OUR RELATIONSHIP WITH WATER in the OKANAGAN

Explorations in Outdoor Education to Support the B.C. Curriculum

BUILDING OUTDOOR LEARNING SPACES

OKANAGAN waterwise

One valley. One water.

Acknowledgments

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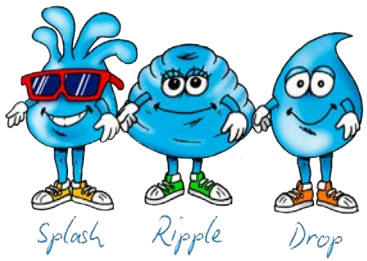

If you're looking to build an outdoor learning space for your school, then you likely already understand all the benefits they provide. This Building Outdoor Learning Spaces module is intended to assist teachers, administrators, and parents in the Okanagan Valley who wish to enhance opportunities for outdoor education at their local school and help navigate the process. Acknowledging that each school and each space will be different, the steps included here will help identify and address key considerations at all stages of the project, from the 'visioning' stage, to the planning and design, installation, and long-term maintenance of the project.

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PLANNING YOUR OUTDOOR LEARNING SPACE

Identify a Project Manager

A project of any magnitude needs a champion to lead the team and to ensure the project is successful. A dedicated teacher, parent, or consultant could volunteer or be contracted to be a Project Manager to oversee all aspects of the project, as described in the following sections. The Project Manager will need to be someone who is collaborative, organized, a good note taker, can plan ahead, has the time, and can manage a financial budget.

Create a Project Team

All projects will benefit from having a wide variety of people involved. It is important that at least one teacher, and the school's administration, be brought into the discussion early on. It may also be helpful to have the Parent Advisory Committee on board. Check with new and like-minded teachers and administrators, education assistants, and aboriginal support workers. Including an Indigenous Knowledge Keeper or Elder can also add tremendous value to your project. Also consider including parents and grandparents of students in the school. Having a project team provides a wider network of connections and energy to help you. A project team should assist with the vision, design, implementation, and maintenance.

More tips for forming a project team are available from School Garden Wizard.[1] Tips for managing volunteers are available from Evergreen.[2]

Define the Vision and Design

It is recommended that any project start small, with the option to expand once it has been demonstrated that an outdoor learning space at your school can be successfully used and maintained. With this in mind, it may be helpful to first consider your existing space and resources, as well as the goals of your project, to identify a small, key piece of the project as a place to start. From there, identify subsequent phases of the project that could be added as time and resources allow.

Defining your vision and the benefits you aim to design into the learning space will help you make your case to school administrators, granting agencies and donors. The Children and Nature Network has a list of research articles that show the benefits of outdoor learning.[3] And their "Benefits of Green Schoolyards" provides reasons for enhancing the outdoor aspects of the schoolyard.[4]

1 https://okwaterwise.ca/resources/school_garden_initiative_2003.pdf
2 https://www.evergreen.ca/downloads/pdfs/Hands-For-Nature.pdf
3 http://www.childrenandnature.org/wp-content/uploads/2015/05/NTN-eguide-2015ALL.pdf
4 http://www.childrenandnature.org/learn/tools-resources/

1. Determine the objectives or goals of your outdoor education program

An outdoor learning space can vary greatly in size and scope, and will depend on the objectives, the resources available at each school, and the interest or expertise of school staff and volunteers. Hosting an initial brainstorming session with your Project Team can be a great way to better understand the primary interests and goals of the team. The brainstorming and visioning stage is also an excellent opportunity to get the students involved and engaged. Regardless of the specifics of the project, the general opportunities for learning will be huge. For example, teachers at Okanagan Landing Elementary School in Vernon have used their 'Pollinator Landing' habitat garden to create opportunities for learning in Math, Science, Writing, and Art (see the Case Study in Appendix 1).

Outdoor learning spaces come in a variety of forms, and each style supports different objectives:

- **Outdoor classrooms** provide a gathering space for a class that will function similarly to an indoor classroom but will offer a change of scenery and some fresh air, greater access to outdoor examples, and a home base for hands-on inquiry about the natural world.
  - Top 10 Reasons to have an outdoor classroom in every school yard.[5]
- **Schoolyard gardens** can focus on food plants, native Okanagan plants, plants for pollinators, rain garden design, xeriscape (drought tolerant) design, or plants with traditional (Okanagan First Nation) significance. In many cases, some or all of these elements can be included in the same space.
- **Greenhouses** focus inquiry into how to grow food and other plants.
- **Play areas** are for creative inquiry and exercise.
- **Natural areas** in the Okanagan are home to a huge diversity of plants and animals, and many of them are threatened or at risk of extinction. One goal of your outdoor learning space might be to enhance habitat for a particular local species or ecosystem (See the case study in Appendix 1 for examples of such projects.). Make sure that any project you undertake in natural areas is in the best interests of local species that may use the area. For example, if the school has busy roads around it, creating a pond could have negative impacts on local amphibian populations. Amphibians will be attracted to the water but could experience high mortality from traffic on surrounding roads. Also, schools in residential neighbourhoods with many free-ranging or feral cats may not want to restore native grassland since they attract many ground nesting birds but will be at risk from the cats.

Also, if looking to re-naturalize an area, consider contacting your local museum for historical photos of the area to see what it used to look like. Often what we consider "natural spaces" are actually disturbed. Many areas of the Okanagan have changed over the years which has resulted in the loss of indigenous plants. For the *Syilx* people, this has made it more difficult to find plants used for traditional food, medicine and technology.

If you have the funding, partnering with a *Syilx* community or organization to create a *Syilx* Indigenous garden is recommended. That community would choose which Elder or land expert can help you. Even if reintroduction of these species is not possible, there are lessons to be learned about the impact of our actions.

5 https://greenschoolyardnetwork.org

2. Assess what resources you already have on hand

Ideally, students and their teachers will be able to go outside, on school grounds, to a space that has been intentionally created for hands-on, outdoor learning. Before planning any details of your project, considering what resources are already available will enhance the success of your project.

- What existing spaces are available? Is there a field that is under-utilized?
- Is there an existing creek, wetland, grassland slope, or forested area?
- Is there an existing garden area already being used for hands-on, outdoor education that could be expanded upon?
- What materials are currently available at the school (e.g. gardening tools, watering systems, fencing, soil, pots, etc.)?
- Are any staff (or members of their family) willing to offer expertise or donate materials? Parents and grandparents can be fantastic resources. If possible, check with parents to see if there is expertise in landscape design, excavation equipment operation, construction, gardening, farming, irrigation, etc.
- Is it possible to partner with the school maintenance staff to help with the outdoor space over the summer months?

3. Design the physical attributes of the outdoor learning space

Once your committee has defined the objectives of the project and agreed on the location of the outdoor learning space, you can move forward with designing the space.

- Consider how you will access the space. (Can you easily bring in the necessary tools, equipment, soil, water, etc.?) Is there fencing in place? Does the space need to be fenced?
- Make sure to confirm with school administration that there are no issues with using the space before venturing too far into the design phase.
- Consulting individuals or groups with expertise specific to your goals is recommended in the design phase. Depending on the scope of your project, it may be prudent to secure funds for hiring a consultant to assist with the design phase of the project.
- Community brainstorming again in the design phase will provide a wealth of ideas to build from.
- Evergreen has published a large resource library of ideas about designing and building outdoor learning spaces.[6]
  - An interesting element could be to include a place for student work, art, and reports to be displayed as interpretation of the outdoor space for others.
  - Making a drawing or a model of the designs can help the team visualize the proposed plans more easily.[7]

SITE PREPARATION FOR KLO FASCIEUX CREEK DAYLIGHTING PROJECT.
PHOTO COURTESY KELOWNA DAILY COURIER

- Consider how the space will be used throughout the year, in each season.
- Create an outline of how the space will be shared among all classes in the school.
- Where does snow get piled up when shoveled or plowed in the winter?
- Are there any community concerns, such as views?

6 https://www.evergreen.ca/tools-publications/?subject=286&type=291&page=1
7 http://www.schoolgrounds.ca/sitedesign.html

SEATING AREA IN OUTDOOR LEARNING SPACE AT SHANNON LAKE ELEMENTARY IN WEST KELOWNA.

Designing an Outdoor Classroom

Assemble a team to design your outdoor classroom. Multiple viewpoints will help see holes in the design and will make it more adaptable for a variety of teaching types. For example, if incorporating Indigenous elements (such as Indigenous planting, signage, cooking), reach out to the local *Syilx* community who can choose elders or land experts to help you. Include students and parents on your team.

- Choose a site. Consider the sun and shade that will be available.
- Outdoor classroom designs include a focal point for a teacher, seating for students, and natural elements. Searching online for images of outdoor classrooms is a great way to get ideas.
- Consider seating, workspaces, and pathways through your area.
- The quietest locations on the school grounds make the best place for an outdoor classroom. Consider the sources of noise, like roadways.
- Be sure to create a space requiring little maintenance.
- How will the classroom be used year-round?

MAKE CURRICULAR CONNECTIONS

Okanagan Landing Elementary students used their knowledge from math class to calculate area and help with garden design.

Designing a Garden Space

The design of the garden will be influenced by the objectives of the project (e.g. creating habitat for pollinators - especially native pollinators - learning about traditional uses of plants for food, medicine and technology), and the resources available. The amount of space available, and the attributes of the space (e.g. hours of sunlight, access to water, soil quality) will also be key determinants of the design. Begin by surveying the location for the proposed garden and drawing the available space to an approximate scale on graph paper.

- Note the location of water sources, which areas of the schoolyard face the sunniest south side, and the location of trees or structures that might shade the garden at certain times of day.
- Food gardens generally need lots of sun, water, and rich soil, which can be added to the design if absent. Alternatively, native plants can be chosen to fit a wide range of conditions.
- If you intend to plant in the ground, examine the qualities of the soil (e.g. sandy or clay, black organic or brown mineral, pH, how wet is the area throughout the summer) to help determine what plants might be suitable, or what soil amendments might be needed.
- Wide pathways and open areas provide access to many students at one time and enhance accessibility for differently-abled students.
- Plant taller plants at the back, and the shorter plants in the front, so the smaller plants aren't shaded from the sun.
- Including a wide diversity of plants in the plan helps ensure that there are blooms for the wild pollinators, and aesthetic value throughout the year. Include evergreen shrubs for winter beauty, and flowers that bloom in spring, summer, and fall.
- Aesthetics of the garden design can be freeform and more natural or include planting strategies for a tidier look by planting in rows or blocks of the same plant.
- Artistic elements can be the shape of the garden, the layout or design of the colours and textures of the plants, or the artistic objects that are displayed.

STUDENT-MADE SIGNS IN THE "SEEDS OF LEARNING" GARDEN AT GLENMORE ELEMENTARY IN KELOWNA, B.C.

- Including composting boxes into the garden can take learning about garden ecosystems and sustainability even farther.
- Designing signs for the garden could make an excellent class project. What kind of materials would best stand up to the rain? Wood, plastic, paint, Sharpie markers, and Rite-in-the-Rain paper could all be used for student signs. Alternatively, funds could be raised to commission professional interpretive signs for your garden. Depending on the project, consider including the *nsyilxen* language and *Syilx* plant use information (e.g. Oregon Grape has traditionally been used for dye, medicine, and food).

The following resources can help you determine which plants are most suited to your garden:

- The OBWB's Okanagan WaterWise program offers an easy place to start with their "Make Water Work Plant Collection."[8] It's a good jumping off point for beginner gardeners. The collection was created in partnership with the Okanagan Xeriscape Association (OXA) and includes 105 WaterWise perennials, grasses, trees and shrubs, including native and edible varieties.
- OXA provides an excellent database of plants suitable for the hot Okanagan climate. You can search their database by bloom colour, whether or not they are native to the Okanagan, or what time of year they bloom.[9]
- West Coast Seeds has a free guide for planting food plants in the Okanagan.[10]

- Your local garden club or Master Gardener organizations are available to help answer questions.
- Schools that have an existing garden space may also have advice on how to start.
- Demonstration gardens can also provide ideas. There are demonstration xeriscape gardens at Okanagan College's Kalamalka Campus in Vernon, outside the H_2O Recreation Centre in Kelowna – aptly named the UnH_2O Demonstration Garden. In the South Okanagan, there are demonstration gardens at Summerland Ornamental Gardens, the Penticton Xeriscape Garden on Marina Park Way, and the Osoyoos Desert Centre.

8 https://www.makewaterwork.ca/plants/
9 https://okanaganxeriscape.org/plant-database/
10 https://www.westcoastseeds.com/garden-resources/west-coast-seeds-planting-charts

PHOTO COURTESY HTTPS://COMMONS.WIKIMEDIA.ORG/, W. CARTER

Designing a Greenhouse

- Greenhouses are useful for growing plants in a more controlled environment, without taking up room in the classroom. They can be expensive to build but allow for plants to grow earlier in the season, which is useful given that the school year doesn't cover much of the growing season.
- Students can experiment with how to make the greenhouses work better in cooler temperatures (e.g. by using double layered walls, adding black, white, or reflective materials to absorb or reflect light, keeping a water barrel inside stores heat in the day). Greenhouses are also a good way to explore the concept of the Greenhouse Effect.
- Greenhouses get very hot in the summer, so greenhouse designs should include adjustable air vents or removable panels in the roof, walls that roll up, and/or fans to enhance ventilation. Consider how likely it is that the greenhouse will be used over the summer when designing ventilation.

Designing a Play Area

The 2017 Children and Nature Network International Conference & Summit in Vancouver demonstrated that an outdoor play area doesn't have to be elaborate or expensive to be fun and functional. To celebrate the conference, Bienenstock Natural Playgrounds built a 500 square metre Nature-Play pop-up park filled with hay bales, water, soil, mulch, burlap, twine, logs, to create a natural play structure with jumping platforms, balance beams, and fort-building materials.[11]

There are a wealth of ideas available on the Internet by looking at images of natural playgrounds, but here is an additional resource:

- Play and Playground Encyclopedia.[12]

Enhancing a Natural Area for Species and Ecosystems At Risk

The Okanagan is home to several rare and endangered ecosystems. If your school has access to a natural area, like a grassland or a wetland, the goal of your outdoor learning space could be to enhance the local environment and to focus projects and learning opportunities on the natural history, invasive species, and ecology of the local environment. If your school grounds have historically supported a native ecosystem (e.g. a grassland or wetlands area), it may be of interest to start a school-wide initiative to re-create or

11 https://www.prlog.org/12632884-bienenstock-natural-playgrounds-to-unveil-pop-up-park-in-collaboration-with-vancouver-board-of-parks.html

12 https://pgpedia.com/tags/playground-design

enhance natural areas, and to use these spaces for outdoor learning. A project of this type provides significant opportunities for learning, both in the process of restoring the habitat and then in observing and maintaining the ecosystem in its natural state. Habitat enhancement projects provide opportunities for hands-on learning about invasive species and the natural history of a local ecosystem.

Indigenous people have lived in this region for 1000s of years and can share information that would be beneficial. Again, reach out to the local *Syilx* community from the beginning who can help arrange for an Elder or land expert to share traditional information about the area.

Maybe your project includes the creation or enhancement of habitat for a Species at Risk. **Important:** If enhancing or restorting a natural area is your objective, it is recommended that you first contact a qualified biologist or environmental specialist to determine the steps required (including following best practices, applying for grants and permits). A biologist can also help explain the possible benefits and risks that your proposed project can have on species at risk, and even help you avoid creating low quality habitat that may do more harm than good.

- The Okanagan Habitat Atlas[13] and Regional District and municipal mapping websites are great sources of environmental maps for the Okanagan Valley.
- Information on Species and Ecosystems at Risk in British Columbia can be accessed online.[14] The BC Conservation Data Centre iMapBC[15] and BC Species and Ecosystems Explorer[16] provide information on which species or ecosystems might need support in your area. E-Flora and E-Fauna BC are also good resources.[17]
- A good example of a garden that began as an opportunity to provide habitat for Monarch butterflies is “Pollinator Landing” at Okanagan Landing Elementary School (See Appendix 1).
- Native plants can also be planted in highly structured gardens the same way other plants can. Using native plants in all types of gardens helps support native insects, mammals, and birds.
- K.L.O. Middle School discovered that endangered Painted Turtles from Fascieux Creek were nesting in their long jump pit. This prompted a group of teachers, community members, and parents to take action to enhance the creek and protect these turtles and their nesting habitat. [18], and [19].

K.L.O. MIDDLE SCHOOL LONG JUMP PIT-TURNED TURTLE SANCTUARY. PHOTO COURTESY BCWF BOGBLOG

WESTERN PAINTED TURTLE

13 http://cmnmaps.ca/okanagan/
14 http://www2.gov.bc.ca/gov/content/environment/plants-animals-ecosystems/species-ecosystems-at-risk
15 http://maps.gov.bc.ca/ess/hm/cdc
16 http://a100.gov.bc.ca/pub/eswp
17 https://ibis.geog.ubc.ca/biodiversity/eflora/ and https://ibis.geog.ubc.ca/biodiversity/efauna/
18 https://www.castanet.net/news/Kelowna/61471/Turtles-saved-by-KLO-middle-school
19 https://www.kelownacapnews.com/news/second-phase-of-kelowna-creek-restoration-project-nearing-completion



PHOTO COURTESY MICHAEL BEZENER

4. Identify Materials and Resources Required for the Project

Once the objectives and design of the project have been completed, the next critical phase will involve obtaining the necessary approvals and development of a budget.

Approval to Pursue the Project

Depending on the type and scope of the project, it may be necessary to obtain approval for the project from various agencies outside of the school administration. For example:

A. **School Board/Superintendent/CUPE:** Your school administration should liaise with the School Board, Superintendent, and CUPE representatives to ensure there are no issues with moving forward on the project. Make sure to involve the caretakers and school board grounds department in the discussions to determine how much they are willing to be involved. Consider the required sight lines for safety, as well as fire drills and other security considerations. Evergreen has produced a guide to help school boards promote school ground greening through policies, programs and operating procedures.[20] The "Creating an Outdoor Classroom" resource from LifeCycles Project Society also contains useful sample letters to school administration and parents.[21]

20 https://www.evergreen.ca/downloads/pdfs/School-Ground-Greening-Policy-Planning.pdf

21 https://www.interiorhealth.ca/YourHealth/SchoolHealth/SchoolNutrition/Documents/Creating%20An%20Outdoor%20Classroom.pdf

B. **Environmental Permits:** A biologist/environmental professional or the Planning Department of your local government should be able to determine what types of permits, if any, are required. They can also assist with obtaining the necessary permits from the appropriate agencies (e.g. local, regional, provincial, or federal government) and provide information on the costs of obtaining the permits. This will be particularly important in restoration and enhancement projects. The following are examples of regulations that may be applicable:

- *Riparian Areas Protection Act* regulates permission for work in or near water that supports fish-life.
- *Water Sustainability Act*, Section 11 approval for 'Works in and About a Stream'
  - Despite the best efforts of Provincial government staff in processing approvals within a reasonably short time, approvals can take the better part of a year and sometimes more. If any of the work is in a stream, it may end up being restricted to a specific work window to avoid fish-spawning or other aquatic life-cycle considerations. If permitting is not submitted early enough, there is a good chance that you could be required to use your grant money up before you have permission to do any work.
- Development Permit from local or regional government.

C. **Land Use:** Check with your local government to determine if there are any land use issues associated with the project (e.g. if the project scope includes park land, Crown land, or private land).

Developing a Project Budget

A critical component of the project is the creation of a detailed budget, which outlines all the short- and long-term costs associated with the project. School administration will likely ask for assurances that enough resources are in place to cover projected costs prior to allowing the project to move forward.

As each budget will obviously depend on the type and scope of your project and thus can vary greatly, it is not possible to provide reliable estimates of costs here. However, there are undoubtedly experts available to your committee (e.g. staff, parents, consultants, community volunteer groups, business owners) who can provide estimates and quotes.

STUDENTS FROM SHANNON LAKE ELEMENTARY IN WEST KELOWNA GIVE A TOUR OF THEIR VEGETABLE GARDEN.

Examples of sample budgets are provided in the TD Friends of the Environment Foundation guide to building outdoor classrooms.[22] They are also included in this module as Appendix 3.

Up-front Costs for Construction of Project

In general, up-front costs to consider in your budget include the following:

- Plant material
- Other materials (e.g. mulch, rocks, soil, benches, composter)
- Tools
- Labour (e.g. site preparation/ excavation, irrigation specialist, professional landscaper) Consultation Fees (e.g. landscape design, environmental professional, project coordinator)
- Permit Fees (may include fees for an expert to fill out the appropriate applications)
- Fencing

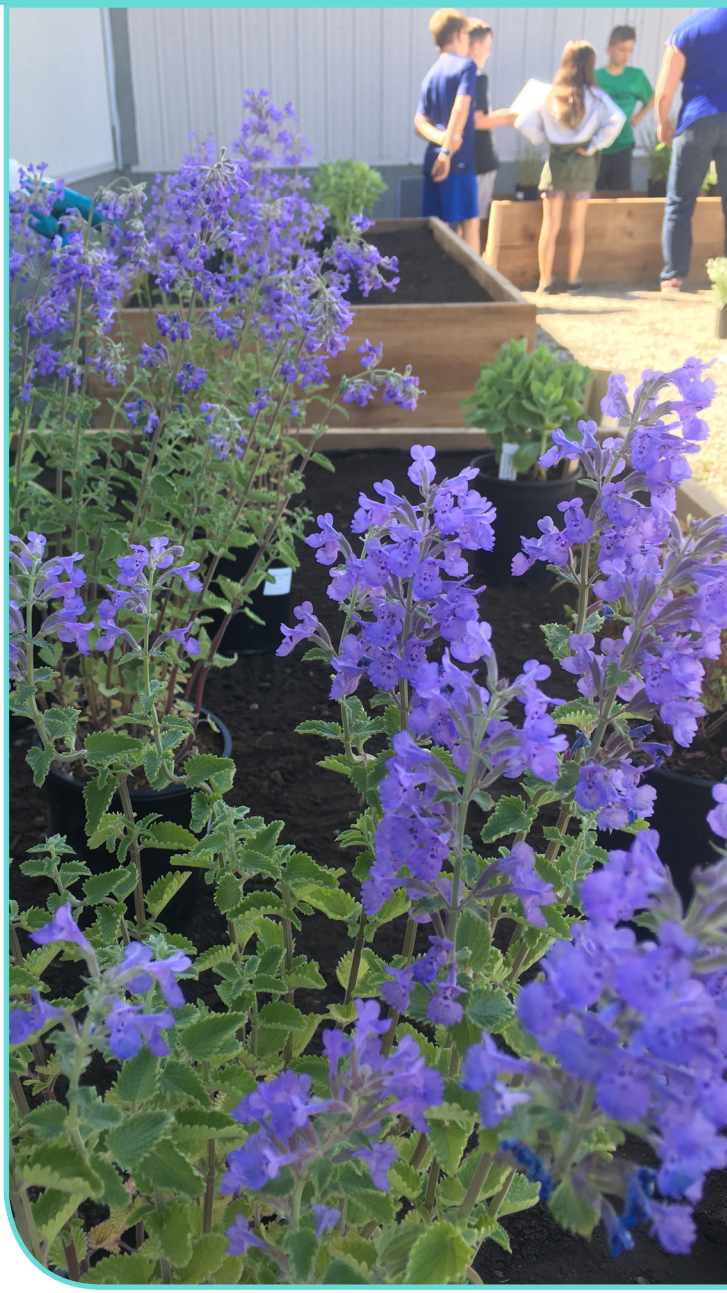
Future and Maintenance Costs

It is also important to consider costs associated with the on-going maintenance of the outdoor space or costs associated with further enhancement of the site. Examples of maintenance costs include the following:

- Irrigation water
- Replacement materials (e.g. plants, mulch, irrigation parts, tools)

You may want to include budget for elements that can be added to the space as time/resources permit. For example:

- Signage
- Resource materials for teachers to assist them in using the space



22 https://www.forestsontario.ca/en/resource/td-building-outdoor-classrooms (pages 20 and 22)

5. Create a Project Timeline and Charter

The creation of a project charter is very helpful in planning, tracking, and communicating the phases and timeline of your project. It is recommended that the charter is clear about who is responsible for each task, and when each task should be completed. The timing of each phase should include lots of wiggle room. See Appendix 2 for a sample project charter. The following should be considered in the creation of a project charter:

- Permit application timelines
- Grant application deadlines and amounts (see below)
- Timelines tied to grants (i.e. when funds must be spent, when grant reports are required)
- Availability of experts
- Appropriate timing for planting, removing invasive species, building structures, etc.
- Coordination with school events/schedules

Funding Opportunities

In considering ways to finance your project, there are many possibilities, including in-kind donations and grant funding. The OBWB's Water Conservation and Quality Improvement Grant Program[23] has funded some outdoor learning spaces in past years based on fit with the program's annual priorities and funding available.

Additional funding opportunities include:

Grants

- **TD Friends of the Environment Foundation**[24]
  TD FEF funds outdoor education and outdoor classrooms – their outdoor classroom guide has tips for successful funding applications.
- **Evergreen**[25]
  Evergreen supports community and school greening projects throughout Canada, ranging from wetland restoration to school ground food gardens. Evergreen provides training, design and maintenance advice, and a range of resources. The Toyota Evergreen Learning Grounds program helps schools create outdoor classrooms to provide students with a healthy place to play, learn and develop a genuine respect for nature. In past years, grants have been available for up to $3,500.
- **Go Wild School Grants**[26]
  WWF-Canada's Go Wild School Grants Program encourages schools to take care of nature so nature can take care of us. Primaries, secondaries and post-secondaries can apply for $500 to kick-start a project at their school.

23 https://www.obwb.ca/wcqi

24 https://www.td.com/ca/en/about-td/ready-commitment/funding/fef-grant

25 https://www.evergreen.ca/our-projects/school-board-collaborations-services

26 http://www.wwf.ca/takeaction/gowildschools

A TEACHER AND STUDENT CHECK IN ON PAINTED LADY BUTTERFLY AT POLLINATOR LANDING GARDEN IN VERNON, B.C.

Donations

Personal relationships are important! Often a parent or local partner will be willing to donate work, time with their excavation equipment, or supplies to the project. Having trusted and well-connected project champions can greatly enhance the success of a project.

The Chicago School Garden Initiative also has an excellent list of alternative fundraising ideas, and a sample letter to request donations.[27]

Other possible supporters

- Local Rotary Clubs
- Local Naturalists' Clubs (they might be able to provide funding via BC Nature)
- Can you find local organizations that are willing to help with services or materials (e.g. environmental consultants, your local Naturalists' Club or Stewardship Organization)?
- Community Foundations
- Local Credit Unions
- The school Parent Advisory Committee

27 http://okwaterwise.ca/resources/school_garden_initiative_2003.pdf

Seeking Funding

Depending on the structure of your committee, you may have several different people involved in seeking funds and in-kind donations. However, it is recommended that a designated project manager oversee and coordinate these efforts to ensure that enough resources are in place before moving forward with building the project.

A project manager could oversee the following tasks:

- Writing a proposal.[28]
- Coordinating presentations to local groups/businesses that may help finance or provide letters of support for the project (e.g. Rotary Clubs, Naturalists Clubs).
- Coordinating committee members to seek appropriate in-kind donations (e.g. landscaping companies, landscape supply businesses, materials from parents/grandparents).
- Understanding which grants are available and their application deadlines.
- Determining who will be responsible for completing grant applications.
- Determining who will be responsible for ensuring all invoices and grant reports are complete.
- Determining who will be responsible for overseeing the payment of contractors and other invoices.

28 http://okwaterwise.ca/resources/school_garden_initiative_2003.pdf

CONSTRUCTING YOUR OUTDOOR LEARNING SPACE

Once you have secured funding for the project, you can now begin to coordinate and organize all that must be in place for a smooth-running construction or restoration of your outdoor learning space.

It is important to ensure that the following tasks are completed (This is where a project manager can be very helpful!):

- The committee coordinates with teachers and administration about how the students will be involved in the project (learning objectives, timeline, safety).
- All required permits are obtained.
- Suppliers of your materials (e.g. plants, trees, soil, mulch, rocks) are contacted and arrangements for pick up or delivery of materials are in place (be sure to coordinate with school officials to ensure deliveries occur in a safe manner).
- If your project involves any amount of digging or excavation, BC One Call[29] must be contacted to determine if there are any underground utilities (e.g. gas, buried cables) in the project area.
- All school staff members (teachers, maintenance, etc.) are made part of the planning, and are notified about the timing of the installation.
- All volunteers and contractors (e.g. equipment operators; landscapers; builders) are notified when their services are required.
- Invitations to the site on installation day have been extended to the appropriate people (e.g. media, and project partners including funders, school district and school board representatives).

When holding an event, include acknowledgment that the project is located, and that you are gathered on, the traditional and unceded territory of the *Syilx* people. Also, invite a local Indigenous representative to officially welcome attendees to the territory. When a Knowledge Keeper or Elder participates in a project (e.g. in the building of an Indigenous garden) or attends your event, it is proper protocol to offer an honourarium.

Celebrate your success with the school, the community, the volunteers, the funders and invite the media to help spread the message! And remember to take before and after pictures.

OKANAGAN MAYORS JOIN GLENMORE ELEMENTARY STUDENTS IN PLANTING A GARDEN BOX WITH PLANTS FROM THE OBWB-OKANAGAN WATERWISE "MAKE WATER WORK PLANT COLLECTION," AS PART OF A MEDIA EVENT IN MAY 2019.

29 http://www.bconecall.bc.ca

MAINTENANCE OF THE OUTDOOR LEARNING SPACE

Most of the work involved in the maintenance of your outdoor site would ideally be completed by students, under the supervision of teachers, during the school year.

However, it is essential to consider ahead of time the following:

- What maintenance work will be required during the summer months?
- Who will be responsible for maintenance work?
- School administration and CUPE will want assurances that sufficient resources are in place for on-going maintenance. Obviously, what is required will depend on the type and scope of your project.
- Is a volunteer committee comprised of teachers, parents, or members of a local naturalist or stewardship organization necessary?
- Are there funds available to pay CUPE staff or a contractor for maintenance, if necessary?
- Is there an irrigation system in place? Who will monitor that it is working?

If your project involves the creation of a garden space, certain elements can be incorporated into the design of the project that will reduce maintenance requirements. For example:

- Mulching of the garden space reduces weed growth and moisture loss from the soil.
- Plant species can be chosen that do not easily re-seed or spread rapidly.
- Installation of an automatic irrigation system.
- In a food garden, planting foods that are harvested in the spring (e.g. lettuce, radishes, peas).

During the school year, maintenance of the outdoor space creates many learning opportunities and lesson plans can be developed around it. Concepts that can be explored during maintenance of the garden can include, for example:

- What plants and animals need to survive (i.e. what is habitat; how to restore/create/maintain habitat).
- Plant and animal identification.
  - Identification/management of invasive species
- How to plant, grow, harvest food.
- Competition between species.
- Any number of art classes.

MAKE CURRICULAR CONNECTIONS

One class at Okanagan Landing Elementary School pulled invasive weeds, pressed them, and made posters about invasive plant species.

STUDENTS AT KLO MIDDLE SCHOOL PLAY IN THE SPORTS FIELD WHILE A DUCK SUNS HIMSELF ON A ROCK IN FASCIEUX CREEK, WHICH WAS REHABILITATED BY STAFF, STUDENTS AND COMMUNITY MEMBERS.

A list of maintenance resources are available at Evergreen, including how to care for your gardens and plants,[30] and how to reduce vandalism and plan for safety.[31]

The Chicago School Garden Initiative also offers some resources on maintenance.[32]

Planning for Long-term Sustainability

While an individual teacher, parent, or consultant could initially lead the project, it is important to consider who will oversee or co-ordinate the maintenance and use of the outdoor space once it has been constructed. It may be best to form a committee, which includes interested staff and an administrator (principal or vice-principal) to ensure sustainability of the project over the long term.

It is important to ensure oversight of fundraising for potential on-going costs associated with the project (e.g. plant replacement, re-mulching, irrigation maintenance, maintenance of built structures).

30 https://www.evergreen.ca/tools-publications/caring-for-your-gardens-plants/
31 https://www.evergreen.ca/downloads/pdfs/Vandalism_Safety.pdf
32 https://okwaterwise.ca/resources/school_garden_initiative_2003.pdf

RESOURCES

Native Plant Information and Suppliers

As noted earlier, the OBWB's Okanagan WaterWise program has developed the "Make Water Work Plant Collection" in partnership with the Okanagan Xeriscape Association (OXA), as a fool-proof, easy-to-use list for beginner gardeners and includes perennials, grasses, trees and shrubs (including native and edible varieties).[33]

The OXA Plant Database[34] is also an excellent resource to help you select plants for your outdoor learning space. You can search by which plants require less water, which are native to the Okanagan, where to get the plants, and much more. While some native plants can be found in non-specialized nurseries, the following businesses and groups can also help you find plants native to the Okanagan. Non-specialized nurseries often sell varieties of native species that are mutated and bred for colours or other characteristics that are not normal in natural populations, which may or may not be what is desired.

- Okanagan Xeriscape Association[35]
- Okanagan Master Gardeners[36]
- Sagebrush Nurseries, Oliver B.C.[37]
- XEN – Xeriscape Endemic Nursery, West Kelowna, B.C.[38]
- SeedsCo Community Conservation[39]

33 https://www.makewaterwork.ca/plants/
34 https://okanaganxeriscape.org/plant-database
35 https://okanaganxeriscape.org
36 http://mgabc.org/content/okanagan
37 http://www.sagebrushnursery.com
38 https://www.xeriscapenursery.ca
39 www.facebook.com/seedsco.community

BROWN EYED SUSAN (GAILLARDIA ARISTATA)

Species and Ecosystems Information

If you are interested in learning more about which species and ecosystems are in the Okanagan, where they are, and whether the species is endangered, there are a number of valuable resources available:

- E-Flora[40] and E-Fauna BC[41]
- Okanagan Habitat Atlas[42]
- BC Species and Ecosystems Explorer[43]
- BC Conservation Data Centre iMaps (only available through Internet Explorer)[44]
- EcoCat - The Province of BC Ecological Reports database[45]

40 http://ibis.geog.ubc.ca/biodiversity/eflora
41 http://ibis.geog.ubc.ca/biodiversity/efauna
42 http://cmnmaps.ca/OKANAGAN
43 http://a100.gov.bc.ca/pub/eswp
44 https://www2.gov.bc.ca/gov/content/data/geographic-data-services/web-based-mapping/imapbc
45 http://www2.gov.bc.ca/gov/content/environment/research-monitoring-reporting/libraries-publication-catalogues/ecocat

PARKWAY ELEMENTARY SCHOOL - PENTICTON, B.C.
PHOTO COURTESY OF JANDI DOYLE

KLO MIDDLE SCHOOL - FASCIEUX CREEK, KELOWNA, B.C.

SHANNON LAKE ELEMENTARY SCHOOL - WEST KELOWNA, B.C.

Okanagan Planting Resource Guides

- Make Water Work Plant Collection[46]
- Slow it. Spread it. Sink it! Okanagan Homeowner's Guide[47]
- Building Climate Resilience in the Okanagan – A Homeowner's Guide[48]
- Okanagan-Similkameen Rain Garden Guide Book & Master Plant List[49]

Outdoor Learning Space Examples

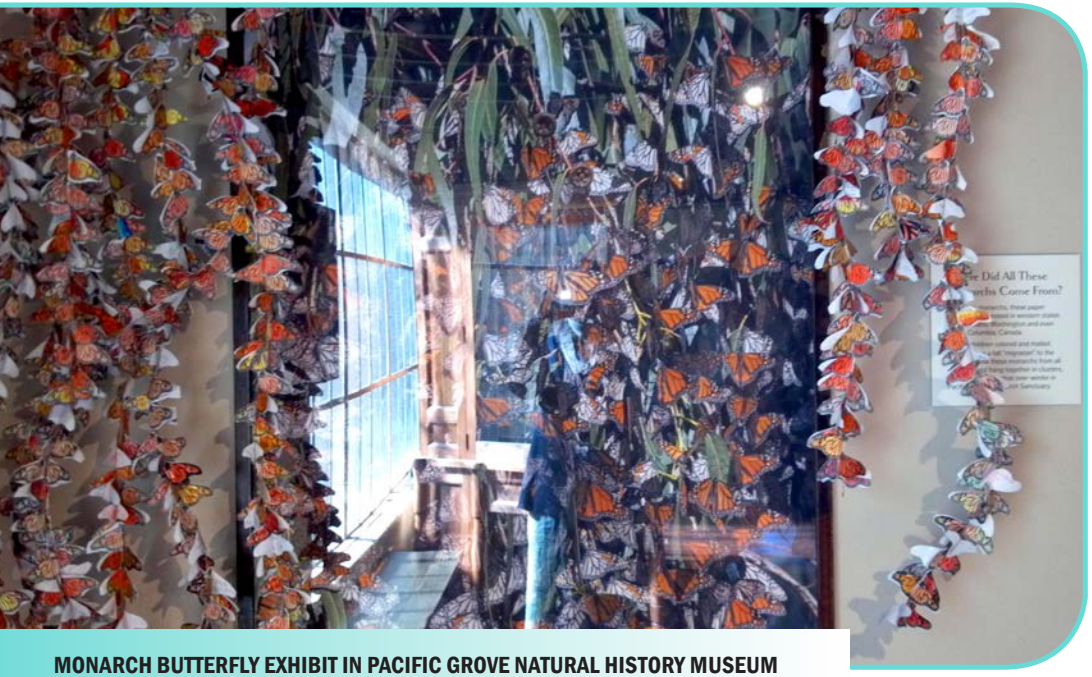
- Okanagan Landing Elementary – Pollinator Landing Garden, Vernon, B.C. (See Appendix 1)
- KLO Middle School – Fascieux Creek Daylighting & Naturalization Project, Kelowna, B.C.
- Okanagan College - *na'ʔk'ʷulaməɬ* Indigenous Garden, Kelowna, B.C.
- Glenmore Elementary – Seeds of Learning Garden, Kelowna, B.C.
- Shannon Lake Elementary – Garden Project, West Kelowna, B.C.
- Parkway Elementary – Food Forest Project, Penticton, B.C.
- Penticton Secondary School – Greenhouse Project, Penticton, B.C.

46 https://www.makewaterwork.ca/plants
47 https://okwaterwise.ca/pdf/HomeDrainageGuide_Okanagan.pdf
48 https://okwaterwise.ca/resources/BuildingClimateResilience.pdf
49 https://www.regionaldistrict.com/media/210071/RGGB_RainGardenGuide.pdf

APPENDIX 1. "POLLINATOR LANDING" CASE STUDY

In October 2015, a 5,000 square foot 'pollinator' garden (a garden designed specifically to provide habitat for pollinators, such as bees, butterflies, and hummingbirds) was created on the grounds of Okanagan Landing Elementary in Vernon, B.C.

Since its development, both the Principal and Vice-Principal view the creation of the learning space as beautiful, but also as a fantastic way to enhance school grounds. They also acknowledge that the garden has become part of the school's culture.



MONARCH BUTTERFLY EXHIBIT IN PACIFIC GROVE NATURAL HISTORY MUSEUM

The Beginning

The garden began as an idea for an art project. In early 2015, Buffy Baumbrough travelled to Pacific Grove, on the central California coast, to visit a sanctuary for over-wintering Monarch butterflies. While there, Buffy met the curator of the Pacific Grove Museum of Natural History, Annie Holdren.

Annie had the brilliant idea of getting students in Vernon (and other regions) to create paper Monarch butterflies that they could mail to Pacific Grove (thus mimicking the migration of the Monarch). Once all the butterflies had been received, Annie created an exhibit that showed the butterflies as they would look while over-wintering in the Pacific Grove sanctuary.

Excited by Annie's idea of the paper butterfly 'migration,' Buffy approached Sheila Monroe, a Grade 4 teacher at Okanagan Landing Elementary school, to see if she would be interested in creating an area to help real monarchs. By the end of that first meeting, the Monarch butterfly art project had expanded into a plan to create habitat for Monarchs and other pollinators on the school grounds.

A Garden to Support a Species at Risk

Monarch caterpillars depend on the milkweed plant (Asclepias) as their sole food source, while Monarch adults (and butterflies in general) require nectar-producing flowers. During their conversation about Monarchs, Buffy and Sheila began to explore the idea of planting milkweed and other flowers on the school grounds.

For years, Sheila and her students had been looking after several raised beds just off the school parking lot and the expansion of this space to create habitat for pollinators was easy to imagine. Luckily, there was a lot of expertise and enthusiasm available to help make this happen.

Permission to Create a Garden Committee

Buffy and her sister, Judy Baumbrough, had been in the sustainable landscaping business for over a decade and had experience creating pollinator gardens. At the time, Judy ran a plant nursery called Dusty Shovel where she grew milkweed and other pollinator-friendly plants. Buffy, in addition to the landscaping, had a background in biology and had worked as a consultant on many conservation-related projects.

After that first conversation with Buffy, Sheila approached the administration at Okanagan Landing to secure their support. As a teacher who had already successfully worked for many years with students in growing a garden, Sheila was well-positioned to make the pitch. Because of her demonstrated success and an obvious commitment to the project, the school administration was willing to support the garden project.

There were other factors that worked in favour of the garden. In addition to a committed staff member with a proven track record, there was a committed community member who believed in the project and was willing to share her expertise. There was also the perfect space for such a garden available on school grounds. It made great sense to extend the existing food garden into the flat, unused space where a portable classroom used to be located. The administration recognized that it was an area that was very rarely used by students.

It was determined that CUPE would be at the school to fence off a handicapped parking area and this streamlined with the fencing off of the garden space. CUPE supported the garden knowing that outside funding was in place to cover the costs associated with the garden and that maintenance would be covered by students, teachers, Okanagan and Similkameen Stewardship Society (OSSS), and other volunteers.

A working committee was formed to oversee the creation of the garden. This committee comprised of the Vice-Principal, Colline Johnson, Sheila Monroe, Terry Petersen, a Grade 7 teacher with a background in landscaping, and the school's Aboriginal Support Worker. Buffy worked closely with the committee.

Designing the Garden

With the school administration now on board, Buffy designed the garden and came up with an estimate of costs. The garden was designed to incorporate several different 'beds' that would include a variety of plants and shrubs suitable for a habitat/pollinator garden. Because there was an existing 'square foot' garden on school grounds that was partially fenced, the garden was designed to be an extension of this, optimizing the use of the existing fencing. As such, the garden was designed to be 15 metres (50 feet) by 30 metres (100 feet) in size.

The design of the garden included a number of different planting beds with wide pathways throughout. Shrubs were included on the perimeter to act as a windbreak (butterflies prefer protection from the wind). One bed was designated for herbs and was intended to act as a transition between the existing food garden and the pollinator garden. Another bed was intended for annual plants, thus providing teachers and students with the opportunity to start plants from seed and/or plant in the garden every year (also, several annual plants are excellent for pollinators). Another bed was intended for native plants, particularly those with traditional (First Nations) significance. The majority of the planting beds were intended for a variety of perennial plants that are drought tolerant and good for pollinators.

In addition to the many different planting beds, large rocks were incorporated into the garden, which served two purposes. Large rocks with flat surfaces were placed near the edges of the pathways to act as seating areas for students. Rocks also act as basking sites for butterflies.

Securing Funding

Once an estimate of costs had been determined, the next step for the committee was to secure sufficient funding for the project to move forward. Since the school administration had no means to financially support the project, it was imperative that funding from outside sources be sought.

Through her connections in the conservation/stewardship and landscaping communities, Buffy was able to help secure grant money from the Okanagan Collaborative Conservation Program (OCCP) and the Okanagan-Similkameen Stewardship Society (OSSS), as well as in-kind donations from people in the landscaping business. The OSSS and OCCP agreed to help fund the project because the garden was designed to provide habitat for species that are threatened or endangered (e.g. the Monarch butterfly).

Sheila approached the school's Parent Advisory Committee for their support. The parent group agreed to support the garden with funds for some tools, garden equipment for children, and materials to support projects the students were undertaking to learn about pollinators, including Monarch butterflies, and pollinator plants.

Other Garden Committee members also connected with people and businesses known to them that might be able to provide in-kind support or donations towards the project, including landscape supply businesses that agreed to donate some materials or provide materials at a significant discount.

Buffy coordinated with the OCCP and OSSS, including invoicing and management of the grant money. She also coordinated with the committee members to keep track of funding and in-kind donations to determine when enough funding and materials were in place to move forward with the project.

Planning the Construction of the Garden

Once funding for a major part of the garden was in place (i.e. enough funds for the soil, rocks, plants and mulch), the administration was fully on board with moving forward on the project. The committee then met to determine how best to plant up the garden.

Dusty Shovel Gardens coordinated and managed the construction of the garden. This included making sure that all the materials for the garden were ordered and delivered appropriately (i.e. safely) and at the right time and working with a local excavation company to prepare the garden for planting (i.e. scraping the site, moving in the soil, rocks and other materials). They also organized the plants to help things move along smoothly on planting day.

Teachers planned a work-party planting day. The day involved more than 90 students, teachers, support staff, parents and community members, staff from OSSS, and Dusty Shovel Gardens. Grade 4 students were paired with Grade 6 and 7 students. All students spent 30 minutes planting in the garden. Student groups were connected to an adult mentor. Planting instruction was provided to the students by the nursery and OSSS staff. Students, teachers, and OSSS brought sufficient garden tools and gloves for everyone involved in planting.

To kick off the garden project in a significant way, teachers invited the media to the event. Also, the Vice-Principal of the school invited the Superintendent, Head of Maintenance, the Aboriginal Education Principal, and the Board of Trustees.

Over 300 plants and bulbs were planted between 8:30 a.m. and 2:30 pm on the 'planting day.' Dusty Shovel Gardens came the following day to finish the planting. Many supporters and funders came throughout the day. Students loved the experience and so did all those who attended. Photos were taken and a story was published not long after in the local newspaper.

An irrigation system was not installed in the garden until early summer of 2016 because of issues with accessing a main water line and also with securing funding for the cost of irrigation materials. Once these issues were resolved, a Grade 6/7 class helped to install the system. In the process, in addition to putting in the physical irrigation pipes and water sprinklers, students worked on the mathematical components related to irrigation/water flow, etc. The School District maintenance department aided by tying the irrigation lines to the main water line.

Prior to the installation of the irrigation system, students watered the garden by hand. Because there wasn't a water source near the garden, this involved carrying water-filled buckets and containers (donated by students and teachers) a fair distance from the school to the garden. The water brigade became a daily event until the end of June. While hand-watering is not ideal for the plants, Sheila observed one unexpectedly positive benefit from this daily ritual. She noticed that students formed close relationships with the plants and the garden area as a whole. Students became concerned for, and invested in, the successful growth of their plants.

Summer maintenance has been undertaken by OSSS and volunteers.

POLLINATOR LANDING HAS SERVED AS A SPACE TO LEARN A VARIETY OF LESSONS, INCLUDING ABOUT EVAPORATION.

The Importance of the Monarch Butterfly Art Project

It should be noted that the Monarch butterfly school art project contributed to the awareness and support for the Pollinator Garden as the school began to buzz with teachers helping students make several learning connections at once. As part of the Monarch butterfly art project, students learned about Monarchs and their life cycle, including their need for the milkweed plant to support Monarch eggs, caterpillars, and as a nectar source for the adults. Students also learned about the importance of pollinators to their own daily lives. This school-wide initiative raised awareness of, and support for, the need for a 'pollinator garden,' which would include milkweed plants. Because of this, when the day came to plant up the pollinator garden, there was excitement throughout the entire school body.

Most classroom teachers in the school were excited to be part of the Monarch project. In their classes, while students learned about the plight of the Monarch butterflies, they also created various sizes and styles of Monarchs in their artwork. As butterflies were created in various forms, the artwork began to show up on bulletin boards throughout the school and in the office of the school. Also, butterfly images were printed on t-shirts. As mentioned previously, some of the art was sent to Pacific Grove Natural History Museum to be part of the exhibit there.

Learning Opportunities

Several learning opportunities have come out of the creation of the garden. For example, before the garden was planted, students in Sheila's class and in two other intermediate classes engaged in learning and decision-making about plants that attract pollinators. Students were provided with a list of suitable xeriscape plants that are also good for pollinators by the Baumbraugh's nursery. Using this list as a guide, students referred to the site okanaganxeriscape.org to learn more about the plants. Students became aware of when the plants bloom and the importance of the garden having bloom throughout the growing season so as to attract a variety of pollinators. As a result of this, when the day came to plant the garden, students were already familiar with many of the plants.

While prepping the garden, Ray Klinger used his excavation equipment to move a large composter into the garden area. Because of this, awareness and interest in composting and vermicomposting spread throughout the school. Several classes started vermicomposting and Sheila Monroe's class shared their expertise on what to put in and what to avoid in a worm compost. The compost was then used in the spring to fertilize the garden boxes where vegetables had been planted. The compost was also used to plant seeds that students started in their classrooms, either in pots or in Ziploc-type bags.

Activities in the Garden

Following the planting day, it was clear to Sheila that her students loved the possibilities of the garden and wanted more. As a result, Sheila organized a number of different activities around the garden space. Examples of these activities include the following:

- Planting garlic in the garden boxes (Sheila noticed that her students had been especially fascinated by the bulbs they had planted in the pollinator garden).
- Planting hyacinths in pots in the classroom and observing their growth.
- Stratifying milkweed seeds for a month in the school fridge and planting some out in the garden, while others were planted into pots to be grown in the classroom.
- Taking home the potted up milkweed seedlings to plant at home.
- Learning in the classroom about native butterflies, as well as native and non-native bees, which led to being engaged with identifying bees and the butterflies as students worked in the garden areas. (Sheila noticed that, in their enthusiasm to learn how to identify the bees, the students came to lose all their previous fear of bees).

- A total of six classes, in both intermediate and primary grades, participated in the raising of butterflies in the late spring. Much of the garden was in bloom at that time so classes were able to release their butterflies into the pollinator garden.
- As the 2015/2016 school year drew to a close, students in one of the Grade 6/7 classes completed their contribution to beauty in the garden by attaching their painted, wood Monarchs to the fence that surrounds the garden.

Use of the Garden in all Seasons

Teachers have noticed that the garden space has become an important place for students throughout the year. In the winter, while the garden lay dormant, students continue to visit the garden. The fenced area represents a safe area for some special needs students, who follow the pathways in the snow.

During the winter, kindergarten students and their older buddy class made bird feeders with pine cones, which were then tied to the fence surrounding the garden as feed for winter birds.

In the spring, weeding and planting in the garden were large efforts undertaken by many students. Again, the garden provided many learning opportunities. Students learned to distinguish between weeds and other plants. Students explored possible reasons why some of the plants in the garden did not overwinter well. Most classes took charge of one garden box to grow vegetables – peas, lettuce, spinach, and radishes were planted in mid-March.

Many students were involved in preparing the garden for the summer months. Vegetable plantings were mostly finished, with squash and kale left to flourish over the summer for anyone who wished to visit and harvest. Students put down hay as mulch on the unused areas. The school garden was accessible over the summer to anyone who came to see it. Sheila, Buffy, and summer students from the OSSS worked to keep the weeds down in the garden over the summer.

Art Projects

There were several art projects connected to the garden. An Arts, Culture and Youth grant from the Regional District of the North Okanagan provided funds to help support many of the art projects connected to pollinators and plants.

For example, students in Grade 4 used close-up photos of Monarch butterflies to draw accurate pictures of the butterflies. These were then used to make lino block stamps. The lino stamps were then used for printing on t-shirts.

After a school-wide competition in the springtime, a name for the garden, “Pollinator Landing” was chosen and this name was printed on t-shirts along with images of pollinators.

Colline Johnson worked with her Grade 6/7 class and some of the Grade 4 students to make a short informational video about the garden project, the pollinators, and the student’s reactions to being involved in the work. The video was shown as part of a presentation to the School Board about the project. It was also used as part of a presentation made to the City of Vernon Mayor and Council. During their well-received presentation, Sheila’s Grade 4 class encouraged the city to protect milkweed plants growing on the side of the road near their school and also to consider creating more planted space for pollinators on public lands.

SHEILA MUNROE AND STUDENT EXAMINE AN AREA PLANTED IN THE BACK OF THE SCHOOL WITH NATIVE PLANTS TO ADDRESS BANK EROSION. THE SCHOOL PROJECT IS AN EXTENSION OF THE POLLINATOR GARDEN.

Grants to Support the Garden

Since the creation of the garden, Sheila and other committee members have applied for additional grants to support activities in, or connected to, the garden. A North Okanagan Community Foundation grant was awarded to the school to cover costs for designing, printing, and installing several signs for the garden. These include a 'welcome' sign, a 'thank you' sign, and three 'interpretive' signs that provide information on pollination, pollinators, and the importance of pollinator gardens. There are also two signs designed to encourage students and visitors to photograph the garden. A Facebook site has been created to enable these photographs to be uploaded online. Except for the three 'interpretive' signs, all the signs in the garden display artwork from the students.

Budget for 'Pollinator Landing'

The following table outlines the costs incurred from October 2015-October 2016 in the construction and maintenance (e.g. weeding, deadheading, topping up mulch and pathway material) of the Pollinator Landing garden. These costs were covered by several grants awarded to the project, as well as by substantial in-kind donations of materials and labour. This table is meant to be a guide only. Many of the costs provided here are estimates of what the actual costs would have been without the support of in-kind donations.

EXPENSE	DESCRIPTION	COST
PLANT MATERIAL	INCLUDES OVER 400 PERENNIALS, 20 SHRUBS, AND ~400 BULBS.	$4,000.00
SOIL (INCLUDES DELIVERY FEES)	90 YARDS OF GARDEN MIX SOIL	$4,000.00
MULCH(INCLUDES DELIVERY FEES)	32 YARDS	$1,450.00
ROCKS	12 LARGE ROCKS	$200.00
PATHWAY MATERIAL	22 YARDS	$1,500.00
SITE PREP	INCLUDED SCRAPING SITE, CREATING GARDEN BEDS AND PATHWAYS AND PLACING ROCKS	$1,500.00
LABOUR	DESIGN/PROJECT COORDINATION/PREP/PLANTING/MAINTENANCE	$6,150.00
IRRIGATION MATERIALS	AUTOMATIC DRIP IRRIGATION SYSTEM THROUGHOUT GARDEN (INSTALLED BY STUDENTS)	$1,030.00
FENCING	~150 OF CHAIN LINK FENCE	$2,500.00
SIGNAGE	7 SIGNS IN THE GARDEN, INCLUDING 3 'INTERPRETIVE' SIGNS, A 'WELCOME' SIGN, A 'THANK YOU' SIGN AND 2 'TAKE A PHOTO!' SIGNS	$4,500.00
TOTAL		$26,830.00
MAINTENANCE IN THE SUMMER MONTHS	2 STAFF, MILEAGE + LABOUR (TWICE OVER SUMMER)	~$600.00/YEAR

APPENDIX 2. SAMPLE PROJECT CHARTER

PROJECT CHARTER				
PROJECT NAME:				
PROJECT CONTEXT, BACKGROUND & RATIONALE FOR COMPLETION IN RELATION TO OCCP GOALS IN STRATEGIC PLAN				
PROJECT GOALS:				
PROPOSED START DATE:		PROPOSED END DATE:		
PROJECT BUDGET (CONFIRMED):		BUDGET NOTES:		
PROJECT FUNDERS (CASH):	AMOUNT:	TERM:	GRANT REPORTS:	NOTES:
PROJECT TEAM:	ROLE:	IN KIND/CONTRACT:	TASKS:	SIGNATURE:
	PROGRAM MANAGER	CONTRACT		
	CONSULTANT	CONTRACT		
WORK PLAN:	WHO:	TASKS:		
OCT				
NOV				
DEC				
DELIVERABLES:	WHO:	TASKS:		DATE COMPLETED:
UPDATES TO PROJECT CHARTER:	DATE:	DETAILS:		
DATES FOR INVOICES:				

APPENDIX 3. SAMPLE BUDGETS

These sample budgets have been taken from the TD Friends of the Environment Guide at https://www.forestsontario.ca/en/resource/td-building-outdoor-classrooms (pages 20-22)

The following three outdoor classroom scenarios are meant to give you an idea of elements to include in your outdoor classroom budget. These budgets are based on estimates and quotes from local providers. It is best to double check with a supplier to get the real cost to your school. Budgets include in-kind labour costs, but not discounts or donations which can significantly reduce the overall cost to your classroom. The goal is to give schools an idea of the costs associated with projects and which project items to include in a budget. Consult local suppliers to get the appropriate costs for your region.

Outdoor Classroom #1 – Under $2,000

This outdoor classroom features a garden, log seating, and several low profile shrubs. The current schoolyard is bare and the ground cover is grass. The location of the classroom is in the front of the school on the way to the front entrance.

EXPENSE*	DESCRIPTION	COST
PLANT MATERIALS	SEVERAL NATIVE SHRUBS AND FLOWERS	$250
TOOLS	SHOVELS, WHEELBARROWS, RAKES	$200
MULCH	GROUND COER, INCLUDES DELIVER (3 CUBIC YARDS)	$300
TOP SOIL	FOR GARDEN AND SHRUBS (1 CUBIC YARD)	$110
LOGS	FOR SEATING – DONATED BY LOCAL MUNICIPALITY	$0
LABOUR	VOLUNTEERS, STUDENTS AND STAFF	$0
MAINTENANCE	WATERING, WEEDING, MOWING – MAINTENANCE STAFF	$0
TOTAL		$860

*Note: When a *Syilx* Knowledge Keeper or Elder participates in a project (e.g. in the building of an Indigenous garden), and/or attends an event to provide a welcome, it is proper protocol to offer an honourarium.

Outdoor classroom #2 – Under $10,000

This outdoor classroom uses the already mature trees on the property as cover for a seating area. The tables and benches were made using dead trees, plywood for the table tops, and covering to protect the top of the tables. Armour stone was also included as seating, with mulch acting as the ground cover. Several shrubs and other native vegetation were planted on the outskirts of the classroom space.

EXPENSE*	DESCRIPTION	COST
BENCHES	SEATING AND TABLE TOPS	$2,000
ARMOUR STONE	FOR SEATING – INCLUDES DELIVERY AND PLACEMENT (7 @ $500 EACH)	$3,500
MULCH	GROUND COVER, INCLUDES DELIVERY (30 CUBIC YARDS)	$2,500
PLANT MATERIALS	FLOWERS AND SHRUBS	$300
TOOLS	SHOVELS, WHEELBARROWS, RAKES	$200
LABOUR	VOLUNTEERS AND DONATION	$0
TOTAL		$8,500
TOTAL		$860

*Note: When a *Syilx* Knowledge Keeper or Elder participates in a project (e.g. in the building of an Indigenous garden), and/or attends an event to provide a welcome, it is proper protocol to offer an honourarium.

Outdoor classroom #3 – Under $25,000

This outdoor classroom features an outdoor learning area complete with a gazebo, greenhouse, large mature trees, benches, stone seating area, and a vegetable garden. The current space is blank and requires site preparation as the ground is unlevelled and needs grading.

EXPENSE*	DESCRIPTION	COST
SITE PREPARATION	GRADING AND EXCAVATION (BASIC, INCLUDES LABOUR)	$2,000
STONE	SEATING AREA STONES (10 @ $500 EACH) – INCLUDES DELIVERY	$5,000
MATURE TREES	6 MATURE TREES (@ $700 EACH)	$4,200
GAZEBO	WOODEN GAZEBO	$4,000
MULCH	GROUND COVER, INCLUDES DELIVERY (30 CUBIC YARDS)	$2,500
BENCHES	PICNIC BENCHES (5) (@$250 EACH)	$1,250
GREENHOUSE	SMALL GREENHOUSE, 6FT X 8FT	$400
OUTDOOR CHALKBOARD	PLYWOOD, CHALKBOARD PAINT, ACCESSORIES	$500
TOOLS	SHOVELS, WHEELBARROWS, RAKES, BUCKETS, TOOLS	$500
PLANTING BEDS	TIMBER SIDING	$150
SOIL	FOR GARDEN BEDS AND SHRUBS (10 CUBIC YARDS)	$400
PLANT MATERIALS	SHRUBS, SEEDS AND FLOWERS	$500
LABOUR	VOLUNTEERS AND IN-KIND	$0
CONSULTING	LANDSCAPE PLAN AND DESIGN – DONATED (VALUE OF $2,500)	$0
TOTAL		$21,400

*Note: When a *Syilx* Knowledge Keeper or Elder participates in a project (e.g. in the building of an Indigenous garden), and/or attends an event to provide a welcome, it is proper protocol to offer an honourarium.

OUR RELATIONSHIP WITH WATER in the OKANAGAN

OKANAGAN waterwise

One valley. One water.