



Cowichan Lake Shoreline Management Workshop

Outputs from Workshop April 24-25, 2013



Foreword

This document is a compilation of information produced by participants in the April 24–25, 2013 Cowichan Lake Shoreline Management Workshop. Tables produce verbatim information transcribed from flipcharts and post-it notes generated during the workshop.

Cowichan Lake stakeholders will use this information in developing strategic plans to guide their actions going forward (2013–2023).

Workshop Participants

Name	Affiliation	Name	Affiliation
Tom Anderson	CVRD	Frank Limshue	TimberWest/Couverdon
Jean Atkinson	CLRSS Board	Dave Lindsay	TimberWest
Laura Brandes	POLIS, University of Victoria	Lynne Magee	VIHA Watershed Protection Cttee
Ted Burns	Cowichan Lk Salmonid Enhancement	Kate Miller	CVRD
Lisa Christensen	DFO	Ian Morrison	CVRD Area F Director
Don Closson	BC Parks	Rick Nordin	BC Lake Stewardship Society
Rosemary Danaher	CLRSS Board	Sandy Peters	Wilderness Watch
Rod Davis	Private Managed Forest Land Council	Dave Polster	Cowichan Valley Naturalists
George deLure	Youbou resident	Helen Reid	Cowichan Tribes
Ron Diederichs	MFLNRO, Ecosystems Section	Paul Rickard	BC Wildlife Federation
Ken Epps	Island Timberlands	Kai Rietzel	Cowichan Land Trust; Quamichan
Deb Epps	MOE, Environmental Quality Section	Tom Rutherford	DFO
Jason Finlayson	Vanc Island Real Estate Board	David Slade	Cowichan Watershed Board
Ross Forrest	Mayor, Town of Lake Cowichan	Howard Smith	Wilderness Watch
Diana Gunderson	CLRSS Board	Marianne Stoltz	Capital Asset Group
Aaron Hamilton	Lake Cowichan Tribes	Gerald Thom	CLRSS Board
Rodger Hunter	Cowichan Watershed Board	Mike Tippet	CVRD
Jayne Ingram	Lake Cowichan Council	Pat Weaver	CVRD Area I Director
Parker Jefferson	CLRSS Board	Craig Wightman	BC Conservation Foundation
Sharon Kelly	Countrywide Village Realty	Brian Wilkes	Brian Wilkes & Associates
David Kidd	CLRSS Board	Larry Williams	Cowichan Valley Fish & Game
Pete Law	BC Conservation Foundation	Trystan Willmott	Madrone Consultants
Nick Leone	DFO		

CLRSS	Cowichan Lake and River Stewardship Society
CVRD	Cowichan Valley Regional District
DFO	Fisheries and Oceans Canada
VIHA	Vancouver Island Health Authority

Workshop Organization, Design, and Facilitation

A Workshop Planning Committee, comprising Lisa Christensen, Ron Diederichs, Rodger Hunter, Peter Law, Dave Lindsay, Nick Leone, Kate Miller, Gerald Thom, and Craig Wightman, oversaw organization of the workshop, including identifying participants and speakers.

Melissa Hadley and Susan Leech of Cortex Consultants Inc. provided workshop design, organizational support, and facilitation services.



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1 Workshop Background

1.1 Workshop Planning

There are diverse stakeholder interests and longstanding issues associated with the use of Cowichan Lake shoreline resources (e.g., increased development pressures, shoreline modifications, compliance with riparian area regulations, competing water interests). The 2-day workshop was conceived as a working session to bring key stakeholders together to discuss current information on Cowichan Lake shoreline and community values, develop a vision for the next 10 years, and formulate strategies and actions to move forward.

A Workshop Planning Committee, with representatives from the BC Conservation Foundation (BCCF); Cowichan Lake and River Stewardship Society (CLRSS); Cowichan Valley Regional District (CVRD); Fisheries and Oceans Canada South Coast Area (DFO); Ministry of Forests, Lands, and Natural Resources (MFLNR); and TimberWest identified 50 key stakeholders to be invited as participants.

DFO Ecosystems Management Branch provided funding to support preparation of background information for participants, speaker-related travel expenses, and workshop design and facilitation. BCCF/Living Rivers provided funding for the workshop venue. BCCF compiled pre-workshop information that CLRSS posted to its website for participant access. TimberWest provided orthophoto maps of Cowichan Lake for the mapping session and contributed snacks for the two days. CLRSS covered the cost of the lunches for workshop presenters and participants.

1.2 Workshop Purpose, Objectives

Workshop Purpose

The purpose of the workshop was twofold:

- To make participants aware of existing natural resource values on Cowichan Lake and the experiences and lessons from other jurisdictions relevant to shoreline management.
- To engage participants in developing a shared vision for Cowichan Lake shoreline management and committing to specific actions to achieve this vision.

Workshop Objectives

The workshop had six objectives related to maintaining and managing Cowichan Lake's natural shoreline values:

1. Overview current resource and land development information on Cowichan Lake
2. Overview related shoreline management initiatives (Shuswap Lake)
3. Gather information on shoreline areas highly valued for ecological, social/cultural, and economic uses
4. Identify a collective vision for Cowichan Lake, and key barriers to overcome to achieve this vision
5. Identify priority strategies to address the key barriers
6. Develop measurable accomplishments associated with key strategies, identifying who will champion each strategy, and who will collaborate in its implementation.



1.3 Workshop Desired Outcomes

Table 1 lists the desired outcomes identified by participants the first morning, and how these were addressed over the two days.

Table 1 Workshop participants desired outcomes, how addressed

Desired Outcome	How Addressed in Workshop
Riparian protection with ability to enforce	Tom Anderson presentation about rules-based and incentives-based methods; SLIPP presentations about their experience and tools they are using
Blueprint for the next five to 10 years, recognizing lake is changing Clarity on what the community wants from the local government Long-term enjoyment of healthy lake	Identification of vision components, key obstacles to overcome to achieve these, and strategies to overcome obstacles
A way to share the vision to enjoy the lake that does not destroy the lake Long term residential development strategy Strategy for permanent protection of critical habitat Free or almost free restoration services for residents	Strategies to overcome key obstacles and achieve vision
See government agencies working together for common good of the lake	Articulation of measurable accomplishments for strategies included identification of individuals to champion strategies and collaborators to implement strategies
See forest companies as responsible stewards of the land	n/a
Better understanding of social, economic, and ecological values Identify data gaps Prioritized framework for protection of lake habitat	Mapping exercise to identify shoreline areas highly valued for ecological, social/cultural, and economic uses
Collating existing information and making available	Information collected during mapping exercise will be entered into GIS and available with other mapped data about lake
Specific targets for riparian protection and management	n/a
Relationship building Overcome sense of helplessness to rectify obvious problems affecting lake and river Develop a team approach → put aside politics and collaborate	Development of collective vision, identification of key obstacles to achieving vision, identification of strategies to overcome obstacles, and identification of collaborators to implement specific strategies in next 12 months

1.4 Workshop Process

The workshop design included nine sessions of 45 to 90 minutes each. In each session, participants: (1) formulated their ideas individually, (2) worked in teams to share and further develop ideas, and (3) came together as a whole group to explore team perspectives or develop a consensus based on their collective experience. Each session built on the outputs from previous sessions.



2 Planning Context

2.1 Current Information on Cowichan Lake

A series of presentations on the current status of Cowichan Lake established the context for the workshop. Highlights of key points for each presentation, questions (*in italics*), and subsequent discussion are provided below. The PowerPoint presentations and additional related information can be found on the Cowichan Lake and River Stewardship Society website (www.cowichan-lake-stewards.ca/workshop.htm).

Cowichan Lake Shoreline Habitat Assessment 2010-2011; Overview of Riparian Area Regulation Methodology

Speaker: Peter Law, British Columbia Conservation Foundation, Nanaimo

- Concerns regarding proper functioning of lake ecosystems led to the development of a foreshore inventory methodology (FIM). The Cowichan Lake FIM includes the Cowichan Lake Shoreline Habitat Assessment, amphibian and lamprey reports, and the Cowichan Lake Erosion Assessment
- Highlights of the Cowichan Lake Shoreline Habitat Assessment:
 - Over 100 km of shoreline assessed; 56 shoreline segments with over 100 shoreline attributes collected for each.
 - 25% of Cowichan Lake has achieved a high level of disturbance; 75% is in a natural or semi-natural state.
 - 85% of the shoreline is forestry use, but little of this is disturbed
 - Single-family residential use (structural and shore modifications) represents the largest portion of riparian disturbance.
 - Wetlands represent very little area of the lake but are extremely important for fish. Stream mouths are preferred fish areas. Rocky shores are more important than gravel shores. Gravel shores are important if there are emergent and submergent vegetation and escape areas. Gravel is the dominant shore type and also the most disturbed

How to fix the RAR?

There is an opportunity to put together a method that can work for a local government but it has not been used often. Note that the RAR was never developed for lakes – it's a small stream initiative.

What are the top three areas of productivity?

The weir area is #1 – this represents a significant volume of amphibian and fish habitat for all three seasons that we've studied. Shaw Creek area is #2 and Nixon Creek area #3.

Will these types of data be collected regularly?

That's something that this group needs to consider. At this point, there is no plan to reassess the lake. Comment from DFO: this documentation was intended as the beginning of a monitoring program.



RAR and existing structures – a dock that currently exists and needs to be replaced. Does the RAR provide for that? Is it possible that docks can provide habitat rather than being negative?

RAR does not apply to the actual siting of docks.

Comment: On this lake, many people have built log booms in front of docks to slow erosion from some of the high water situations. Fish don't hang out underneath them. Old wood plank docks allowed light penetration – but now there is no light penetration so Coho don't use. Docks attached to shoreline gangplanks are an improvement because they don't require riparian clearing.

Enforcement – 70% non-compliance as reported by Qualified Environmental Professionals (QEPs). What do we do about this?

RAR is set up to monitor roughly 10%.

Do we have any RAR type investigations re: enforcement?

I don't know of any that are in an investigative phase. The province is trying to get people's performance up to speed. Level of compliance with methodology isn't coming up. RAR QEPs are self-certified – some are very good; some are not so good.

Comment: The problem is not with the professionals – it's non-compliance with the advice of the professionals. It was pointed out that it's a multi-agency process. It would be useful if the results of studies could be made available to professionals.

Seems to be compliance with local development permits – retaining walls, docks, beach grooming. Does the development permit cover this?

Yes, but people submit the request afterwards. So we need to concentrate on revamping the regulations and target those that are non-compliant and look at the reasons why.

Cowichan Lake Shoreline Management: Current Trends

Speaker: Tom Anderson, Manager, Planning and Development Department, CVRD Duncan

- Cowichan Valley Regional District (CVRD) includes 80,332 people (as of 2011); a 4.4% increase since 2006. On average about 91% of people in BC live where they own. Some areas of Lake Cowichan are down around 62%.
- Electoral area I (north, sunny side of the lake) has most of the building permits. Creekside (70 units) and Woodland shores (200 units) are the busiest. Youbou lands (old mill site) have about 2000 units. Stricter standards have been used to protect some developments (e.g., Woodland Shores is 70% protected). Development is discouraged west of Youbou and Honeymoon Bay.
- RAR process: We have instituted those regulations in our development permit (DP) process. The majority of the RAR DP applications are in Electoral area I. RAR has deficiencies/ challenges.
- Take home message: Need more local government involvement in enforcement. Cohen Commission found significant deficits in compliance (62% non-compliance on Vancouver Island). Suggest a proactive incentive approach, involving extensive advertising, door-to-door handouts, lake stewardship t-shirts, driveway signs, monetary rewards, free planting, plans / advice from QEP on retainer.



Two streams of impacts: forestry impacts and residential impacts. So where are the forestry protections? Urban stream with RAR might work with education, but not forestry.

RAR does not affect forest land. CVRD outlook is to not allow development out there, but TimberWest is selling plots along the lake. Not easy to control. The regional district is not involved with forestry policies and practices.

Comment: Would it be better to diffuse the land use into northern areas where there are less critical features? Something to consider.

Any restrictions on houseboats and sewage dumpage?

Not that I am aware of.

We are talking about carrots and sticks in terms of trying to incentivize good development. What are the obstacles to employing larger sticks and bigger carrots, and how do we move past?

Bigger carrots are a good idea; the stick is really tough. This is what we need to talk about today.

Cowichan Lake Water Quality Objectives

Speaker: Deb Epps, Section Head, Environmental Quality, BC Ministry of Environment, Nanaimo

- The province is using an ecoregional approach to watershed management. There are six ecoregions on Vancouver Island. The approach takes one representative watershed for each ecoregion, and applies across the area (assuming they are similar). Water quality objectives require water sampling (with local partners), biomonitoring (plankton, benthics), and continuous water quality data. After three years, the data are reviewed and written up (ideally in year 4); water quality objectives are applied to the representative watershed and across the ecoregion. Then we want to monitor every 3-5 years.
- The Cowichan Lake assessment was carried out in 2008-2009 in partnership with various local stewardship groups. Three deep lake sites were sampled 4 times/year (Feb, May, Aug, Oct). Looked at temperature, pH, dissolved oxygen, secchi disk for water clarity, total suspended solids (TSS), turbidity, phosphorus, etc. Twelve perimeter sites selected and 11 tributary sites.
- Report released in May 2011. Results: this is a deep, cold lake; oligotrophic; water quality is very good overall. The exception: microbiological exceed drinking water guidelines near Youbou and marina sites. MacKay, Robertson and Sutton Creeks have elevated turbidity and TSS following rainstorm events.
- Water quality objectives were set for Cowichan based on the results from this study. Next steps: this is part of a larger area-based sampling program. Resampling is starting again on a larger scale this year. Water quality objectives need to be linked to something – e.g., Cowichan Watershed Board targets. Can also work with local governments to incorporate findings into land use planning, zoning and bylaws, LWMPS, and riparian areas.

Issues with respect to crude developments and poor sewage management associated within these developments. We thought about putting tracers in these sewage ditches. Is there coordination between the ministry and VIHA?

There has been in the past and there's no reason why that couldn't be done here.

Sewage from houseboats – any regulations for pump stations at marinas?

Comment: There is a pump house at the marina. We have been talking about using tags to seal the tanks when they come into the lake.



Did you sample at extremely high water when you did the lake sampling?

Normally sampling is done in Nov., Feb., and May, so we usually capture at least one reading at full capacity. We have arbitrary windows; these could be adjusted to capture high water readings.

Is big monitoring this year part of attainment monitoring?

It's both attainment monitoring and part of the larger area monitoring.

Septic tanks – do you think they are a major problem based on the sampling you've done in the past?

Youbou and the marina are problem areas.

It looks like an excellent program, but a significant portion of lake is divided up, a large portion of which is in forestry. What's the dialogue with forestry companies to help with monitoring?

We haven't had the meeting yet, but we will soon. Last process was with Island Timberlands. TimberWest is committed to being involved in this year's project.

Where does this go? You suggested community plans, among other things. Is the attainment monitoring going somewhere in terms of a local government process?

That's the intent. It's a long-term view but short-term steps are required.

2.2 Mapping Highly Valued Shoreline Areas

Working in teams using 1:25000 orthophotos, participants mapped Cowichan Lake shoreline areas highly valued for environmental, economic, and social/cultural uses. The map data from this exercise will be digitized by the CVRD and added to the Google mash-up on the CLRSS website.

Following the collection of data, participants were asked to reflect on the patterns of use across the six maps produced. Highlights of the discussion:

- There are clusters of ecological and economic uses in certain areas of the lake, but there is less visible clustering of social/cultural uses.
- More environmental uses are mapped than economic and social/cultural uses.
- It is important to recognize that ecology underlies the whole works. Note that areas around the green dots (environmental uses) are likely equally important—there are probably much larger swaths around the green dots denoting the environmental values.
- Areas of overlap are interesting focus points for discussion. These maps should also incorporate the work from the Cowichan Lake FIM. Stream mouths are highlighted on the fish abundance maps visible on the Google mash-up.
- Which areas have extra special environmental values that we can look after now, so they don't get intensively developed? Some areas were settled because of access, with no thought given to their ecological importance (e.g., Honeymoon Bay). Consider the Cottonwood area—do we really want to encourage more residential development there, or would it be better to focus it elsewhere? Maybe we want to keep some of these easy to develop areas for other uses/values.
- It is probably better to think of the lake as a system rather than a series of hotspots. Where there are high social and economic values, we need to make these areas as ecologically valuable as we can, through riparian restoration.



2.3 Lessons Learned from Other Jurisdictions

Shuswap Lake Integrated Planning Process (SLIPP)

Speaker: Sarah Evanez, SLIPP Coordinator, Kamloops

- Key events galvanized public support in the Shuswap:
 - Public safety: recreational use conflicts
 - Public health: water quality issues (big algae bloom)
 - Environmental issues: Sockeye run is really important in Shuswap area. Eagle River was logged right at the mouth of the river. At the mouth of Adams River, a developer dropped over 100 concrete blocks with buoys for a marina.
- Response from government was complicated by a complex and overlapping government regulatory environment. This led to the SLIPP watershed-wide integrated planning and management initiative. It's a mechanism that allows different groups to talk about key issues, so complements and enhances existing plans.
- SLIPP includes a steering committee made up of many levels of government and three key teams: foreshore development, water quality and water management, recreation management. Each has a technical team (from local governments) and public advisory committee. Public advisory committee has about 10 people, identified by us. SLIPP began with a FIM. In 2011, 3-year pilot funding approved for implementation of plan.
- Lessons learned: Early on, we developed a shared vision through the strategic plan. Everyone involved could see themselves in the plan. Government working together really helped programs develop. Engagement and communications has been key to helping with implementation, balancing regulation and enforcement. Thinking about sustainment beyond the initial strategic plan created. *Land Act* has been hugely helpful – Cowichan does not have that lever.

With the cutbacks, how to keep the project going?

Early on, we created mechanisms that enabled agencies to work together. Opportunity to save resources that you could allocate elsewhere. We have looked outside of agencies (e.g., real estate board, HCTF, private foundations) for money.

Ian McGregor (MoE Section Head who initiated SLIPP): The original commitment for SLIPP was about \$800,000 (~ \$300,000 in cash, \$500,000 in-kind). If I had to do it again, I would have gotten it as an MOU. There has been a lessening of involvement from provincial agencies.

How successful have you been? You said initially it was 8% of undisturbed; have you reversed this?

Anecdotally, it's probably stayed the same. The plan is to revisit it in a few years.

What would you do now to address government disengaging and public not responding?

Ian McGregor: I don't think I would do anything differently. One approach is to do a bunch of work for a few years, then ease off for a bit, then come back. Behaviour changes when we are around and winning court cases. Work that Ken is doing is focused on areas where we can change behaviour. Low hanging fruit concept.



Monitoring is key to water quality efforts. We have been doing annual monitoring – e.g., tracking increased collaboration between agencies, among other things. Finding data and measuring results and showing what’s been achieved is really central.

Did paying attention to enforcement help you with getting things moving with regards to education and behaviour change? I think education only works if there’s an underlying base of regulation/enforcement.

Education combined with enforcement has been effective in the Shuswap. Every year, all long weekends, all agencies rented a boat, talked to public, issued tickets, very high profile – we received lots of comments on how effective this is. Having a presence is very important. There’s an attitude shift. We also recommend engaging young people and school groups early in the process

We focused a lot of energy on education, engagement, and enforcement. Enforcement focused on *Land Act*. Question is: what are the regulatory and enforcement tools you have for Cowichan Lake?

The Science Behind SLIPP

Speaker: Ken Ashley, Director of Rivers Institute at BC Institute of Technology, Burnaby

Water Quality Monitoring Plan

- Shuswap Lake is very complex – five arms, each with major tributaries. Some are oligotrophic, some eutrophic. Salmon Arm/Tappen Bay has been mesotrophic/eutrophic since at least the 1970s.
- Monitoring program ended up with four components: deep station monitoring, near shore and littoral monitoring, water quality effects of specific activities, watershed and tributary monitoring. Effort focused on the arms with more development (not in oligotrophic arms). Water quality report had great support.
- Houseboat traffic and question re: greywater led to contaminant studies, which found that greywater is indistinguishable from blackwater in terms of coliform counts, so greywater releases pose a risk to health. Mandatory greywater storage and pump out is the most realistic option for the Shuswap Lake system, but that has its own problems.

Shuswap Lakes Foreshore Habitat Restoration

- Site restoration in 2011-12 – called the people and told them they could voluntarily rehabilitate or have it done and by charged. This has been ongoing.

Greenhores and Greenhores for Homes

Speaker: Harriet Rueggeberg, Technical Contributor to the Greenhores Initiative, Lantzville

- *Greenhores* (www.greenhores.ca) is an incentives-based process to promote sustainable use of coastal ecosystems through planning and design that recognizes the ecological features and functions of shoreline ecosystems. The approach, which uses a voluntary credit rating system, is modeled after LEED and promotes greater setbacks, soft-shore approaches, and riparian vegetation buffers. Though developed for coastal ecosystems, the *Greenhores* system for rating shoreline development could be applied in a lake shoreline context.
- Poor site planning, riparian vegetation removal, and shoreline hardening are three major issues that cause problems with shoreline development.



- The *Greenshores for Homes* component of the program uses a credit and rating system. It is an incentive-based, voluntary approach, focused on residential developments in marine and freshwater ecosystems. The incentives surround approval streamlining and permit fast tracking, permit fee reductions, property tax reductions, grants or rebates, and/or technical assistance with design and installation.

3 Cowichan Lake Strategic Framework

3.1 Vision Components

In this session, participants worked together to answer the question: *If you were to paint a picture of Cowichan Lake success in 2023, what big strokes would you feature?*

Following a visualization scenario, participants formulated their thoughts, then worked in teams to compare ideas and select the ideas that best captured the key aspects of their vision. As a whole group, they clustered the ideas that went together (Table 2), then developed a descriptive name for that component of the vision (text shaded blue at the top of each column).

Participants articulated five components of their vision for Cowichan Lake in 2023:

- Collaborative governance that supports local watershed management
- Healthy watershed ecosystems that support a healthy community with a vibrant economy
- An informed community that understands and cares about and for its watershed
- A regulatory and financial framework that ensures compliance and watershed integrity
- Decision-making and public education that are fuelled by best-available science, community knowledge, and traditional ecological knowledge

During discussions, participants noted that local governance was a key issue for successful stewardship of Cowichan Lake. It was also noted that the five vision elements could be separated into processes (collaborative governance), tools (informed community, regulatory and financial framework, and integration of knowledge streams), and outcomes (healthy watershed, healthy community).

Table 2 shows the titles of the vision components (row 1) and the underlying ideas generated by participants, on which each title is based.



Table 2 Components of Cowichan Lake vision of success in 2023

Collaborative governance that supports local watershed management	Healthy watershed ecosystems that support a healthy community with a vibrant economy	An informed community that understands and cares about – and for – its watershed	A regulatory and financial framework that ensures compliance and watershed integrity	Decision-making and public education that are fuelled by best-available science, community knowledge, and traditional ecological knowledge
<ul style="list-style-type: none"> • Business case for sustainable development • Establish goals and benchmarks • Set targets: growth, literacy, protection, restoration • Funding for local control • Legal protection of lake as valley drinking water source • Protect water quality • Legal protection of lake as valley drinking water source • Local authority supported by Federal/Provincial standards • Local watershed management • Collaborative Inclusion Governance Approach Leadership Club • One governance body under local control • Collaborative governance with local authority 	<ul style="list-style-type: none"> • Protection, maintenance and restoration of important ecosystems • Maintain ecological resilience • No net loss of ecologically valued land • Healthy ecosystem supports Cowichan prosperity • Development results in a restored functioning green buffer • Land use informed by ecology • Resilience of system to climate change • Planning for climate change • Functioning balance between ecological/social/economic • Meet targets: growth; literacy; protection; restoration • Habitat restoration creates jobs and environmental benefits • Small neighbourhood beaches – easy access to all • Increased public land ownership • Cowichan Lake shore park project and foreshore ownership strategy • Community acquisition of watershed lands 	<ul style="list-style-type: none"> • Mandatory education in lakeshore riparian ecosystems • Community sees the value of ecological benefits of lake area • Flourishing stewardship groups • Education programs to foster stewardship • Engaged community informed by science • Require responsibility for individual actions 	<ul style="list-style-type: none"> • Standards for docks on lakes (less disturbance to ecosystem) • Establish boating/house boat regulations/limitations • Identification of development areas and “green” building standards • Fully community sewer and water • Changes – improvements to the private forest regulations 	<ul style="list-style-type: none"> • Robust technical support sufficiently funded



3.2 Obstacles to Achieving Vision Components

Table 3 lists the major obstacles participants identified as standing in the way of achieving each component of their vision of Cowichan Lake in 2023. Obstacles in **red text** were considered to be the most important to address first. Additional obstacles are noted in **grey text**.

Table 3 Key obstacles to overcome, by vision component

Vision Component	Obstacles
Collaborative governance that supports local watershed management	<ul style="list-style-type: none"> • Lack of local legislative authority; fragmented decision-making • Private land ownership • Public awareness • Conflicting regulatory authority • Lack of funding/business case • Differing values; greed
Healthy watershed ecosystems that support a healthy community with a vibrant economy	<ul style="list-style-type: none"> • Complex legal ownership and legislative issues; jurisdictional overlap; lack of senior government leadership and fulfillment of mandate • No targets for protection, restoration and education; lack of knowledge, benefits and tools; delayed action on climate change • No incentives to reward good stewardship; attitude to property rights
An informed community that understands and cares about – and for – its watershed	<ul style="list-style-type: none"> • Lack of understanding of ecological goods and services • Lack of leadership and lack of resources • Personal agendas vs. community needs • Seasonal (and local) residents not engaged • Disconnect between health and environment • Lack of trust of government and corporations • Lack of access to information • Apathy and lack of appreciation
A regulatory and financial framework that ensures compliance and watershed integrity	<ul style="list-style-type: none"> • Existing mindset • Poor existing regulation and enforcement; no coordination among enforcement agencies • Environmental services are not valued • Unhealthy local economy • Taxation structure not working; incentives not seriously considered yet; lack of incentive program • Inadequate resourcing and streamlining of compliance agencies
Decision-making and public education that are fuelled by best-available science, community knowledge, and traditional ecological knowledge	<ul style="list-style-type: none"> • Lack of public awareness and knowledge (knowledge transfer) • No central, local repository that is credible and user friendly; no long-term commitment to collect and disseminate up-to-date data and information. • Lack of communication, cultural awareness and respect to bring 3 knowledge types together – lack of process to engage and agree/share information • Lack of political will; changing focuses



3.3 Strategies to Overcome Obstacles

Table 4 lists the strategies participants identified to overcome key obstacles identified in Table 3.

Table 4 Strategies to overcome key obstacles, by vision component

Vision Component	Strategies
Collaborative governance that supports local watershed management	<ul style="list-style-type: none"> • Apply Greenshores program (offer free restoration support) • <i>Oxford the Otter</i> staged events • Public school outreach • Direct contact with lakeshore owners (including new owners) • Transfer lake bed ownership to local government • Promote transfer of legislative authority to CWB (new local authority)
Healthy watershed ecosystems that support a healthy community with a vibrant economy	<ul style="list-style-type: none"> • Support the Cowichan Watershed Board (CWB) in seeking delegated watershed governance authority • Secure protection of undisturbed portion of shoreline by 2023 • Restore 30% of highly impacted shoreline by 2023 • Ensure all students regularly participate in shoreline habitat-related educational opportunities • Conduct a baseline survey of residents' watershed knowledge, implement ongoing education initiatives, and resurvey expecting $\geq 50\%$ increase by 2023 • Ensure all watershed residents are annually informed of environmental values and sensitive habitat • Pilot a new incentive program to protect existing lakeshore riparian habitats including financial help for targeted restoration
An informed community that understands and cares about – and for – its watershed	<ul style="list-style-type: none"> • Develop the message (re: ecological goods and services); promote outreach; target property owners • Develop community branding to promote watershed stewardship • To improve formal education of watershed management issues, build on educational programs already in existence (Laker Students) • To address personal agendas vs. community needs, promote good behaviour (incentives); targeted enforcement (focused on long weekends and houseboats) • Directed habitat compensation (to targeted education/stewardship/outreach)
A regulatory and financial framework that ensures compliance and watershed integrity	<ul style="list-style-type: none"> • Develop catchy education programs for young people and adults • Develop internet and digital information (social media) • Move responsibility, authority and funding to local levels • Lake Watch program • Draft regulation and lobby appropriate governments • Economic valuation of lake and river • "Green fee" to fund education and environmental programs • Refundable development performance-based deposit
Decision-making and public education that are fuelled by best-available science, community knowledge, and traditional ecological knowledge	<ul style="list-style-type: none"> • Local body (CVRD or CWB) to collect, compile, and manage data/knowledge/information • Collaborative open-door approach with shared resources and transparency • Outreach and communications training and storytelling for different audiences • Education field trips/events to increase understanding of different knowledge • Using and enhancing existing outreach and programs (e.g., Nature Kindergarten, device-free days, cleanups, riparian education, etc.) • Community picnics on issues (e.g., Shawnigan Gathering Format)



3.4 Strategic Directions and Associated Measurable Accomplishments

Participants grouped strategies across all vision components, in consideration of which strategies go together to move us in the same direction. They named the strategic directions represented by these groupings, and identified the key measurable accomplishment(s) associated with each strategic direction, focusing on accomplishments in the next 12 months.

Table 5 summarizes the strategic direction and component strategies, key measurable accomplishments, champions for the strategic direction, and other collaborators needed to achieve the measurable accomplishments.

Table 5 Strategic directions, measurable accomplishments, champions, and collaborators

Strategic Direction, Component Strategies	Key Measurable accomplishments	Champions	Collaborators
<p>Power Up Cowichan Water Board</p> <ul style="list-style-type: none"> Promote transfer of legislative authority to CWB (new “local authority”) Support the Cowichan Watershed Board in seeking delegated watershed governance authority Move responsibility (*authority, funding) to local levels Draft regulations and lobby appropriate governments Local body to collect, compile, manage data/knowledge/info Collaborative open door approach with shared resources and transparency 	<p>Empowering provincial legislation (April 2014)</p> <hr/> <p>Repository for existing data on CWB website (April 2014)</p>	<p>Rodger Hunter Parker Jefferson Dave Polster</p>	<p>POLIS (UVic) David Slade BCCF OneCowichan</p>
<p>Public ownership of land</p> <ul style="list-style-type: none"> Transfer lake bed ownership to local government Secure protection of undisturbed portion of shoreline by 2023 Economic valuation of lake and river 	<p>Economic valuation (April 2014)</p> <hr/> <p>30m DPA buffer requirement (Sept 2014)</p> <hr/> <p>Lakeshore land transferred (April 2016)</p>	<p>Rodger Hunter (CWB) Gerald Thom (CLRSS)</p>	<p>CVRD Dave Lindsay Frank Limshue BCCF First Nations</p>
<p>Branding</p> <ul style="list-style-type: none"> Community branding to promote watershed stewardship Oxford the Otter “staged events” 	<p>Otter suit acquired and worn at Lake Days (June 8, 2013)</p> <hr/> <p>PR and media contacted for Lake Days (June 8, 2013)</p>	<p>CLRSS</p>	<p>Tourism Cowichan Chamber of Commerce</p>
<p>Outreach</p> <ul style="list-style-type: none"> Conduct a baseline survey of residents’ watershed knowledge, implement ongoing education initiatives, and resurvey expecting >= 50% increase by 2023 Outreach and communications training and storytelling for different audiences Using and enhancing existing outreach and programs Community picnics on issues Ensure all watershed residents are annually informed of environmental values and sensitive habitat Develop the message, promote outreach, target property owner Direct contact with lakeshore owners (including new ones) 	<p>50% of lakeshore owners contacted (Oct 31, 2013)</p>		



Strategic Direction, Component Strategies	Key Measurable accomplishments	Champions	Collaborators
Education <ul style="list-style-type: none"> Education field trips/events to increase understanding of different knowledge Ensure all students regularly participate in shoreline habitat-related educational opportunities Build on programs already in place (“Laker Students) Develop catchy education programs for young people and adults Develop internet and digital information (social media) 	Adult education program delivered (April 1 2014)	Diana Gunderson	Educational Sub Committee
	School program delivered in schools (2013/14 school year)	CLRSS	Teacher at Cowichan Lake Secondary School
Monitoring watershed <ul style="list-style-type: none"> Lake Watch Program Promote good behaviour; targeted enforcement; Refundable development performance-based deposit 	Lake Watch Program developed and implemented (April 2014)	Gerald Thom Deb Epps (water quality)	
	Signs used to recognize lakeshore stewards (July 2013)		
	Integrated biological monitoring and enforcement program (2015)		
Restoration funding <ul style="list-style-type: none"> Directed habitat compensation to targeted education/stewardship/outreach “Green fee” to fund education and environmental programs Pilot a new incentive program to protect existing lakeshore riparian habitats, including financial help for targeted restoration Apply Greenshores Program (offer free restoration support) Restore 30% of highly impacted shoreline by 2023 	Strategy incorporating these suggestions developed (April 2014)	Nick Leone Ron Diederichs	
	Greenshores collaboration – develop and apply (identified pilot project) (April 2014)	Peter Law Harriet Rueggeberg	CLRSS Board
	Funding request for Youbou Habitat Funds completed (June 2013)	Gerald Thom Jean Atkinson	CLRSS Board Rodger Hunter Polster Env. BCCF

3.5 Next Steps

At the conclusion of the workshop, participants identified the following next steps:

- review workshop outcomes (organizing committee)
- develop story coming out of workshop
- distribute outputs to workshop participants
- post PDFs for presentations to CLRSS website
- begin actions (e.g., organize a committee)
- pursue networking.

Participants noted the importance of viewing the strategies developed in the workshop as a “made in Cowichan” solution, and the need for local control and local involvement going forward.