DIG Durham Integrated Growers
FOR A SUSTAINABLE COMMUNITY

School Garden Research Project Report

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Introduction

Report Objectives

The primary objectives of this report are to outline processes and summarize key findings from research conducted by Durham Integrated Growers for a Sustainable Community (DIG). This exploratory study is part of DIG's ongoing research efforts related to sustainable food systems. In particular, this initiative focused on school-based gardens and examined their significance and potential as urban agriculture projects within the Regional Municipality of Durham (Durham Region). For DIG, this also contributed to a broader organizational goal to paint a picture of urban agriculture in the region. Other specific objectives for this study included:

1. Identify and compile a list of known school garden projects in the Durham Region – both past and present, active and inactive;
2. Explore in greater detail the key activities and processes related to the development and sustainability of these projects - to stimulate future inquiry;
3. Determine the impact of school gardens on student experiences related to growing and preparing healthy food;
4. Identify impacts, success factors, barriers and challenges associated with the projects; and
5. Provide preliminary and general recommendations to shape future investigations.

DIG Priorities

Located within the Region of Durham in Ontario, Canada, DIG was established in 2009 to address local community needs related to food security and food production through the support of urban agriculture (UA). Operating as an incorporated, non-profit organization DIG supports UA projects of varied types and sizes. DIG is dedicated to achieving social,

environmental, and economic impacts through shared resources, mentoring, and technical and developmental supports (DIG, 2020). DIG achieves this through a collaborative and inclusive, community-based approach to mentoring, sourcing funds, education, research, policy-advocacy, and promotion to support local food initiatives (2020). These actions are consistent with the priorities of its key partner, the Durham Food Policy Council (DFPC), which has a broader mission to develop the region's sustainable local food system. DIG's objectives and actions to date support and endorse the DFPC's Food Charter, notably "a local community vision for a food secure (region) focused toward building a just and sustainable local food system as a foundation for population health" (Durham Food Policy Council, 2020). DIG's efforts to date have achieved significant positive impacts for community food gardens across the region. Future objectives aim to build on findings from its 2016 study of UA policies across municipalities in the Durham Region. Key recommendations of this report included the identification, documentation, and impact measurement of a broader range of UA projects in the region (Martin et al., 2016) that could include school gardens, urban farms, and rooftop gardens, among others. Future initiatives focused on school gardens would address on these recommendations, while supporting partner objectives related to project classification and identification, as well as the potential use of school yards for food production (Durham Food Policy Council, 2020).

Benefits of School Gardens

In addition to its direct impacts on food-related issues, UA also provides secondary impacts related to community engagement, inclusiveness, economic development, ecological benefits, and education (Urban Agriculture Working Group, 2013). As a prominently recognized form of UA, school gardens offer a wide range of benefits to students, educators, and the broader community. Ozer (2007) concluded that school gardens enhance student knowledge of nutrition

and environmental stewardship, while improving their overall academic performance. Additionally, Hoover (2021) found that these projects promote healthier eating among students. Further, a thriving school garden creates positive opportunities to link to curriculum and establish positive learning experiences across subjects such as math, science, and horticulture (2021). School gardens can also effectively develop social resilience skills in students, notably adaptation, empowerment, and inclusiveness (Reis & Ferreira, 2015). By promoting activity-based learning on school grounds, gardens and associated activities from growing, eating, and preparing fresh foods have been shown to modify future consumption patterns in young people by eliminating barriers to healthy eating (Somerset et al., 2005).

Methodology

To achieve the research objectives with a focus on schools within the Durham Region, a multi-step approach to data collection and analysis was followed. The process consisted of separate, but linked, streams of activity:

1. Web-based research and informal discussions with DIG stakeholders and acquaintances to locate and document school garden projects across the Durham Region;
2. Outreach to key school project champions to secure interviews; and
3. Thematic analysis of data collected and summation of key findings in report format.

A web-based search of projects across the region revealed 23 schools that formerly and/or currently were associated with a garden project on school property. Attempts to identify and contact teacher champions to coordinate interviews were hindered by two challenges. First, no assistance in these efforts was gained from either of the two main school boards, as it was determined that no employee from either board held responsibility for garden projects as part of a permanent portfolio. And second, the research team's attempt to locate and contact key

teachers one school at a time was hampered by incomplete and outdated contact information. Following eventual telephone and email outreach efforts, a sample of 10 teacher contacts was successfully confirmed and contacted, through email, with interview requests. The email template utilized is included as Appendix A. Of these 10 individuals, a total of four agreed to be interviewed, in addition to two former teachers who had extensive involvement with past projects.

Semi-structured interviews were scheduled and conducted with the six participants separately over an elapsed period of 14 days. Two interviews were conducted by telephone and four were completed in-person. Each of the interviews lasted between 30 and 90 minutes, with the time variance attributable to the nature and depth of the discussion. The interview guide, included as Appendix B, was compiled using questions designed to explore the participants' experiences, motivations, challenges faced, and outcomes observed related to their garden projects. In preparation for each interview, secondary data from school websites and local news coverage were also reviewed to provide contextual background on both the school's overall initiatives and, more specifically, the garden projects.

Upon completion of the data collection steps, thematic analysis was used to make sense of user experiences and understand the subjective meaning of those experiences (Riger & Sigurvinsdottir, 2016). Following the process outlined by Braun and Clarke (2006), key steps included data immersion, generating codes, searching for and reviewing key themes, and defining prominent themes. The objective of this research phase was to identify patterns related to issues, barriers, challenges, and success factors of the school garden projects in focus.

Overview of Projects and Participants

Although six different school boards are represented within the region, together the Durham Catholic District School Board (DCDSB) and the Durham District School Board (DDSB) account for the vast majority of sites, which includes 181 schools and learning centres. A summary of school board representation within the Durham Region is included as Appendix C. All interviewees were representatives of either the DCDSB or the DDSB.

A snapshot of school garden projects in the Durham Region, both past and present, was created from web-based research and informal discussions with contacts associated with schools and/or school boards. A summary of identified projects by school board, type, and status, is included as Appendix D. Within the region, school garden programs vary widely in scope, size, intensity of participation, and integration into school curriculum. Some school projects focus on food-producing plants and/or trees, others exclusively grow pollinator plants, and some feature a combination of both. A map of confirmed active projects is included as Appendix E.

As the key participants in this study, the six teacher interviewees all had direct involvement in current and/or past school garden projects. Below is a brief description of each individual and their associated project(s):

1. **Interviewee 1 (R1)** – An elementary school teacher with over ten years as coordinator of their school's garden project. R1's food forest project emphasizes building a place where teachers can bring students for learning opportunities.
2. **Interviewee 2 (R2)** – An elementary school teacher and coordinator of a pollinator garden project for almost five years. R2 led the school's garden club during this time, sharing some minor responsibilities with numerous other teachers who have joined and departed the project periodically.

3. **Interviewee 3 (R3)** – An elementary school teacher and former board consultant. As part of their then-assigned portfolio, R3 worked closely with a group of schools and teachers to initiate multiple school garden projects over a period of almost 10 years.
4. **Interviewee 4 (R4)** – A secondary school teacher and lead for their school's project which includes separate vegetable and pollinator gardens. R4 is assisted by two other teachers and custodial staff to help maintain the project throughout the year. R4's project supports both student club activities and learning within the grade 9 curriculum.
5. **Interviewee 5 (R5)** – An elementary school teacher who inherited and led the growth and development of their school's garden project for almost 10 years. Some contributions to the garden were made by other teachers and custodial staff, under R5's leadership. Their food and pollinator gardens supported student club activities and was a strategic component of their school's EcoSchools certification.
6. **Interviewee 6 (R6)** – A former teacher with extensive involvement in establishing school gardens across the region while seconded as a board-level consultant. R6 provided a valuable supporting role to teachers from various schools in the development of garden projects over an approximate four-year period.

More details relating to project descriptions are included in Appendix F.

Key Findings

Upon completion of the interviews, the following categories of findings were established from thematic analysis. Based on relevance and significance, these three main groupings include: the student experience, project support, and garden maintenance.

The Student Experience

Student Engagement

Each project was described as starting out as an experiential, extra-curricular initiative associated with one or more student clubs. Club profiles related to environmental topics and included Eco, Garden, and Outdoor Education Clubs, among others. This strategy created positive engagement with students early each season, which was maintained throughout the year. Also noted enthusiastically was the description of specific club members whose heightened interest in garden participation established them as "power users" of projects. Another teacher observed the development of "student collaborators" who engaged more passionately as they participated more often. One teacher mentioned that some of their most engaged students were also ones who struggled in most other areas of school. These higher levels of engagement produced enriching extension opportunities and "energy" within projects that were inspiring to teachers. An inclusive approach to creating a range of age-appropriate activities was crucial for recruiting participants across grade levels and maintaining high student interest. Most teachers agreed that, when taking the opportunity to create engaging and authentic "learning and life skills" opportunities through the garden, they witnessed positive student experiences. All interviewees highlighted a positive correlation between staff commitment and student engagement. Several teachers agreed that high engagement levels from students, described as "learning coming alive" and "real world stuff", was the most personally rewarding part of the project experience.

Curriculum Integration

Integrating garden activities into curriculum was an important priority for most interviewees. In all cases, the project's lead teacher utilized the garden for their own teaching practices. However, it was acknowledged that colleagues were slow to follow their actions. This was despite that fact that most project leads aggressively promoted the garden's versatility in

enabling learning across many subjects and grade levels. Although their peers had future plans to develop curricular opportunities, these efforts were concentrated among very few teachers. One challenge cited included a hesitancy in how to best leverage the garden space for learning. One participant described a colleague's reluctance to leverage outdoor learning outside of traditional physical education such as "soccer or capture the flag". For interviewees who actively leveraged the gardens as a teaching tool, outcomes in subjects such as science, self-regulation, and horticulture were enhanced through greater student interest and participation. One teacher summarized the garden as a "great place for teaching" where hands-on learning experiences enhanced comprehension and connections with the environment. Teachers conceded that the integration with curriculum was the most underutilized component of the garden project, while offering the most future potential.

Project Support

School Board Support

A consensus among teachers acknowledged the benefits of coordinated school board-level efforts to provide promotion, funding, and action frameworks for teachers to manage garden projects. Most projects described by interviewees were initiated while formal board-level supports were in place. In the absence of these programs, the individual efforts of teachers became more challenging. As one teacher lamented, "there is no longer board support to help" which made curriculum integration, knowledge transfer, and peer collaboration more challenging. Another lost benefit was the visibility for projects formerly provided by school boards. One teacher emphasized the success and importance of, "collaboration between teachers, school administration, and the board" in describing the way things used to be. While centralized programs were available through both major school boards, an estimated 20+ new projects were

developed across elementary and secondary schools in the region. The withdrawal of those programs, exacerbated by the COVID-19 pandemic, contributed to the discontinuation of many gardens. It is worth noting that these numbers are informed estimates only since, in the absence of central points of contact, neither school board could verify them.

Administrator Support

A recurring theme that emerged in interviews was the critical role of the school's administrative team in supporting garden projects. Teachers with supportive administrative leaders described their active support as valuable for securing funding, encouraging teachers to integrate curriculum, and connecting to the broader school community. Conversely, some interviewees expressed the lack of administrative support and involvement, which resulted in weak prioritization of the garden projects. In some cases, projects suffered or were shut down "when it was not the principal's idea" or if the garden "caused problems" or was "too much trouble". When the garden did not fit with the administration team's "strategy" or "values", principals were viewed as one significant barrier to success. As one teacher observed, "it depends on whether the principal sees the garden as an extension to the school grounds" or as a "learning opportunity". Fitting the unique profile of a garden project into school priorities was viewed as a challenge for several reasons, including "the preference for short-term events, not ongoing projects". Most teachers expressed the challenge in getting administration's buy-in when the garden was not an extensive part of the core curriculum. This was perceived to be compounded by turnover of the administrative team every three to four years, which forced teachers to restart the buy-in process. As one teacher expressed, "without consistent administration, garden consistency is very difficult". Another teacher who had worked for

several administrators during their tenure expressed frustration by remarking, “it’s depressing since you know it’s doomed to eventually fail due to the constant roadblocks”.

Staff Support & Succession

Interviewees as a group were unanimous in their concerns about staff succession in projects. In several cases, teachers witnessed the failure of a garden project at their school or a peer school, resulting from the lead teacher’s departure. The typical staffing model was described as “one lead teacher who has a vested interest in the sustainability of the project” and who drives most of the staff-based activity. Where other teachers supported efforts in less impactful ways, their participation and commitment was inconsistent. The succession of teachers in managing gardens was considered a “big challenge” which threatened the sustainability of current and future projects. When these teachers leave the school, even temporarily, “the project is jeopardized”. Getting new teachers involved was also seen as a challenge in the absence of incentives and knowledge that board-level support and resources existed.

Community and Partner Involvement

Community involvement was mentioned repeatedly as a notable contributor to the sustainability of school gardens. Teachers who engaged local businesses, municipalities, non-profit organizations, parent groups, and post-secondary partners received support for funding, knowledge, and supplies to assist with garden maintenance. These connections not only provided practical support but also fostered a sense of community ownership and engagement with projects. Notable by its omission, interviewees did not consider funding a significant barrier to success. Although modest funds are required to maintain the gardens, one teacher summarized the group’s sentiment, remarking “we can find funding when we need it”. As external support for

the projects “come and go from year to year”, most teachers agreed that more energy spent to cultivate external relationships translated to greater returns. Unfortunately, for most interviewees, the efforts to enhance collaboration required more time than they could afford to give.

Garden Maintenance

All participants identified physical garden maintenance during the summer months as a major challenge. During the core ten month academic year, gardens were actively used and adequately cared for by students and staff. However, as one teacher summarized, “sustainability of the garden is very difficult in summer”. Harvesting, weeding, and watering were most commonly cited as areas of concern. Where, in some cases, custodial staff was willing to help, it was only seen as valuable in rare cases where external water sources were available. Most teachers agreed that custodial staff were supportive, but lacked the required expertise to maintain certain plant types. Most interviewees volunteered to water the gardens periodically during their summer vacations, but it was agreed this was not sustainable. Some teachers attempted to create volunteer schedules involving students, parents, and other community members but this often resulted in conflicts to gain school access or inconsistent participation that was not viewed as dependable. The prevalence of garden sun and heat in summer months, combined with wear from high traffic areas and inconvenient water source locations, prompted some garden projects to move to other areas within the school yard. The challenge of summer maintenance was also cited as a key inhibitor to expanding garden projects, both in size and scope.

School Policy

School policies regarding garden maintenance vary and have an impact on the success of projects. Most teachers referred to ambiguous or restrictive policies which limited staff and student access and involvement after hours and during summer months due to safety, liability,

and labour protection concerns. No teacher interviewed was completely confident in explaining relevant policies, their interpretation, or their origins. One teacher's perspective was that the garden was considered "an extension of the school's grounds" and not an outdoor "learning space", which designated their project part of facilities. Most interviewees stressed the need for clear and consistent policies that encouraged a compromise between garden sustainability and individual safety.

Recommendations

Based on the above findings, following are preliminary recommendations that can inform schools, school boards, and other stakeholders throughout their participation in school garden development across the region.

Student Experience

Curriculum Integration

Since integrating garden activities into curriculum has proven to enhance student engagement and learning experiences, additional strategies can support teachers in this endeavour. To complement curricular resources already available to teachers in science, health, and environmental education, among others, a more comprehensive and accessible repository of teacher supports is needed. Resources should be easy to use, readily shared, well promoted, and positioned as extensions to standard provincial curriculum frameworks.

Project Support

Enhanced Engagement

School boards within the region should consider revitalizing programs that successfully catalyzed new garden projects in the past. This should include a centralized registry of project

types and descriptions managed within each school board. A renewed focus on these programs should also include the active engagement of school administrators in the planning and development of new garden projects. A principal-level stream of training or workshops focused on educational and community benefits of school gardens may help to more effectively secure support early in the process. As part of new garden projects, principals can be encouraged to embed these activities into strategic objectives and funding opportunities. Renewed board-level garden initiatives that incentivize administrators, teachers, and the community can again inspire new projects that are established with a shared sense of ownership.

Garden Maintenance

School Garden Policy Reform

Working with key stakeholders, the region's school boards can initiate a process to develop straightforward space definitions and associated policies that assign responsibility for garden maintenance. These policies should balance the need for student and staff safety protocols with the benefits of their involvement in garden activities. Creating guidelines that allow for flexible participation, while addressing liability and labour concerns, can help to improve maintenance oversight and better integrate the garden into school operations and culture.

Appendix A: Introductory Email Correspondence to Potential Interviewees

Subject line: Interview request from Durham Integrated Growers (DIG) – School-based Community Garden Project research

Dear (*insert name of email recipient*),

Durham Integrated Growers (DIG) is leading a research study to identify and describe all **school-based community garden projects** within the Durham Region.

To gather valuable data from the community, DIG is conducting **interviews with key people who are associated with the creation or sustainability of these projects**.

You have been identified as an important project team member who can provide insight into a past, existing, or future school-based community garden project within the region. This email is a formal request for your participation through an interview.

Your participation would involve one interview session, lasting no more than one hour, which can be coordinated in person, by telephone, or on Zoom – whichever is most convenient for you.

Please reply to this email if you would consider being interviewed to enhance this study. We are hoping to collect all data from participants by the end of May, 2024. If you are willing and able, I can provide a list of possible interview dates and times.

As the lead researcher on this study, I would also be happy to further discuss this opportunity and address any questions you may have. Either way, please feel free to reach out at ……

Thank you in advance,

Jay Fisher

Lead Researcher – School-based Community Garden Study Project
Durham Integrated Growers (DIG)

Appendix B: Interview Guide

Introduction for Participants (sent with interview logistics prior to interview date/time)

Thank you for participating in this interview. Your insights are invaluable to DIG's study, and the goal of this research is to better understand existing community food garden projects ('the projects') at schools. All information provided today will be used for research purposes only.

Questions:

1. Can you tell me about any school-based project you are or were directly involved with?
2. What is the name of the project? Where is the project located? When did it start?
3. Are there any metrics or descriptors associated with this project you can share?
    a. Size
    b. Type (food, pollinator, specifics of each)
    c. Who was involved – number and role?
    d. Other description
4. If not an existing project, are you involved in planning any future projects? (Same follow up questions).
5. If no to both, have you been involved with any past projects no longer active? (Same follow up questions).
6. How was the project initiated? Was it started by the school administration, students, parents, a community organization, or elsewhere?
7. What initially motivated the project? Were there specific goals or objectives in mind?
8. Could you describe the location(s) of the project within the school grounds?
9. How is the project managed? Is there a designated team? Is it a collaborative effort involving students, staff, and volunteers? Something else?
    a. If yes, how do you ensure the sustainability of the project over time?
    b. If no, how will the project remain sustainable?
10. Are there any educational components integrated into the project? If so, how are they incorporated into the school curriculum?
    a. What specific curriculum components exist?
11. Are there any challenges or obstacles faced in maintaining the project? If so, how are they addressed?
12. Have you encountered any successes or achievements related to the project that you would like to share?

13. Are there any partnerships or collaborations with external organizations or stakeholders involved in supporting the project?
14. How do you involve students in the planning, implementation, and maintenance of the project?
15. Are there any plans for expansion or enhancement of the project in the future?
16. How do you measure the impact or effectiveness of the project on the school community or other stakeholders?
17. Are there any other lessons learned (not previously mentioned) from the project that are worth noting?
18. Finally, is there any additional information or insights you would like to share regarding the project at this school?

Conclusion:

Thank you once again for your time and participation in this interview. Your contributions will greatly contribute to our understanding of school-based community food garden project within the region.

If you have any further questions or would like to provide additional information, please feel free to contact me.

Appendix C: Overview of Durham Region Public School Boards

Public school boards represented most prominently within the Durham Region:

- Durham Catholic District School Board (DCDSB)
    - 46 schools (39 elementary, 7 secondary)

- Durham District School Board (DDSB)
    - 135 schools (113 elementary, 18 secondary, 4 learning centres)

- Kawartha Pine Ridge District School Board (KPRDSB)
    - 26 schools (21 elementary, 4 secondary, 1 alternative)

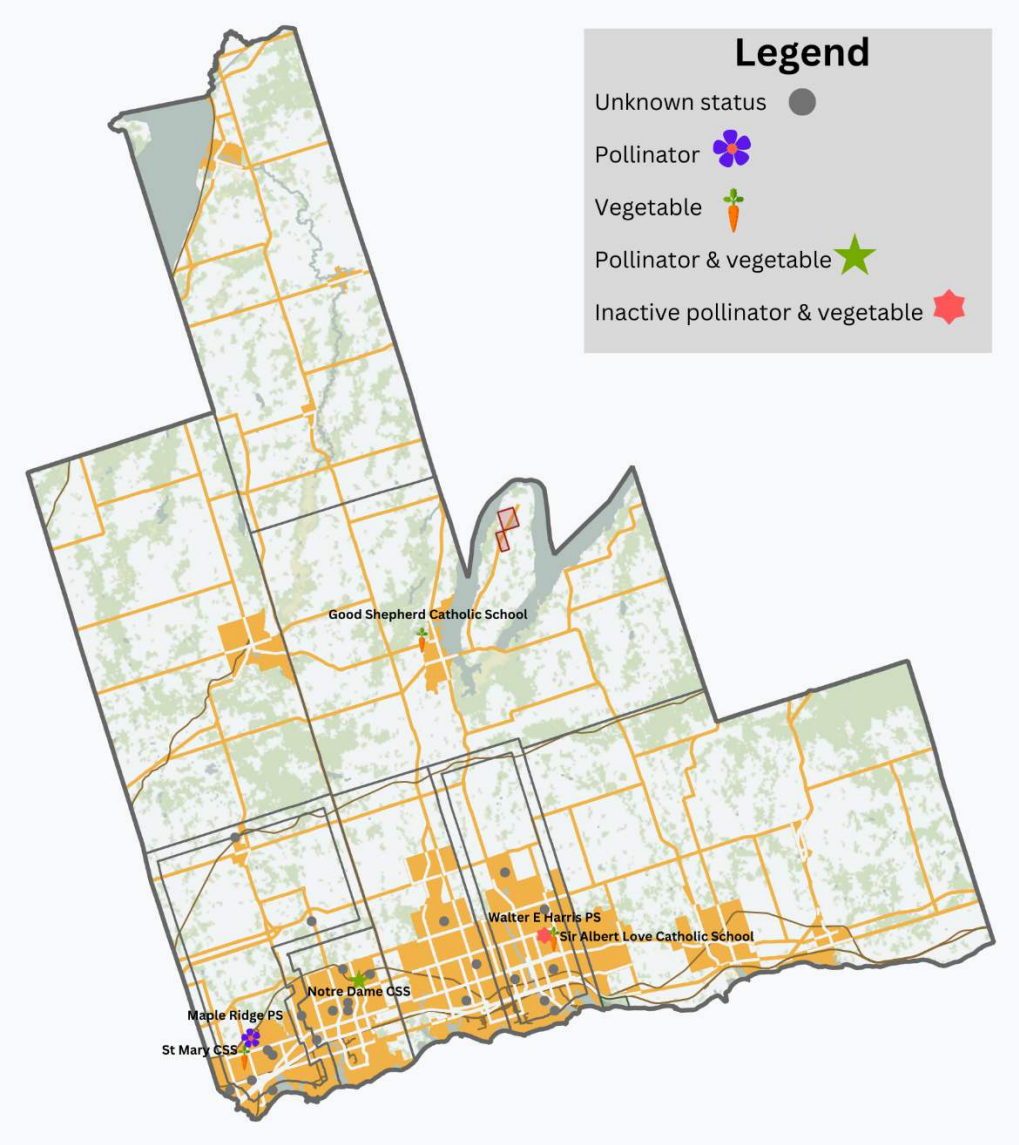
- Peterborough, Victoria, Northumberland and Clarington Catholic District School Board (PVNCCDSB)
    - 9 schools (7 elementary, 2 secondary)

Appendix D: Description and Status of Identified School Garden Sites

School Board	School Name	Garden Type	Current Status
Durham District School Board (DDSB)	Bolton C. Falby Public School		Unknown
	C.E. Broughton Public School		Unknown
	Claremont Public School	Pollinator	Unknown
	Da Vinci Public School	Vegetable	Unknown
	Dunbarton High School	Pollinator	Unknown
	Glen Street Public School	Kindness	Unknown
	Julie Payette Public School		Unknown
	Lakewoods Public School		Unknown
	Maple Ridge Public School	Pollinator	Active
	Pickering High School	Pollinator	Unknown
	Sinclair Secondary School	Vegetable and herb	Unknown
	Valley View Public School		Unknown
	Waverly Public School	Vegetable and herb	Unknown
	Walter E. Harris Public School	Pollinator and vegetable	Inactive
	William Dunbar Public School	Pollinator	Unknown
Durham Catholic District School Board (DCDSB)	Father Fenelon Catholic School		Unknown
	Good Shepherd Catholic School	Food Forest	Active
	Holy Family Catholic School		Unknown

	Notre Dame Catholic Secondary School	Pollinator and Vegetable	Active
	Sir Albert Love Catholic School	Vegetable	Active
	St. Anne Catholic Elementary School	Pollinator	Unknown
	St. Francis de Sales Catholic School		Unknown
	St. Hedwig Catholic School		Unknown
	St. Joseph Catholic School		Unknown
	St. Jude Catholic School		Unknown
	St. Mary Catholic Secondary School	Vegetable, orchard, greenhouses	Active
	St. Monica Catholic School	Indoor tower	Unknown
	St. Paul Catholic Elementary School		Unknown
	St. Teresa of Calcutta Catholic School	Pollinator	Unknown
	St. Wilfrid Catholic School		Unknown

Appendix E: Map of Identified School Garden Sites in Durham Region




Walter E Harris PS
Sir Albert Love Catholic School
Notre Dame CSS
Maple Ridge PS
St Mary CSS

Appendix F: Interview Summaries – Project Descriptions

R1:

- Garden description
    - Food forest and vegetable gardens
    - Formerly located across school property, now consolidated into ½ acre space adjacent to school
    - Consists of apple, pear, and cherry trees, as well as raspberry and mulberry bushes
    - Selection and success of vegetable growth varies year to year
    - Original design was based on the seven levels of the food forest to better utilize the school's outdoor space
- Garden participants
    - One lead teacher has been consistent since project inception, secondary teacher resources vary year to year
    - Students are active participants in the maintenance of the project
    - Parents were enthusiastic participants in the first year, but interest has decreased since
    - Student garden club members participate weekly
- Integration with curriculum
    - Most of the learning opportunities are explored by the lead teacher only
    - Connections to curriculum is in very small blocks of outdoor learning
    - Inquiry-based learning with a focus on STEM subjects
    - Other curriculum integration includes mental health, self-regulation, and Indigenous learning topic areas
- Success and achievements
    - An annual spring clean-up day provides visibility and opportunities to add mulch
    - Students receive educational value from using an outdoor learning space
    - Anecdotally, graduates share fond memories of learning opportunities
- External collaborations
    - No formal collaborations exist
- Impact measurement
    - Success is measured informally based on the quality of the student learning experience

R2:

- Garden description
    - Pollinator garden located at the front of the school
    - Covers an area of approximately 200 square feet

    - A sample of pollinator species includes aster, butterfly weed, milkweed, sweet pea everlasting, tulips, daffodils, sunrose, cosmos, German chamomile
    - There is a focus on native species that are drought-tolerant since the garden is on the south-facing side of the school
    - Painted rocks are used for signage and symbols to identify plant species
    - An indoor tower garden also exists in winter months – featuring herbs and vegetables
- Garden participants
    - One lead teacher has been consistent, secondary teacher resources vary year to year
    - Teachers attempt to make the garden as student-driven as possible
    - Student garden club members participate throughout the week, 12 at a time
- Integration with curriculum
    - The tower garden is used for grade 1 curriculum on growth
    - Pollinator garden is utilized across various topics in grade 3
    - Most activity related to the garden is extra-curricular
- Success and achievements
    - Greatest success has been the learning opportunities, since many students have immersed themselves into the project
- External collaborations
    - Collaborators include the school community council, local municipality, and various garden suppliers
- Impact measurement
    - Success is measured informally based on the knowledge gained by students

R3:

- Garden description
    - Part of a broader board-based initiative to transform unused school year space to outdoor education space
    - The project consists of fruit trees, vegetable gardens, micro greenhouses, and an outdoor classroom
    - Project is located at the back of the school, adjacent to school yard and parking lots
- Garden participants
    - One lead teacher coordinates the project, with secondary teacher resources assisting
    - Students from the outdoor education team are highly engaged and take ownership for much of the ongoing operations
    - Due to its longevity, it is well established which provides a self-sustaining reputation in the school community
    - Due to promotion, local feeder schools are also aware and involved with the project
- Integration with curriculum

    - The project has a short-term future initiative to explore various curriculum opportunities
- Success and achievements
    - Positive learning experiences for students
    - Continuous growth and development over many years
    - Successful promotion and acquisition of funding sources
- External collaborations
    - Collaborators include: a local farm for technical knowledge and guidance, the local municipality, a local post-secondary institutional partner, grants from various external funds and board facilities
- Impact measurement
    - Success is measured informally based on student learning and experiences

R4:

- Garden description
    - Project was originally conceived through a grant secured by a former student
    - Located on school grounds near the front entrance
    - Since inception, the project has grown to include both a vegetable garden and separate pollinator garden, both approximately 200 square feet in size
    - Species include tomatoes, hot peppers, herbs, squash, kale, carrots, eggplant, corn, milkweed, Black-eyed Susans, and lilies
- Garden participants
    - One lead teacher coordinates the project, with one or two teacher resources assisting periodically
    - The main student users are Eco Club members
    - Other students include grade 9 science, special education, and wood shop class members
- Integration with curriculum
    - The project is utilized for grade 9 ecology and urban agriculture units
    - Integration into an environmental science dual credit course
    - Participation from the wood shop class for garden bed design
    - Plumbing class studies for topics related to irrigation
    - Special education classes utilize for watering topics
- Success and achievements
    - Continuous growth of the project
    - Evidence of disengaged students who get involved and inspired by the project
    - Success in harvesting and preserving food from the garden
    - Cooking and preparing food from the garden

- External collaborations
    - Main collaborator is a local post-secondary institution which provides a resource base for technical project advice
- Impact measurement
    - Success is measured informally based on a combination of student learning and experiences

R5:

- Garden description
    - Project was originally conceived by a teacher based on an interest in gardening
    - Garden was located within the courtyard, and later expanded to a second site behind the school at the edge of school grounds
    - The project grew to include separate gardens of 120 square feet and 64 square feet of raised beds, including fruit trees
    - Species included saskatoon berry, cherry trees, echinacea, tomatoes, garlic, cucumber, salad greens, basil
    - Project included growing and also food preparation into value added products
- Garden participants
    - Student garden club members were the main users and participants
    - Club members participated daily during lunch break
    - Upper year students were involved as volunteers when heavier labour was needed
- Integration with curriculum
    - Gardens used for science classes – including topics related to health and nutrition, biodiversity, invasive species, and others
    - Grade 3 topics included soils and plants
    - Grade 7 interactions with the environment unit
    - Grade 4 - habitats and communities unit
    - Space was used for independent reading
- Success and achievements
    - Garden was instrumental in helping to achieve EcoSchools Platinum certification for almost a decade
    - Personal successes and impacts to student learning and experience were impossible measure
- External collaborations
    - Grants from Whole Foods
    - Soil donations from municipality and local business
    - Periodic support from the parent council
- Impact measurement

- Success was measured informally based on student learning and experiences

R6:

- Interview with R6 focused on general observations and experiences in working with multiple schools on garden projects – over an extended period
- Noted collaborators included the Evergreen Foundation, and EcoSchools Canada
- Impact measurement for all projects was based on the quality of the student experience

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