droughts and low water levels have had an impact on the ability of salmon to move up-river to access spawning areas. Based on return period (late summer through early fall), chinook salmon appear to have been impacted most significantly. It should be noted that low water levels are only part of the reason why chinook salmon numbers have diminished. Diminishing salmon returns are not only affected by changes in the river itself (which may include low water flows), but also by estuarine/ocean survival.

Kayaking and canoeing are also affected by low water levels on a seasonal basis on the Cowichan River. Kayakers will select rivers that have adequate flows during the summer months, as water flow directly relates to the quality of the sport. Swimming and tubing do not appear to be affected by low water levels, nor do camping or picnicking.

Natural heritage appreciation opportunites improved through the addition of park land, the restoration of 66 Mile and Holt Creek Rail Trestle and the opening of the Cowichan Estuary Nature Centre. Overall, the Cowichan River continues to possess the recreational values for which it was designated as a Canadian Heritage River.

8.0 INTEGRITY GUIDELINES

Natural, Cultural, Recreational Integrity Values and Changes or Threats

CHRS Principles, Procedures and Operational Guidelines	Integrity Values	Changes or Threats to Integrity Values since Nomination
1. NATURAL INTEGRITY GUIDELINES		
1.1 The nominated area is of sufficient size and contains all or most of the key interrelated and interdependent elements to demonstrate the key aspects of the natural processes, features, or other phenomena which give the river its outstanding natural value.	True	The river's natural values have greater protection since the enlargement of the Cowichan River Provincial Park from 741 ha at designation to 1,414 ha. CVRD Sandy Pool Park has increased in size from 14.6 ha (36.1 ac) to 16.6 ha (41.1 ac)
1.2 The nominated area contains those ecosystem components required for the continuity of the species, features or objects	True	Climate change, surrounding land use and upstream operation of the weir on Cowichan Lake have significant implications for water quality, water quantity and health of the river ecosystem. The Cowichan Basin Water Management Plan of 2007 is a major step towards water management in the valley. The Cowichan Stewardship Roundtable and Cowichan Watershed Board are two groups that are working to minimize and mitigate changes from activities and events outside the river mainstem.
1.3 There are no human-made impoundments within the nominated area.	True	No change
1.4 All key elements and ecosystem components are unaffected by impoundments located outside the nominated area.	True	The weir at the outlet of Cowichan Lake does not alter the natural flow pattern of the river during winter. It was installed to maintain adequate flow during the summer.
1.5 Natural values for which the river is nominated have not been created by impoundments.	True	No change

CHRS Principles, Procedures and Operational Guidelines	Integrity Values	Changes or Threats to Integrity Values since Nomination
1.6 The water of the nominated area of the river is uncontaminated to the extent that its natural aquatic ecosystem is intact.	True	The Stoltz Bluff Remediation project largely completed in 2006/07 remedied the suspended sediment issue in the river. Broadway Run is a potential source of suspended sediment and is currently the subject of a stability feasibility study. The $200,000 Cowichan Watershed Partnership Project was announced in 2012. A two year collaborative initiative to monitor water quality in the Cowichan watershed. Year one will focus on the lower watershed. Sampling and monitoring will be expanded to include the Cowichan Lake area in year two.
1.7 The natural aesthetic value of the river is not compromised by human developments.	True	Park land acquisition since nomination means that over 50% of the riparian area along the river falls within Cowichan River Provincial Park, effectively removing it from human development, thus preserving the natural aesthetic value of the river.
2. CULTURAL INTEGRITY VALUES		
2.1 The nominated area is of sufficient size and contains all or most of the key interrelated and interdependent elements to demonstrate the key aspects of the features, activities or other phenomena which give the river its outstanding cultural value.	True	No significant changes or threats
2.2 The visual appearance of the nominated area of river enables uninterrupted appreciation of at least one of the periods of the river's historical importance.	True	No significant changes or threats
2.3 The key artifacts and sites comprising the cultural values for which the river is nominated are unimpaired by impoundments and human land uses	True	Increased development in the lower river may be impacting cultural sites though studies to assess impacts are not currently underway.
2.4 The water quality of the nominated area does not detract from the visual character or the cultural experience provided by its cultural values.	True	No significant changes or threats

CHRS Principles, Procedures and Operational Guidelines	Integrity Values	Changes or Threats to Integrity Values since Nomination
3. RECREATIONAL INTEGRITY VALUES		
The river possesses water of a quality suitable for contact recreational activities, including those recreational opportunities for which it is nominated.	Tests conducted periodically by the Vancouver Island Health Authority and the BC Ministry of Environment indicate that water quality in the mainstem of the Cowichan River almost always exceeds the recreational water quality requirements.	Testing was conducted in 2012 by the Cowichan Watershed Board and the Cowichan Stewardship Roundtable in conjunction with the Ministry of the Environment that confirmed the health of the main stem, but identified poorer water quality in the of Cowichan Bay, with significant poor quality water contributions from several sources other than the Cowichan River. Additional testing of the quality of the water for direct and indirect recreational purposes is being pursed in 2013. Expansion of the program to include Cowichan Lake with the Cowichan Lake and River Stewardship Society will provide a comprehensive analysis. In 2013 Lake Cowichan received $1.5 million from the federal government for an upgrade to the town sewage treatment plant and a drainage improvement plan. The Cowichan Watershed Board has established two water quality targets for the watershed. 1. Clean water as set out by provincial standards for surface water quality so that people throughout the watershed can have confidence that the water is clean and not contaminated. This target is established by setting a turbidity water quality target for the watershed, under the premise that if turbidity values are low, other contaminants will also be low or nonexistent. 2. To be able to eat shellfish from the Cowichan estuary by 2020. The clam beds in Cowichan Bay are incredibly productive and historically were a significant food source for Cowichan people, but they have been closed for harvesting due to contamination since the early 1970s. For more information www.cowichanwatershedboard.ca

CHRS Principles, Procedures and Operational Guidelines	Integrity Values	Changes or Threats to Integrity Values since Nomination
4. RECREATIONAL INTEGRITY VALUES		
3.2 The river's visual appearance is capable of providing river travelers with a continuous natural experience, or a combined natural and cultural experience, without significant interruption by modern human intrusions.	True: in most cases the current land uses are the same as those being recognized for their historical value. True: where modern facilities and processes in industry have brought about changes to the historical landscape, this is not necessarily a conflict for appreciating the value of the historical activity.	See 1.7 above
3.3 The river is capable of supporting recreational uses without significant loss or impact on its natural, cultural or aesthetic values.	True True	No significant changes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9.0 REVIEW OF MANAGEMENT PLAN

The actions below are taken from "Managing the Cowichan river as a Canadian Heritage River" (2003).

Cowichan River Management Recommendations and Status	**Degree of Achievement (Not yet initiated; Initiated/underway; Completed/addressed; On-going)**	**Actions/Notes**
Action 1: Monitor and protect habitat to sustain healthy fish populations	On-going	Examples of restoration projects: Stoltz Bluff Restoration Five Fingers Examples of plans & strategies: Cowichan Recovery Plan 2005 Cowichan Basin Water Management Plan 2007 Cowichan River Riparian Mapping 2005 Cowichan Watershed Board Steelhead Target 2011 Integrated Risk Assessment for Cowichan fall run Chinook Salmon 2013
Action 2: Encourage community and public support of programs promoting river stewardship	On-going	Examples of organizations involved in public education programs promoting river stewardship and appreciation include: Cowichan Lake and River Stewardship Society Cowichan Land Trust Cowichan Tribes; Cowichan River Hatchery Cowichan Valley Naturalists Young Naturalists Club Cowichan Fly Fishers Somenos Marsh Wildlife Society Quamichan Stewards Cowichan Estuary Nature Centre Cowichan Watershed Board

Cowichan River Management Recommendations and Status	Degree of Achievement (Not yet initiated; Initiated/underway; Completed/addressed; On-going)	Actions/Notes
Action 3: Provide river-based and river-side recreational opportunities	On-going	BC Parks and CVRD Parks provide trails and access points to the river. There are a number of businesses providing river-based recreational opportunities. Examples include: Kenzie's Fishing Adventures (fishing for salmon and trout) Tube Shack (inner tube rental) Examples of organizations providing river-based recreational opportunities: Vancouver Island Whitewater Paddling Society Canoe Kayak BC, University of Victoria Kayak Club Outdoor Ed program at Brentwood College School
Action 4: Recognize and protect important cultural and heritage sites	Ongoing	Efforts of Cowichan Tribes and other groups to broaden the awareness of residents and visitors to the cultural heritage of the Cowichan River are ongoing. Places like the Quw'utsun' Cultural Centre, the Cowichan Valley Museum, the BC Forest Discovery Centre, and the Royal BC Museum continue to educate and inspire people to take a more active role in the recognition and stewardship of the river and the people's cultural heritage.
Action 5: Encourage and strengthen partnerships between local, provincial and federal agencies, First Nations and stakeholders	Ongoing	There are many examples of partnerships that have been developed to improve the stewardship of the Cowichan River, including the Cowichan Watershed Board and the Cowichan Stewardship Roundtable. These organizations, along with other partners, have developed numerous plans and undertaken management activities along the river, including: The Cowichan Basin Water Management Plan of 2007 An Integrated Flood Management Plan in2009; Cowichan Watershed Board Targets set in 2011; Stoltz Bluff Restoration in 2006 and Water Quality Monitoring beginning in 2012
Action 6: Continue research and monitoring to ensure the support of the river's heritage values	On-going	There are a variety of groups conducting monitoring activities in the Cowichan Basin. Examples of monitoring projects include: Surface Water Quality: CWB/BC MOE Ground Water Quality: CWB/BC MFLNRO CVRD State of the Environment Report: 2010

Cowichan River Management Recommendations and Status	**Degree of Achievement (Not yet initiated; Initiated/underway; Completed/addressed; On-going)**	**Actions/Notes**
Action 7: Celebrate and promote Cowichan's Canadian Heritage River designation	On-going	The Cowichan river Canadian Heritage River commemorative plaque is permanently installed on the river at the Quwutsun Cultural Centre. The plaque is in Hul'q'umi'num', English and French. BC Parks has the designation promoted on their website. Many tourism organizations quote the river's Canadian Heritage River designation in their promotions.

10.0 BENEFITS ARISING FROM DESIGNATION

The benefits of designation of the Cowichan River as a Canadian Heritage River are numerous, including supporting local economies, providing recreational amenities, and protection and promotion of cultural values. Some examples include:

- Many tourism operators, such as chartered tours and lodgings, cite the river's Canadian Heritage River designation in their promotions. For example, tag lines such as "Come fishing with us on the famous heritage river"9 highlight the economic benefits associated with the designation.
- Media coverage highlighting the heritage river designation and associated values promotes tourism and recreation in the area.
- The river provides inspiration for artistic endeavors such as professional photography
- The numerous stewardship groups active in the Cowichan Valley have been able to use designation as a Canadian Heritage River to call attention to their efforts and as a rationale for enhanced attention to the protection of the river's values.


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11.0 SUMMARY AND CONCLUSIONS

In recognition of its exceptional natural, cultural and recreational values, the main stem of the Cowichan River was designated as a Canadian Heritage River in 2003. As a responsibility of being part of the Canadian Heritage River System, this 10-year monitoring report has been prepared to assess the degree to which the Cowichan River continues to possess the heritage values for which it was originally nominated.

Stressors such as climate change and factors affecting ocean survival of anadromous fish are arising from outside the watershed. Climate change is creating challenges to the integrity of the river, with an apparent increase in the frequency and intensity of extreme events (e.g. floods and drought). The Cowichan River is somewhat vulnerable to pressures from population growth and invasive species. At the same time, financial budgets of organizations to manage and deal with these pressures are shrinking.

Since nomination, there has been a general decrease in the numbers of salmon returning to the Cowichan River. Perhaps the most significant decline has been associated with the chinook salmon. Exacerbated by low river flows during the return period, a combination of numerous other factors not limited to low estuarine/ocean survival have caused the decline. As a result of the chinook salmon conservation concern, angling opportunities have been negatively impacted through the implementation of complete seasonal angling closures. Similarly, the First Nation food fishery, which relies significantly on the chinook salmon return, has been impacted.

Coho and chum salmon returns to the Cowichan River appear to have rebounded strongly over the past two seasons (2011 and 2012). The chum salmon returns were extremely abundant in 2012, which allowed a marine-based commercial fishery targeting Cowichan River-bound chum salmon to be permitted. Seasonal retention of both chum and coho salmon for recreational anglers has been permitted on the Cowichan River in recent years. The steelhead fishery has remained consistent over the past decade, which allows for significant angling opportunities over the winter months. Other rivers have experienced severe reductions in the numbers of returning steelhead (e.g. the Stamp River over the 2012/2013 season), but the Cowichan River appears to be maintaining a consistent return of fish.

In the 10 years since its designation as a Canadian Heritage River, many significant events have served to strengthen or improve the natural, cultural and recreation values and their stewardship:

- Formation of the Cowichan Watershed Board and their work to establish targets for a healthy watershed and projects undertaken to move toward these targets.
- Formation and work of the Cowichan Lake and River Stewardship Society and One Cowichan.
- Ongoing work by local stewardship groups.

- Opening of the Cowichan Estuary Nature Centre to educate the public about watersheds.
- Continuation of the Annual River Clean-up.
- Completion of the Trans Canada Trail on both sides of the river.
- Addition of park land adjacent to the river.

As highlighted in the 1995 nomination as a BC Heritage River, the Cowichan River continues to be a leading example of community support and co-operation with respect to river stewardship. It is through continued collaborative efforts that the natural, cultural and recreational values of the Cowichan River have been and will continue to be maintained.

This report has determined that the natural, cultural and recreational values of the Cowichan River remain intact. The river is worthy of continued designation as a nationally significant river within the CHRS.

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