

## Fostering Environmental Stewardship - District Update



Prepared for the Board of Education  
June 17, 2022

*The Board of Education acknowledges that we are  
on the traditional territories of the K'omoks First Nation.  
We would like to thank them for the privilege  
of living on their land and the gift of working with their children.*

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## Curriculum and Learning Update

One of Comox Valley Schools' strategic goals is to **foster environmental stewardship**. Documenting and sharing our district's progress in implementing this strategic priority provides the opportunity to reflect back on accomplishments as well as informs potential next steps to further develop. This report summarizes the district's recent work in this area and looks forward to future possibilities for the district.



### Environmental and Outdoor Learning 2018 - 2021

Since the fall of 2018, the district has been focusing on enhancing teacher leadership, furthering student opportunities, and developing learning resources for environmental and outdoor learning. District initiatives to date have primarily targeted the following actions from the [Strategic Plan](#):

- ✓ Align outdoor and environment learning opportunities for long-term sustainability
- ✓ Augment the Active Travel Program & public transit commute initiatives

The following section outlines the key strategies to implement these actions, as well as related highlights.

### Implementation strategies

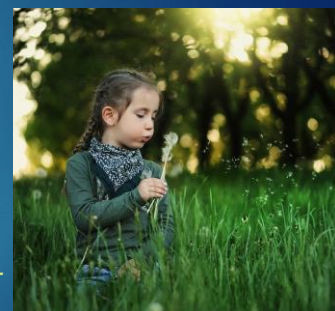
- Leadership provided by the District Teacher of Environmental and Outdoor Learning to facilitate capacity building and the development of supportive networks and structures.
- Establishment of the SD71 Environmental and Outdoor Learning (EOL) Network with lead representatives from each of the schools to support school-based initiatives and collaboration with ongoing meetings throughout the year.
- Establishment of the central island regional network of district leads to collaborate on events and professional learning activities.

#### Environmental and Outdoor Learning Network:

- Maintains trusting relationships throughout our community and networks.
- Supports students' connectedness to nature and their personal responsibility.
- Supports K-12 opportunities to develop Care, Compassion, Ownership and Stewardship of the Earth.
- Provides opportunities that demonstrate the interconnectedness of systems.
- Provides opportunities that promote, encourage and foster personal and interpersonal growth through outdoor exploration, education and challenge.

## Environmental & Outdoor Learning Mission

*To instill caring, growth, and collaboration, through an interdisciplinary **Environmental** and **Outdoor** Education Program, that promotes long-lasting connections with the environment and educational community.*



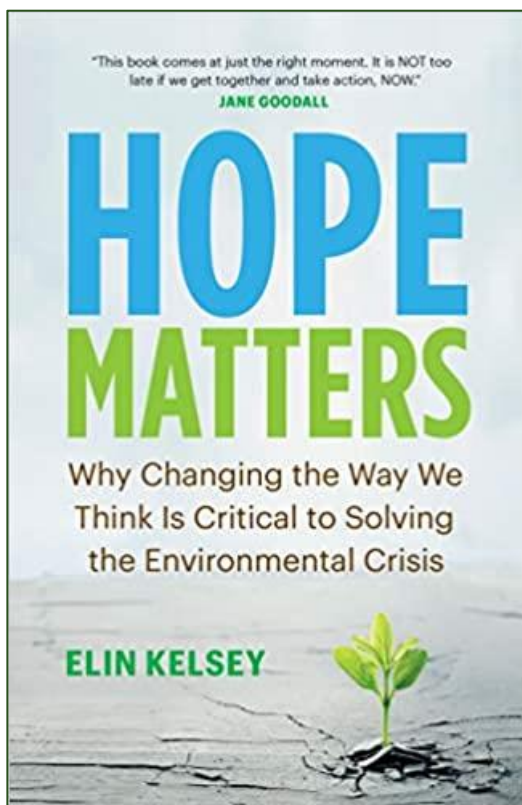
# Core Values and Guiding Principles

*Educators in the Comox Valley School District will:*

- Model and teach Environmental and Outdoor Learning to create, maintain and nurture connected and trusting relationships throughout our community and networks
- Support every student's success in understanding their personal connectedness to nature and their personal responsibility
- Structure learning opportunities for students in kindergarten through grade 12 to develop Care, Compassion, Ownership and Stewardship of the Earth
- Provide broad and deep learning opportunities that demonstrate the interconnectedness of systems – Environment; Biodiversity; Outdoor Learning; Outdoor Adventure – that exist in nature
- Provide diverse learning opportunities in every grade that promote, encourage and foster learning for personal and interpersonal growth through outdoor exploration, education and challenge

Over the last couple of years, the EOL Network has been sharing ideas and collaborating in the development of the foundational teaching and learning vision for fostering environmental stewardship in our district.

- Professional learning opportunities, including the series hosting environmental scholar and our critical friend, Dr. Elin Kelsey, with educators from across the district and visiting colleagues from neighbouring districts.



**Pro-D Series**

## 3 Part Series

**Focus Group:** Middle School to High School Teachers  
(support staff & admin welcome too)

**REGISTRATION:** Please register with **Serina Allison**,  
serina.allison@sd71.bc.ca

**Time:** Virtually from 4pm-6pm

**Session 1:** October 22nd, 2020

**Session 2** January 7th, 2021 – **Virtual**

**Session 3** April 8th, 2021 – **Virtual**





## Professional Development

- Courtenay Fish and Game Club x3
- Outdoor Learning 101
- OCC- Outdoor Council of Canada certification
- PEAK wilderness First Aid
- SD71 District Bikes
- OE Community Connections Displays Booths
- Ocean Network
- Dr. Elin Kelsey– Solutions based approach to Climate Crises
- Meagan Zeni - School Gardens
- Early Learning Framework and Play Outside



- Outdoor education safety training and certification opportunities
  - Enhancement of risk management protocols, and alignment with district field trip procedures and forms.
  - Hosting specialized training opportunities for Outdoor Education program educators, including Outdoor Council of Canada's field leader certification and wilderness first aid.
  - Teacher and class support during first-time field excursions, such as snowshoeing and biking excursions, with District EOL Teacher.



- Environmental Learning events for students, including:
  - Dr. Elin Kelsey student learning series
  - Youth Climate Action Conference – Empowerment for Impact



- Ocean Literacy and Leadership Camp
- Grade 9 school-wide Ocean Plastic unit and field excursion - Mark R. Isfeld Secondary
- Trades sampler field excursion, working in sensitive ecosystems - G.P. Vanier Secondary











- School Cycling Program and district bikes - Encouraging lifestyle habits that are beneficial to personal health and well-being in addition to being environmentally friendly!

## SD71 District Bikes and School Cycling Program

- **Environmental Stewardship** - Creating a new norm of active transportation
- **Physical Literacy**: Skill development for life long physical activity. Team and individual
- **Communication and team work**: team skill development and individual awareness.
- **Community Engagement**: connection to people in the community
- **Connecting to Place**: exploring and celebrating different aspect of the Comox Valley.
- **Mental Health**: Confidence building and skills for later in life.
- **Resilience**: Supporting independence and resilience in youth. Equity and access for all students





- School group pass for public transportation & BC transit school visits - Compared with driving alone, taking public transportation reduces CO2 emissions by 45%, decreasing pollutants in the atmosphere and improving air quality!



 **Comox Valley**  
REGIONAL DISTRICT

  
**Comox Valley Schools**  
A Community of Learners  
RESPECT • INQUIRY • GROWTH

 **BC Transit**



## School Group Pass

- Phase 1: Discounted Price Flat rate \$30
- **Phase 2:** - Educational "Kids Ride Program" Kids ride FREE!

- Snowshoeing program – 50 district snowshoes and guidance from the District Teacher of EOL for first-time field trips.



- Archery program – All middle schools and high schools have school archery kits and teachers trained to support the program.



- Strengthening community partnerships and connections in support of school environmental outdoor learning programs and to deepen our sense of place in the Comox Valley.







**COURTENAY AND DISTRICT  
FISH AND GAME  
PROTECTIVE ASSOCIATION**



## Grow Food Everywhere: An Intergenerational School Garden Pilot in Comox Valley

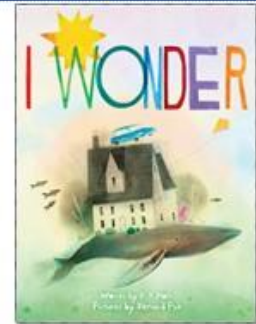
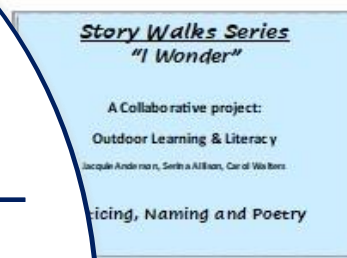




- Development of teaching and learning resources
  - ✓ Environmental and Outdoor Learning [web page](#)
  - ✓ Learning kits at the Learning Resource Centre

## LRC KITS

- Tracks, Scat and Habitats
- Sustainability Kits – Ocean Health
- Community Sustainability
- Alternative Energy
- Story Walks
- Sight words and outdoor connection
- Connected by Nature
- TREE's
- Winter snowshoe kit



## Environmental and Outdoor Learning - Spring 2022

In addition to continuing the aforementioned initiatives, the district recently offered professional learning opportunities in the areas of design thinking to address climate challenges and school garden sessions.



## Design Thinking in the Classroom

Grades 5-9

How can we apply design thinking to empower students as environmental stewards?

We are pleased to invite Middle Years teachers to a professional learning series focused on how the *design thinking* process can help students grapple with real-world social justice and environmental challenges.

If you are...

- ✓ Curious about how *design thinking principles* can enhance teaching and learning;
- ✓ Interested in supporting youth with complex challenges through a solutions-orientated lens;
- ✓ Seeking more strategies that foster student agency and core competency development;
- ✓ Wondering about practical ways to differentiate and support learning intentions through a deeper learning approach;
- ✓ Looking forward to professional dialogue, sharing, and collaborating with Middle Years colleagues...
- ✓ ...then please submit your expression of interest to participate in this exciting professional opportunity.

Session dates:

Mar. 3 – session 1  
Mar. 15 – session 2  
After spring break, TBD – session 3

Times: 8:45-11:30 a.m.

Location: LRC meeting room

Facilitators: Serina Allison and Dawn Anderson

### PARTICIPANT COMMITMENTS

- Participate in three afternoon sessions;
- Explore the *design thinking* process;
- Try new approaches to teaching and learning with your students between sessions;
- Collaborate and dialogue with colleagues about design-based learning, strategies tried, and your learners' experiences throughout the series.







## Bringing back the Bees

SD71 Pollinator Project

**ADST Building Projects**  
**Grade 4 - Pollinator Planter Boxes**  
**Grade 7- Mason Bee Houses**

**Teacher Building sessions**  
 Pollinator Planter Boxes- March 1st  
 Mason Bee Houses- March 7th  
 Sessions 3:30-5pm at Sandwick Technical School

**Contact** Dawn Anderson to register: [dawn.anderson@sd71.bc.ca](mailto:dawn.anderson@sd71.bc.ca)  
 Registration closes Feb. 21st, 2022



Several workshops on related ecological topics were offered. For example, the pollinator project gets students working hands-on to make boxes, integrating their science learning with the applied design, skills, and technologies curriculum.



## SCHOOL GARDEN SERIES

WITH MEGAN ZENI



SD71 is excited to invite expert School Garden educator, Megan Zeni, to help guide us through practical applications to School Garden Learning.

The custom 6 part School Garden Series will include frameworks for organizing a shared space, lesson ideas, and year round timely tasks. Megan will join us virtually co-facilitated in-person with Serina Allison.

Each afternoon session will include:

- Virtual presentation with Megan Zeni, Garden-Based Learning consultant;
- Facilitated professional learning in-person in host school's garden;
- Planning for next steps in your school's garden-based learning initiative.
- If required, TLOC release time provided by the district for SD71 participants



Megan is a vocal advocate for unstructured nature play in our schools. She is a teacher, master gardener, outdoor play specialist and expert school garden educator. Megan is currently a PhD candidate at UBC researching pedagogies of place and play.

**Times:** 12:30-3pm  
**Location:** Rotating host school  
 All grades & subject areas welcome

**Session 1:** April 5th - Shared Space, Garden Mapping, Starts & Seeds, Timely Tasks  
**Session 2:** April 26th - Weed management, Compost Components, & Classroom Management.  
**Session 3:** May 17th - Core Routines, Theft & Security, Pollination  
**Session 4:** June 7th - Summer Sustainability, Harvest, Cooking Outdoors  
**Session 5:** Aug. 30th - Clean-up, Preparing for Fall, Core Routines (re-visited)  
**Session 6:** Sept. 27th - Winter Prep, Winter Planting, Compost Care

## Current Perspectives about Environmental Stewardship

Reflecting on our district's progress with this implementation goal, we have many successful environmental and outdoor learning initiatives and community partnerships to build on as we move forward with next steps. We are noticing the need to further emphasize **student learning and agency as environmental stewards and citizens** as we

continue our district's journey in fostering environmental stewardship. As we move forward with this strategic priority, current research and curricular opportunities are important considerations in determining next steps. Highlights are shared below.

### Global Citizenship - UN Sustainable Development Goals

In September 2015, Canada and all other 192 United Nations Member States adopted the 2030 Agenda for Sustainable Development at the UN General Assembly. This initiative is a global call to action to end poverty, protect the planet and ensure that all people enjoy peace and prosperity by 2030.

The 2030 Agenda presents Canada, and the world, with a historic opportunity to positively shape how societies of tomorrow grow and develop sustainably and inclusively to the shared benefit of all.



<https://sdgs.un.org/goals>

### Effective Environmental Education

Effective approaches to fostering environmental stewardship include:

- ✓ developing ecological literacy
- ✓ student inquiry
- ✓ experiential learning
- ✓ community partnerships
- ✓ learning how to engage constructively in climate change conversations with others.

#### Ecological literacy

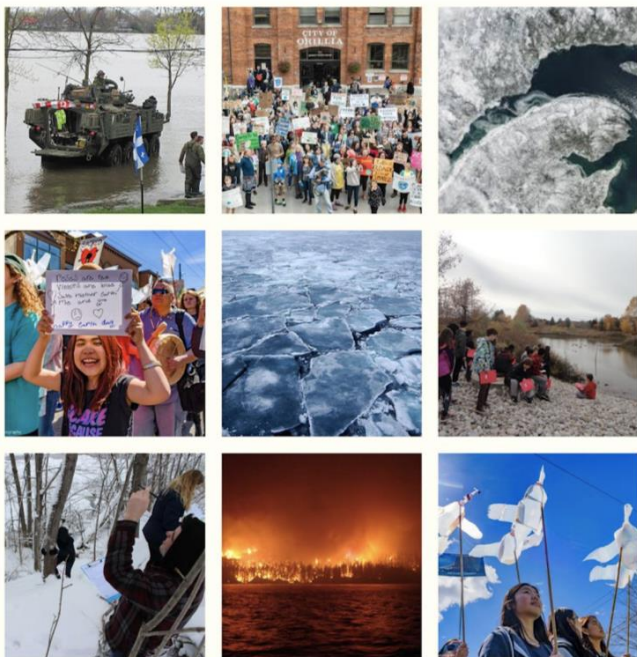
**Effective environmental education produces ecologically literate citizens who understand and value healthy environments. They understand their connection to and impact on natural environments, and through this understanding become motivated to act as environmental stewards and live sustainable, healthy lives.**





## Canada, Climate Change and Education:

### Opportunities for Public and Formal Education



November, 2019

“To address apathy and eco-anxiety, school boards, schools and teachers should ensure student learning is authentic and relevant to local climate impacts, utilizing strategies including **inquiry**, **experiential learning**, opportunities for **deliberative dialogue**, and **community partnerships** for local climate action.”

Canada, Climate Change, and Education: Opportunities for Public and Formal Education, 2019

Climate change...is a solvable problem, and education – accompanied by well informed action – is our best strategic tool. When it comes to climate change, we urge you to move from the overwhelming ‘problem space’ to the inspiring and action-oriented ‘solution space’ - there are many, many solutions that students can work on.

**“Hope is a verb with its sleeves rolled up.”**

- Dr. David Orr

[Enhancing Student Voice through Climate Change Education](#)

### The #TalkingClimate Handbook

HOW TO HAVE CONVERSATIONS ABOUT CLIMATE CHANGE IN YOUR DAILY LIFE



climate outreach

eit Climate-KIC  
European Commission  
EUROPEAN UNION

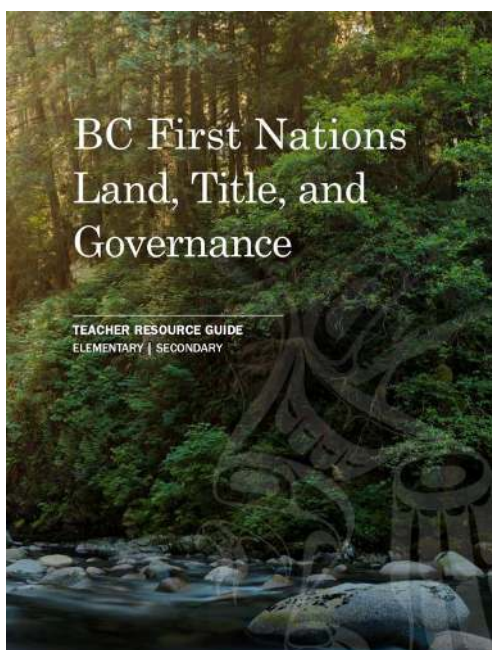
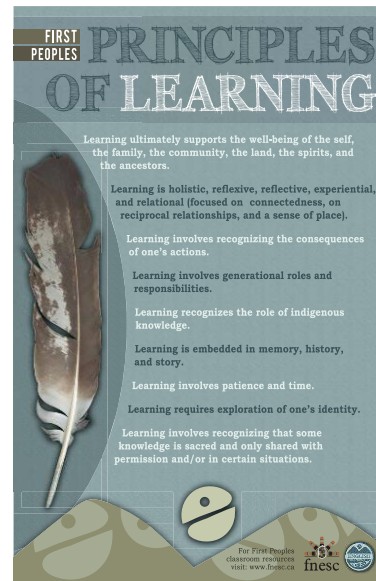
- R**espect your conversational partner and find common ground
- E**njoy the conversation
- A**sk questions
- L**isten, and show you’ve heard
- T**ell your story
- A**ction makes it easier (but doesn’t fix it)
- L**earn from the conversation
- K**eep going and keep connected

## Honouring and applying Indigenous Perspectives and Knowledge

More and more we are appreciating how valuable Indigenous perspectives and knowledge are to fostering meaningful connection to place and nature. First Peoples Principles of Learning, land-based learning, and Traditional Ecological Knowledge can deepen environmental learning in holistic and beneficial ways for everyone in the school community.

### First Peoples Principles of Learning

- Learning ultimately supports the well-being of the self, the family, the community, the land, the spirits, and the ancestors.
- Learning is holistic, reflexive, reflective, experiential, and relational (focused on connectedness, on reciprocal relationships, and a sense of place).



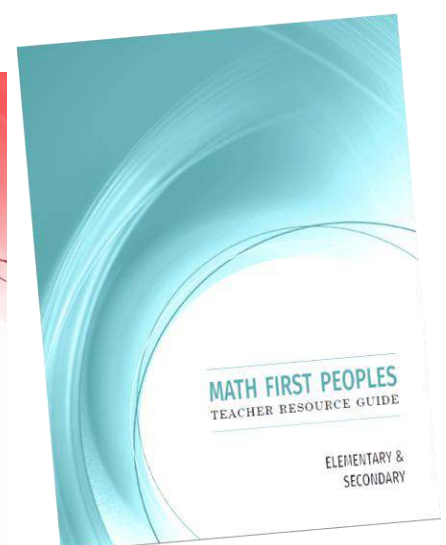
### Land-based learning is intended to help students:

- develop their own relationships with the land
- interact with their environment and community
- engage in authentic experiences
- develop an understanding and appreciation of different relationships with the land
- view the land from a holistic, interconnected perspective

[Connecting with the Land](#)

### Traditional Ecological Knowledge:

- Is specialized knowledge about the interconnectedness of all aspects of the world
- Includes local place-based knowledge about ecosystems in a particular territory
- Is cumulative, learned and passed on over a long period of time
- Enables sustainable use of resources
- Includes how to survive in a specific territory from one generation to the next
- Enables people to be adaptable, dynamic and resilient in the face of change



Teaching and learning resources recommended by Jo Chrona, keynote speaker at this year's Indigenous-focused Pro D Day event.



## Opportunities in BC's Curriculum

British Columbia's curriculum is concept-based and competency-driven, providing many opportunities for students and teachers to foster environmental stewardship.

### Designed for deeper learning

The design of the curriculum K-12 encourages active and deeper learning opportunities that align with current research on effective environmental education approaches. "Deeper learning refers to learning that emphasizes the use of key disciplinary concepts, principles, and generalizations to think critically, solve problems, and communicate ideas." ([BC Curriculum](#)). Learning approaches for pre-school aged children also emphasizes the importance of deeper learning processes ([BC Early Learning Framework](#)).



The processes reflected throughout these teaching and learning mandates include:

**Experiential learning** - learning through reflecting on authentic experiences

**Play** - exploration of the world that is driven by the learner's curiosities

**Inquiry** - building knowledge and understanding through active and open-minded exploration of meaningful questions, problems, and issues in the world

**Service learning** - active learning that involves making real-world contributions to benefit others, the community, and/or the environment

**Design thinking** - process for learning that moves from empathetic observation to action when tackling real-world challenges

**Place-based learning** - learning in and through nature that fosters deep environmental knowledge and understanding and action

**Capstone preparation and presentation** - graduating students demonstrate the knowledge, competencies, and passions that they can contribute to the world, integrating personal interests, strengths, and new learning with their preferred future possibilities. It is a deeper learning experience intended to support the student's journey into post-graduation opportunities and provides an opportunity to reflect and synthesize as well as showcase and celebrate.

## Learning Standards

Topics and perspectives related to the environment and climate change are found in the required learning standards throughout the curriculum as well. For example, the Science curriculum K-12 includes a **place-based** approach to learning - “Students will develop place-based knowledge about the area in which they live, learning about and building on Aboriginal knowledge and other traditional knowledge of the area. This provides a basis for an intuitive relationship with and respect for the natural world; connections to their ecosystem and community; and a sense of relatedness that encourages lifelong harmony with nature”. Specialized science courses such as Earth Sciences 11, Environmental Science 11, Science for Citizens 11, and Environmental Science 12 provide opportunities for students to study the environment and climate change in more detail. Additional curricular connections are provided in the Table below.

Areas of Learning	Opportunities for Environmental Stewardship and Learning
<b>Applied Design, Skills and Technologies (ADST)</b>	Curricular competencies draw from design thinking principles, including awareness of and responsibility for product life cycles, environmental impacts of production, and minimizing waste.
<b>Career Education</b>	Ongoing reflection about learning experiences and contributions to the World and self-assessment of Core Competencies development; Capstone – new requirement for graduation; includes Core Competencies self-assessment and community connections which can focus on environmental citizenship.
<b>English Language Arts</b>	Empowering students to become thoughtful, ethical, and responsible citizens as well as proficient and knowledgeable communicators and collaborators, enabling skills needed to address the World’s complex challenges.
<b>Mathematics</b>	Mathematical values and habits of mind go beyond numbers and symbols; they help us connect, create, communicate, visualize, and reason, as part of the complex process of problem-solving. These habits of mind are valuable when address complex problems from a variety of perspectives, considering possible solutions, and evaluating the effectiveness of the solutions.
<b>Physical and Health Education</b>	Empowering students to develop a personalized understanding of what healthy living means to them as individuals and members of the World; Recognizing and changing unhealthy behaviours and advocating for the safety, health, and well-being of others and the environment.
<b>Science</b>	Scientific inquiry and place-based learning; Scientifically educated citizens are place-conscious, see themselves as part of the planet rather than ruler of the planet, stay informed about scientific developments, and are aware of the impact of science on the planet and its subsystems. The Science curriculum features reflection questions about place to develop environmental awareness and a deep understanding of ecological concepts.
<b>Social Studies</b>	Inquiry through investigations into interesting, open-ended questions, debating and discussing historical and contemporary issues; Studying human interactions and the relationship between humans and the environment; Developing an understanding of how economic systems work and their place in an interconnected global economy so they are aware of the interactions between political, environmental, and economic decisions, and the trade-offs involved in balancing different interests.

**Core Competencies** In addition, the requirement for students to self-assess in the [Core Competencies](#) can further encourage environmental stewardship. The Core Competencies are sets of intellectual, personal, and social and emotional proficiencies that all students need to engage in deep, lifelong learning as well as to grapple with the complex challenges of today's world. Explicit reference to *caring for the environment* is found within the Social Awareness and Responsibility competency.



## BC Curriculum – Core Competencies



- Educated citizens and lifelong learners.
- Embedded throughout all of the curriculum in all areas of learning.
- Student reflection and self-assessment.

### Social Awareness and Responsibility

#### Facet - *Contributing to community and caring for the environment*

– Students develop awareness of and take responsibility for their social, physical, and natural environments by working independently and collaboratively for the benefit of others, communities, and the environment. They are aware of the impact of their decisions, actions, and footprint. They advocate for and act to bring about positive change.



## Next Steps

The district will continue to build on the aforementioned strategic actions, as well as maintain and support the effective environmental and outdoor learning activities and partnerships that are already in place. In addition, we will focus on the following strategic actions:



**Action:** Support the establishment and augmentation of school garden projects.  
**Action:** Increase composting efforts.

Information about upcoming district-wide initiatives for next year are provided in this section. Suggestions for future possibilities from the SD71 EOL Network are also included. Note that the aforementioned considerations about environmental perspectives and education will be integrated into a holistic approach to student learning and agency that fosters environmental stewardship.

## Garden-Based Learning

The District Teacher for Environmental and Outdoor Learning conducted a review of school gardens and food programs across the district this year to help inform next steps. Many schools have been working on these initiatives across the years, and through the review process, individual teacher commitment, community partnerships, and parent volunteers have emerged as key strengths for our district.

Garden care during summer months and sustainability of educational programming were identified as challenges to address. The need to focus on using the garden space as an everyday learning environment, where curriculum can be integrated with deeper learning approaches that foster ecological literacy development, was also highlighted. Moving forward into next school year, the district will facilitate sustainable garden-based learning programs, including support for functional gardens as learning spaces, professional learning opportunities, and continued development of learning resources.

Many teaching and learning resources about school gardens and food literacy are available on the Environmental and Outdoor Learning webpage.

## Honorable Harvest

### Guiding Principles to Restoring Our Relationship to the Natural World

**Robin Wall Kimmerer, *Braiding Sweetgrass: Indigenous Wisdom, Scientific Knowledge and the Teachings of Plants***  
Author, Environmental Educator, & Plant Ecologist

- *Know the ways of the ones who take care of you, so that you may take care of them.*
- *Introduce yourself. Ask permission before taking. Abide by the answer.*
- *Never take the first. Never take the last. Take only what you need.*
- *Take only that which is given.*
- *Never take more than half. Leave some for others.*  
*Harvest in a way that minimizes harm.*
- *Use it respectfully. Never waste what you have taken. Share.*
- *Give thanks for what you have been given.*  
*Give a gift, in reciprocity for what you have taken.*

### Nurturing ecological literacy and interdisciplinary knowledge through **garden-based learning**



Kindergarten teacher's observation: "...the school garden differed from more general outdoor education because (students) spent enough time in the garden to become really familiar with it, and that in turn helped his students become more adept at observation...It's inspiring to go out to see the kids *really looking*. The practice of really looking and the opportunity to come back to the same place to notice how it changes over time not only expands students' base knowledge, it also teaches them skills they will need throughout their education, in English language arts as well as in science." - *Ripe for Change: Garden-based Learning in Schools* (2015), p. 27.

### Professional learning series

The district will continue the professional learning series about school gardens with Megan Zeni into the Fall. Related workshops will also continue.

### Garden-based learning framework

In support of sustainable educational programming, the district will facilitate the development of a garden-based learning framework that will articulate learning approaches and curricular connections, offer tips on working with classes in the garden as a learning space, and lesson ideas. Arden, Brooklyn, Denman, Huband Park, Queneesh, and NIDES have been identified as our lead schools in this work. Through their exploration of the questions below, these school teams will take the lead the development of the framework.

#### Questions:

- What garden-based learning approaches, structures, and practices foster environmental stewardship?
- How can schools develop and sustain garden spaces as ongoing learning environments?

A garden-based learning framework based on the insights from our lead schools will become a valuable resource to other school staffs, including lessons learned and sharing strategies and structures that work best for sustainable educational programming.



### Gardens as an Ecological Milieu and learning space

When school gardens have strong roots in academic learning and they are integrated into school life, then they are not viewed as 'add on' to the curriculum or as after-thoughts. With academic learning as a central goal, garden-based learning can be integrated into a continuum that addresses held dichotomies of nature and culture, school and community, ecology and economy, and life and learning." - *Learning Gardens and Sustainability Education: Bringing Life to Schools and Schools to Life* (2012), p. 22.



### Design Thinking and Climate Action

Building on the professional learning offered this year, the district will continue to support students and teachers who are interested in design thinking as a deeper learning approach that furthers students' agency and capacity for innovative thinking and problem-solving. In addition, the district has partnered in a research study called the Youth Designing Climate Resilience Project with Royal Roads University, other BC districts, and schools in Puerto Rico to further enhance our teaching and learning practices in this area. More details on how students and teachers can participate will be shared in the fall.

### Other Possibilities

#### → Outdoor learning structures

Many schools have outdoor learning spaces. Expanding and enhancing these spaces in addition to offering professional learning on how to maximize student learning and agency in these spaces may be of interest.

#### → Furthering environmentally friendly habits

Encouraging school communities to continue their efforts at developing environmentally friendly habits is recommended. For example, the [Be the Change Action Guide: A Global Mindshift Happens One Choice at a Time](#) has been purchased for each school to help students come up with ideas about lifestyle actions individuals and school communities can take to make a difference.

#### → Interdisciplinary learning opportunities

Supporting teachers in how to integrate environmental learning into all subjects will help to foster environmental stewardship in a holistic way. Finding ways to bundle course offerings at the secondary level to encourage a multi-disciplinary approach may be another avenue to explore as well.

#### → Capstone and mentorship opportunities

For those senior secondary students who have a passion for environmental activism and would like to explore post-secondary options more deeply, the capstone is an ideal embedded curricular opportunity and graduation requirement to leverage. In addition, increasing opportunities for mentorship with community agencies in support of this learning is an area to explore further.

#### → Enhancing current initiatives

Enhancing current initiatives is of interest to teachers as well. Some examples include increasing the number of schools that have recycling and composting systems and offering bike maintenance training for students and teachers. In addition, the district is exploring the possibility of hosting a Graduate Diploma program focused on nature-based learning with Simon Fraser University to further enhance instructional leadership and innovation.

# *2021 PSO CLIMATE CHANGE ACCOUNTABILITY REPORT (CCAR)*

SCHOOL DISTRICT NO. 71  
COMOX VALLEY SCHOOLS



**Comox Valley Schools**

*A Community of Learners*

INNOVATIVE • INQUISITIVE • INCLUSIVE

VANCOUVER ISLAND



## OVERVIEW - COMOX VALLEY SCHOOLS

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Comox Valley Schools (SD71) is a positive, progressive, and growing school district situated on the east coast of Vancouver Island on the traditional territory of the K'omoks First Nation. Located within the Valley are the municipalities we serve: City of

Courtenay, Town of Comox, Village of Cumberland and the Regional District, including the surrounding communities of Black Creek, Merville, Royston, Union Bay, Hornby Island and Denman Island. Each location providing their own unique services and community cultures.

School District No. 71 (SD71) is one of 60 school districts in British Columbia.

### QUICK FACTS – SD71 serves:

- 1 Regional District
- 2 Islands
- 9700 + students
- 3 Municipalities
- 1 First Nation



Vancouver Island, BC

Fifteen Elementary Schools: Airport, Arden, Aspen Park, Brooklyn, Courtenay, Cumberland Community School (K-9), Denman Island, École Puntledge Park, École Robb Road, Hornby Island, Huband Park, Miracle Beach, Queneesh, Royston, Valley View

One Middle School: Lake Trail Community School (Gr. 6-9)

Three Secondary Schools: Georges P. Vanier, Highland, École Secondaire Mark R. Isfeld

Additional Schools/Programs: Glacier View Secondary Centre (Alternate Gr. 8-12), Nala'atsi Alternate Program, Navigate (NIDES), International Student Program (ISP)

SD71's Vision and Mission Statement:

*"An inclusive learning community that embraces diversity, fosters relationships and empowers all learners to have a positive impact on the world. To inspire engaged, compassionate, resilient lifelong learners and cultivate a collaborative community together."*

Board of Education 2019 – 2023

## PART 1. Legislative Reporting Requirements

### DECLARATION STATEMENT

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This Climate Change Accountability Report (CCAR) for the period January 1st, 2021, to December 31st, 2021, summarizes our greenhouse gas (GHG) emissions profile, the total offsets to reach net-zero emissions, the actions we have taken in 2021 to reduce our GHG emissions, and our plans to continue reducing emissions in 2022 and beyond.



By June 30, 2022, School District No. 71 (SD71), also referenced as Comox Valley Schools, will post this Climate Change Accountability Report to our website at [www.comoxvalleyschools.ca/](http://www.comoxvalleyschools.ca/).

## EMISSION REDUCTIONS: ACTIONS & PLANS

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### A. Stationary Sources (e.g. buildings, power generation)

Throughout SD71 we are committed to preparing all learners for a changing world.



We value educational excellence, community engagement, organizational stability, environmental stewardship, physical health, and mental well-being. The district is committed to minimizing GHG emissions and has met the challenges of rising heating costs and increased demand on aging facilities. Energy efficiency is a key strategy in SD71's approach to minimizing GHG emissions from stationary sources. Senior management plays an active role in seeking out and securing funding opportunities that will result in GHG emission reductions. The following four principles are of key importance when assessing the need for replacing equipment:

- I. Creating healthy environments, including air, temperature and noise for students, teachers and support staff
- II. Reducing GHGs
- III. Reducing energy consumption and waste
- IV. Increasing equipment and system efficiency

When reviewing existing mechanical systems in service within SD71 and evaluating recommendations to upgrade or replace with new systems, the new systems are assessed to meet the following minimum requirements:

- significantly reduce the carbon emissions produced by the building systems;
- conserve energy (electricity and fossil fuels) and decrease operating costs;
- demonstrate a successful approach to addressing climate change.

When looking at building retrofits for SD71, energy conservation measures that are practical and cost-effective are reviewed and assessed for implementation with a goal to ensure estimated savings are optimized and maintained during the useful life of the initiative and beyond. It is SD71's intent to tie together climate adaption policies with planned capital upgrades to ensure that future work reduces GHG emissions and improves infrastructure resiliency.

Ongoing plans to continue reducing emissions from stationary sources include making sure our building heating and cooling management systems are operating in the way they are intended. Optimization of building HVAC systems, lighting upgrades and domestic hot water upgrades (e.g. moving away from storage tank hot water systems to using boiler plant heat as a means to heat our hot water) are all under review. The district is looking to integrate strategic and tactical energy

management planning and systems into our processes and will be reviewing, assessing, and analysing mechanical systems to ensure they are programed effectively and efficiently for our educational institutional needs and goals, leading to reduced emissions.

The most significant GHG reduction upgrade projects completed in 2021 include:

- I. Boiler Plant Upgrades at Aspen, Brooklyn & Huband Park Elementary Schools
- II. Lake Trail Community School Boiler Plant Upgrade
- III.** Direct Digital Control (DDC) Upgrades at Aspen, Brooklyn, Hornby and Queneesh Elementary Schools & Lake Trail Community School

**I. Boiler Plant Upgrades at Aspen, Brooklyn and Huband Park Elementary Schools**



*Figure 1 – Huband Park Elementary, Aspen Elementary and Brooklyn Elementary School entrances*

As the boilers at Aspen, Brooklyn and Huband Park Elementary Schools were at the end of their service lives, the old, inefficient, gas fired atmospheric copper fin hot water space heating, Lochinvar boilers were removed and replaced with new high efficiency Viessmann



*Figure 3- New Pumps installed in Aspen Elementary*

condensing boilers and pumps to minimize energy consumption, reduce greenhouse gas emissions and lower operating costs.

Alongside funds from the SD71 operating budget, these projects were subsidised by the provincial Carbon Neutral Capital Program (CNCP) and provincial Annual Facilities



*Figure 2 – New boilers installed at Aspen Elementary*



Grant (AFG) funding.

Based on mechanical reports prepared by Integral Group Consulting Engineers, the annual estimated gas consumption for the boiler plant upgrades at Aspen and Brooklyn Elementary is expected to be reduced by 33.3% per site. Annual expected emission reductions from these projects are approximately 27 - 35 tonnes of carbon dioxide per site, based on the same reports.

## II. Lake Trail Community School Boiler Plant Upgrades

Lake Trail Community School is a new build that was completed in the fall of 2021. The replacement school was built onto the existing gymnasium of the old school to create a seismically safe school for students in the area. Overall, the new build has a smaller footprint than the old school and incorporates modern building systems (windows, insulation etc.) which make for a more efficient building. The project included new mechanical systems, featuring very high efficiency Viessman boilers and on-demand hot water via gas fired water heaters which will use less natural gas than the older style, traditional commercial hot water heaters. The boilers that were in the older school had been replaced in 2015 and were repurposed to boiler retrofits in Aspen and Huband, noted above, replacing systems that were at their end-of-life cycle.



*Figure 4 – New Viessman boilers, Lake Trail Community School entrance & on-demand hot water heaters*

## III. Direct Digital Control (DDC) Upgrades at Aspen, Brooklyn, Hornby and Queneesh Elementary Schools & Lake Trail Community School

DDC systems can simplify processes and allow for system automation and energy efficiency in the workplace. They are a key component to optimizing HVAC efficiency. DDC upgrades to the Aspen, Brooklyn, Hornby, Lake Trail and Queneesh schools will aid in reducing energy waste, reducing energy consumption and



*Figure 5 - Main DDC Panel for Lake Trail Community School*

increasing equipment and system efficiency. The old systems had reached their end-of-life cycles and were obsolete. The DDC upgrades were funded through various streams including SD71 operating budget, capital funding, federal HVAC funding, and provincial seismic funding.

### Heating, Ventilation, and Air Conditioning (HVAC) Notes in Context of COVID-19 Operations:

Of note, SD71 HVAC systems were reprogrammed to comply with the American Society of Heating and Refrigeration Engineers (ASHRAE) best practices and recommendations for the prevention of COVID-19 transmission. The changes include:

- Ventilation system programmed to run a building flush for two hours prior to occupancy to significantly increase the volume (doubled) of fresh air being brought into the buildings;
- Lowered the CO<sub>2</sub> setpoint to 800 ppm which significantly increases fresh air volumes in the school;
- Increase the duration of all systems with occupancy sensors to run systems for a minimum of 2 hours. Thus, when you leave the classroom at a break time the system keeps exchanging the air in the classroom; and
- All large air-handling systems such as the gymnasiums, and other large single zones, run the systems at 100% rather than a reduced fan speed which is the normal mode.

These standards are at odds with energy conservation and have resulted in increased energy consumption and green house gas emissions throughout our district. Additionally, school staff have changed their behaviour with respect to ventilation in their classrooms – it has become common practice to leave windows and doors open through out the year. This has resulted in a substantial increase in heating costs and further erosion of energy conservation principles.



## Various Building and Equipment Upgrades

IT Hardware Upgrades - The IT Department continues to replace older computers that draw more power and create more heat with newer units as a part of the district's ongoing technology replacement plan. At the same time, replacing older liquid-crystal display (LCD) monitors with newer light-emitting diode (LED) monitors results in less heat generation and power loss. Additionally, centrally located printers have replaced multiple personal use printers.



Ongoing light-emitting diode (LED) Light upgrades were completed in various school classrooms and office spaces. The new LED lighting consumes 40% less electricity, has lower maintenance and a much longer life span than the former fluorescent tube lighting, which contains mercury and uses heat to create light.



### B. Mobile Sources (e.g. fleet vehicles, off-road/portable equipment)

Mandating greater vehicle fuel economy is a straightforward way to reduce GHG's from motor vehicle use. Optimal fuel performance is a driving factor embedded within SD71's vehicle policy and mileage & fuel consumption tracking. Finding ways to reduce fuel consumption promotes fuel efficiency and reduces emissions; the SD71 vehicle policy incorporates tips from Natural Resources Canada including idling reduction tips and strategies. Management reviews the vehicle policy with maintenance staff annually. The policy includes notes on GPS tracking, highlighting that we track vehicle location, speed, acceleration, harsh braking and cornering.

The district continues to remove older fleet vehicles and purchase newer vehicles that are fuel-efficient and produce less emissions. Of note, SD71's heavy equipment fleet all meet Tier 4 diesel emission standards (e.g. computer control and sensing for exhaust system particulate). The Tier 4 standard is a modern standard that runs cleaner than older heavy equipment.

Additionally, SD71 is in the early stages of researching and investigating suitable equipment for trades vehicles that are lower or zero emission and establishing a Clean Fleet Plan. Stable funding options will be necessary for a cleaner fleet and will direct resource and organizational capacity in moving forward with development and implementation of a Clean Fleet Plan.



### C. Paper Consumption

Comox Valley Schools is gaining efficiencies and reducing paper consumption by updating processes to online formats and using technology to reduce paper consumption. Starting in January 2021, SD71 moved to an online bus registration form. Prior to this transition, all bus registrations came in by paper. Additionally, the district moved its work order system and school registrations to online formats in 2021. These processes were previously heavily paper based. Overall, transitioning to electronic formats is helpful for reducing paper consumption in the long term, throughout the district. In 2021, SD71 did see an increase in paper consumption even with the implementation of electronic formats to replace paper-based systems. Comox Valley Schools has been one of the fastest growing districts in the province; increased student enrolments, along with increased signage and messaging for COVID-19 are factors that contributed to increased paper consumption in 2021. Ongoing efforts to reduce paper consumption will include continued efforts to use technology to integrate more of our business processes to electronic formats.



## 2021 GHG Emissions and Offsets Summary Table:

School District No. 71 2021 GHG Emissions and Offsets Summary	
<b>GHG Emissions created in Calendar Year 2021</b>	
Total Emissions (tCO <sub>2</sub> e)	<b>2250</b>
Total BioCO <sub>2</sub>	<b>6.36</b>
Total Offsets (tCO <sub>2</sub> e)	<b>2243</b>
<b>Adjustments to Offset Required GHG Emissions Reported in Prior Years</b>	
Total Offsets Adjustment (tCO <sub>2</sub> e)	<b>0</b>
<b>Grand Total Offsets for the 2021 Reporting Year</b>	
Grand Total Offsets (tCO <sub>2</sub> e) to be Retired for 2021 Reporting Year	<b>2243</b>
Offset Investment (\$25 per tCO <sub>2</sub> e) [Grand Total Offsets to be Retired x \$25/tCO <sub>2</sub> e]	<b>2243 X \$25 = \$56,075</b>

i. [Note, BioCO<sub>2</sub> is included in Total Emissions but not Total Offsets. For K-12 and Post-Secondary organizations, and BC Transit, Total Offsets will not equal Total Emissions minus Total BioCO<sub>2</sub> because offset exempt emissions for buses are included within Total Emissions.]

ii. Emissions and offset investment amounts will be validated by CAS prior to distributing invoices.

iii. You must round "Grand Total Offsets to be Retired" to a whole number (no decimal places) before multiplying by \$25 (e.g., 43.2 = 43, 43.5 = 44).]

### Retirement of Offsets:

In accordance with the requirements of the *Climate Change Accountability Act* and Carbon Neutral Government Regulation, School District No. 71 (**the Organization**) is responsible for arranging for the retirement of the offsets obligation reported above for the 2021 calendar year, together with any adjustments reported for past calendar years (if applicable). The Organization hereby agrees that, in exchange for the Ministry of Environment and Climate Change Strategy (**the Ministry**) ensuring that these offsets are retired on the Organization's behalf, the Organization will pay within 30 days, the associated invoice to be issued by the Ministry in an amount equal to \$25 per tonne of offsets retired on its behalf plus GST.

## Clean Government Reporting Tool (CGRT) GHG Offset Summary

	School District 71 - Comox Valley
	2021
Direct Fuel Combustion	
t CO <sub>2</sub> e, GHG, All	1922
Purchased Energy	
t CO <sub>2</sub> e, GHG, All	66.8
Mobile Energy Use	
t CO <sub>2</sub> e, GHG, All	200
Office Paper	
t CO <sub>2</sub> e, GHG, All	55.0
Fugitive Emissions	
t CO <sub>2</sub> e, GHG, All	

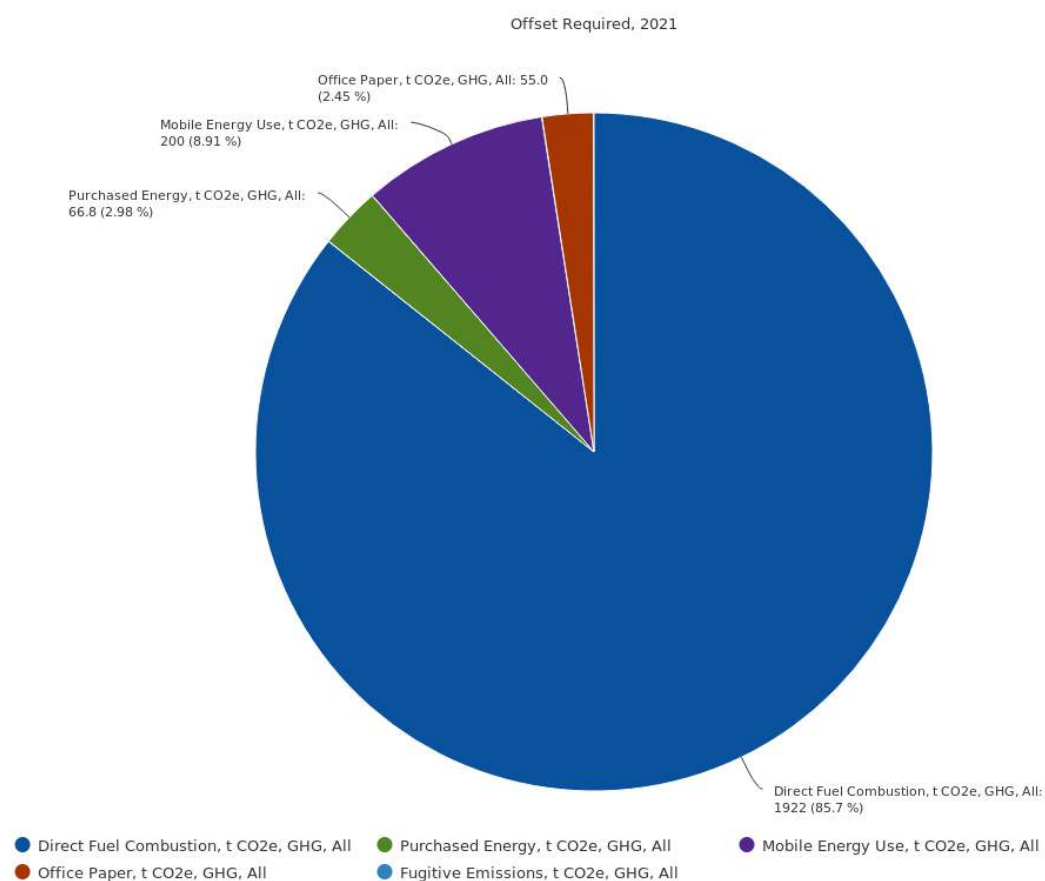


Figure 6 – CGRT graph showing proportional GHG emissions in tCO<sub>2</sub>e by SD71 in 2021



## PART 2. Public Sector Leadership

### 2A. Climate Risk Management

Along with accounting for green house gas emissions, SD71 is preparing for a changing climate and managing climate related risks. The strategy involves developing climate-related targets that will enable Board level oversight. This work will start in 2022 and carry forward into coming years. Additionally, SD71 is starting work on a climate risk management plan for operational and capital planning around climate-related risks and opportunities. Energy management and building resilience are at the forefront of capital infrastructure planning. Operational initiatives driven by climate change, particularly, high heat trends during 2021 included updating procedures for working in the heat and the



*Figure 7 – Isfeld student involvement planting shade trees*



*Figure 8 – SD71 maintenance staff working on Isfeld shade trees*

addition of air conditions to all modular classrooms. Additionally, when reviewing landscaping at sites within the district, consideration is given to planting trees strategically to provide shade. As well as assisting in cooling classrooms, natural plantings of trees and shrubs can diminish air and noise pollution. Shade trees were added at École Secondaire Mark R. Isfeld Secondary and Valley View Elementary in 2021.

### 2B. Other Sustainability Initiatives

As part of its [Value Statement](#), The Board of Education of SD71, Comox Valley Schools, embraces and encourages Global Awareness and Environmental Stewardship. Furthermore, Organizational Stability & Environmental Stewardship is one of four strategic priorities of the district's [Strategic Plan](#) with the goal of cultivating environmental stewardship by fostering the following actions:

- Align outdoor and environment learning opportunities for long-term sustainability
- Reduce carbon emissions and environmental footprint

- Support the establishment and augmentation of school garden projects
- Reduce the use of single-use plastics throughout the district
- Implement strategies for zero waste by increasing recycling and composting efforts in all facilities
- Augment the Active Travel Program and public transit commute initiatives

A sustainability project of note that took place during 2021 was the Arden Creek Restoration Project. Restoration along Arden and Morrison Creeks and their confluence included trail improvement and planting. The project promoted student and community engagement around environmental and habitat protection. The public info sheet included as Appendix A, provides a good summary.



*Figure 9- Community members and students working together on the Arden Creek restoration project*

Additionally, SD71 senior management continues to assist teachers, support workers, parents, and students in their educational green initiatives and activities throughout the school district and community. Of note, Lake Trail Community School is working on reducing its impact on the environment by minimizing waste generation and cultivating awareness around zero waste principles such as conserving resources and minimizing pollution through the implementation of a 'green station' in a central location in the new school. The project was reported in an article in the September 17, 2021, Comox Valley Record: ['Courtenay's Lake Trail School introduces waste free initiative'](#) (click on the link or see Appendix B).

## 2C. Success Stories

Roughly, 80% of SD71 buildings have fuel heating. Natural gas and propane have much higher tCO<sub>2</sub>e emissions than electricity. In recent years, as funding and budgets have allowed the district has been upgrading older boiler plants in its



portfolio. Since 2010, 95% of SD71's boiler inventory has been upgraded to higher efficiency boiler systems.

New boilers have better annual fuel utilization efficiency (AFUE) ratings – generally speaking, a higher AFUE rating means higher efficiency. New boilers have an AFUE of 90 to 95% vs older boilers with an AFUE of 55 to 65%. Replacing all the old standard efficiency boilers with high efficiency boilers increases student and staff comfort and reduces natural gas consumption. All boiler replacements were upgrades from non-condensing boilers to condensing boilers. The image below notes some of the key differences:

Differences between Condensing & Non-Condensing Boilers	
Condensing Boilers	Non-Condensing Boilers
One or more larger heat exchangers	Single combustion chamber and single heat exchanger
Lower temperature of combustion products (around 55°C)	Higher temperature of combustion products (around 180°C)
Exhaust gas is recycled through the condensing heat exchanger	Combustion gases go into the flue and 30% of the heat is wasted
Help combat climate change by reducing CO <sub>2</sub> emissions	Higher carbon footprint
Higher initial cost, but cost efficient in the long-run	Lower initial cost, but very costly venting

Boiler plant upgrades alongside the seismic upgrade at Lake Trail Community School provide an interesting case study to highlight because it not only demonstrates the impact of using higher efficiency boilers, but also the impact of modern building standards. During 2015, the boiler plant in the school was upgraded and subsequently upgraded again in 2021 in conjunction with new seismic school build. Modern mechanical systems combined with current building standards and contemporary designs featuring more efficient building envelopes, encompassing better insulation and windows create notable energy efficiencies. The chart below highlights natural gas consumption, weather normalized, to a typical weather year, in tonnes of carbon dioxide equivalents (tCO<sub>2</sub>e) for Lake Trail Community School for the years 2015-2020. The downward trend illustrates lower emissions following the 2015 boiler replacement and again in 2020 following the new

build and boiler upgrades. The higher emissions in 2019 and 2020 can be attributed to the school being under construction and large sections of the school were open while the old school was being taken down and rebuilt.

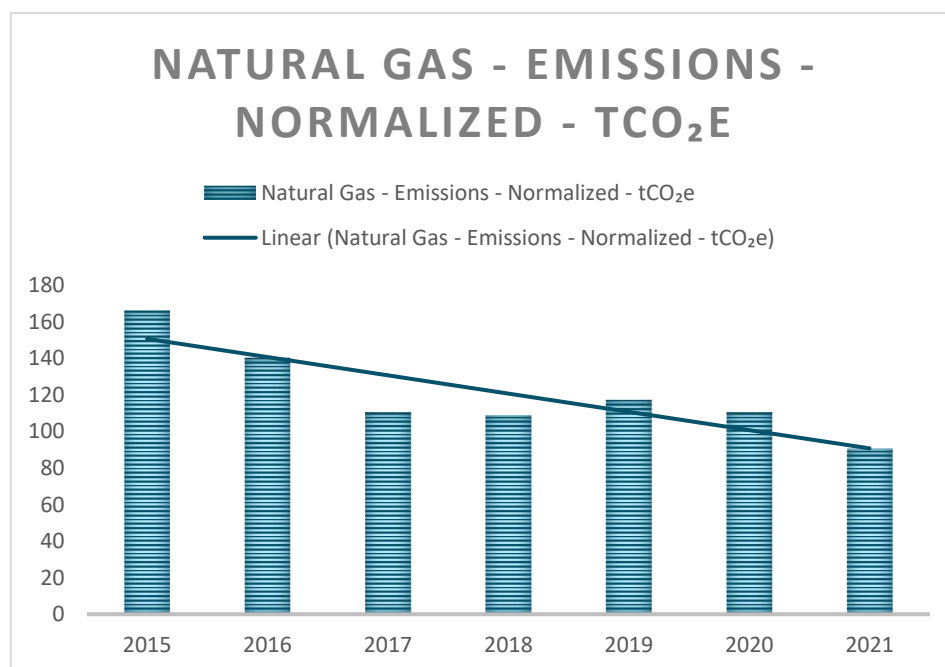
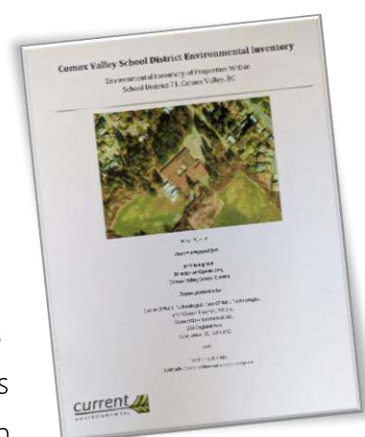


Figure 10 - tCO<sub>2</sub>e normalized Natural Gas emissions for Lake Trail Community School illustrating lower emissions following the 2015 boiler replacement and again in 2021 following the new build and boiler replacement

Another interesting project to highlight from 2021 is the completion of a district-wide Environmental Site Inventory. The inventory encompasses all 24 properties within School District 71. The environmental inventory aides in developing an understanding of the existing physical opportunities and constraints at the sites related to environmental resources. As noted in the Introduction on page four of the *Comox Valley School District Environmental Inventory Report*: "This report is intended to support land use decisions and maintenance works by SD71 Operations staff and to empower administration, teaching staff, students, community groups and parents of each school to learn about and, importantly, to steward ecological value and function on the properties."



## Looking Ahead

Comox Valley Schools aims to contribute to the 2050 emission reductions targets as set out by the BC government (see Appendix C for an overview of on GHG reporting).

The largest portion of SD71's GHG emissions originate from the energy used to heat and power the schools, maintenance and administration buildings. Consequently, the largest GHG reduction initiatives and applications for funding are directed towards reducing the energy consumption from buildings. Some key strategies include assessing the energy performance of each school site and identifying future energy efficiency projects that will reduce consumption in the district facilities. These assessments will factor in the *Annual Facility Grant (AFG)* project planning process, the *Annual Capital Plan*, the *Long Range Facilities Plan (LRFP)*, and the *Carbon Neutral Capital Program (CNCP)* funding requests.

Planned Energy Efficiency Projects for 2022:

- I. Installation of a high efficiency boiler plant at North Island Distance Education Facility with provincial CNCP and AFG funding.
- II. Direct Digital Controls (DDC) upgrades at Courtenay Elementary School with AFG funding.
- III. Domestic hot water tank upgrades at Courtenay, Aspen and Queneesh Elementary with SD71 funds.
- IV. Phase 1 – Building controls and LED lighting, upgrades at Glacier View Secondary with funding from provincial capital. The second phase of project plan for 2023 is to install a photovoltaic array.

**Executive Sign-off:**

Signature	Date
<hr/>	
Name (please print)	Title
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# Appendix A – Arden Creek Restoration Project – Public Info Sheet

## Arden Creek Restoration Project

JUNE 22, 2021



Arden Creek at the Morrison Creek confluence

**Project Team:**

- Morrison Creek Streamkeepers
- Fisheries and Oceans Canada
- Pacific Salmon Foundation
- School District 71
- Current Environmental Ltd.

**Purpose:**

To restore and enhance the riparian (streamside) and in-stream habitat of Arden Creek where it runs across School District 71 property at École Puntledge Park Elementary and Lake Trail Middle School.

**Timing:**

- Mid-July to mid-August, 2021
- Planting to occur in fall 2021

**Project Rationale:**

The habitat in and around Arden Creek is being remediated to support the needs of many local aquatic species, in particular, Morrison Creek lamprey and several salmon species. Morrison Creek lamprey are an endangered species – it is a population of Western Brook lamprey which produces both the typical freshwater non-parasitic form and uniquely, a freshwater parasitic form as well. The typical Western Brook lamprey is found from Oregon to BC, but this unique form is found only in Morrison and Arden Creeks – nowhere else in the world. They are a small fish, less than 15cm long, that is rarely seen.

Morrison Creek lamprey and its habitat are protected under the Species at Risk Act and Fisheries Act. In order to support the long term survival of the population we are undertaking remediation of Arden Creek and the surrounding riparian area to make sure the lamprey have what they need to breed, grow and feed. This work will benefit not just the lamprey but many other aquatic species, in particular salmon. Salmon need many of the same features as lamprey including free flowing water, complex substrates and places to take shelter.



Morrison Creek lamprey



Coho salmon fry

**Get Involved!**

We will be working in this area in July and August to make Arden Creek and the plants surrounding it a more supportive environment for all aquatic species. When school has resumed in the fall and temperatures are a bit cooler there will be opportunities for teachers and students to get involved with the riparian planting. We will contact each school in the fall to coordinate these activities.

*Thank you for your patience during construction this summer!*



Morrison Creek lamprey

Image sources: Joy Wade, Jim Palmer, and Caitlin O'Neill

## Appendix B - September 17, 2021, *Comox Valley Record* Article: 'Courtenay's Lake Trail School introduces waste free initiative'

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Lake Trail School has created special sorting bins to manage waste. It is the first project of its kind in the Comox Valley. Photo supplied

### Courtenay's Lake Trail School introduces waste-free initiative

BLACK PRESS SUBMITTED / Sep. 17, 2021 11:30 a.m. / COMMUNITY

As Lake Trail Community School opened the doors to its new building on Willemar Avenue this fall, staff and students noticed something new.

The school has opted to be as waste-free as possible, making a big commitment to shift how they manage trash.

The first project of its kind in the Comox Valley and aligning with the district's Strategic Plan, the school community began collaborating with Environmental and Outdoor Education teacher Serina Allison in the complex planning required to make this initiative a reality well before the new school was finished being built. They hope that other schools will be able to follow their lead, learning from their work.

## Appendix C - Overview - GHG Reporting

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In 2007, the BC Government took a major step in the fight against climate change by setting aggressive greenhouse gas (GHG) reduction targets and making it legally binding. The Climate Change Accountability Act (CCAA), formerly titled “Greenhouse Gas Reduction Targets Act (GGRTA)” updates legislated targets for reducing greenhouse gases. Under the Act, BC's GHG emissions are to be reduced by the following listed targets set for the Public Sector Organizations (PSOs) and regulated by the Carbon Neutral Government:

- ❑ By 2030, BC will reduce GHG emissions by 40 per cent, compared to 2007 levels
- ❑ By 2040, BC will reduce GHG emissions by 60 per cent, compared to 2007 levels
- ❑ By 2050, GHG emissions will be reduced by at least 80 per cent below 2007 levels

To meet legislated targets, all PSOs including school districts, are required to be carbon neutral. The phrase “carbon neutral” is a way to explain and take responsibility for the GHGs emitted. As a PSO “adding” GHGs to heat buildings, the emissions can be “subtracted” by purchasing carbon offsets. These purchased offsets support innovative BC-based projects that create economic opportunities and fosters the use and development of clean technologies across the province. All public sector organizations follow a five-step process to become carbon neutral and have been doing so since 2010.

SD71 has implemented these five steps to become carbon neutral. Firstly, measuring operational GHG emissions from district buildings, district vehicles and district wide paper consumption. Secondly, reducing emissions where possible through an integrated approach. Thirdly, offsetting SD71 GHG emissions by purchasing an equivalent amount of high quality, made-in-BC carbon offsets. Fourthly, reporting annually on progress through the Climate Change Accountability Report (CCAR) and finally, verifying data and emissions through the BC government online application Clean Government Reporting Tool (CGRT) to convert GHG emissions into a unit of measure. All PSOs enter their data into CGRT which then converts this data into tonnes of carbon dioxide equivalents (tCO<sub>2</sub>e).