The Geographies of the Nature-Culture Interface: A Holistic Evaluation of Kamloops Gardens

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Abstract:

In urban landscapes, gardens are sites of complex co-creation by plants and gardeners that have the capacity to serve as ecological refugia. However, the capacity of a garden to provide habitat for species adversely impacted by urbanization depends, at least in part, on their botanical composition. A garden's botanical composition is often influenced by its physical and climatic characteristics, as well as the opinions and attitudes of its gardener. This research investigates the complex social, cultural, and ecological realities present in the urban gardens of Kamloops. Through on-site interviews with gardeners, a cross section of Kamloops' gardens was assessed for their biodiversity and to understand the nature of the relationship that exists between garden and gardener(s). To quantify the botanical diversity of each garden, I sampled the abundance of all vascular plant species within the garden boundaries. To complement this quantitative approach, I also interviewed each garden's gardener(s) to gain insight into the relationship that exists between the plants and their gardener. Overall, 757 species were found in the 12 gardens studied. There was no correlation found between species richness and Shannon Entropy with lot size or elevation. Dominant themes found in the interviews were the personal value of gardening, food security, drought and water use, fire risk, bees and other pollinators, social pressure for yard maintenance, weeding, and familial history of and cultural connections to gardening. This mixed-method approach is being utilized to showcase the complex reality of urban gardens; they cannot be neatly explained by one sole predictor variable.

Introduction:

Today more than half of the world's population lives in urban landscapes and projections indicate that by 2050, this number will increase to nearly 70% of the world's population (Tauenböck et al., 2022; UN Habitat. 2022). Increasing urbanization tends to depress both the diversity of a city's non-human residents and the connectedness that many of its human inhabitants have to nature (Concepción et al., 2015; Ibrahim Shah et al., 2022; Cox et al., 2018). Yet within urban landscapes, gardens are, by definition, sites where nature-culture collide. They may also be sites that allow city inhabitants to contribute in a hands-on way to their local biodiversity (Vega et al., 2021). Certainly, urban green spaces (including private gardens) can play important roles in supporting a city's ecosystem services (Hanson et al. 2021). Given that we are in the Anthropocene, they also serve as a microcosm for how we humans choose to 'garden' the world (Vega et al., 2021; Harrison & Winfree, 2015). Studying these interactions at a small scale may allows us to understand the larger repercussions of our lifestyles and actions (Lawrence, 2022).

Although there has been a recent explosion of cultural-ecological research on urban gardens in the last decade (Hanson et al., 2021; Jha et al., 2022; Haase & Gaeva, 2023; Djokić et al., 2018; Concepción et al., 2015; Kueffer, 2020) multiple studies have articulated that the ecological contribution of individual gardens will depend heavily upon multiple factors, including the garden's biodiversity, amount of trees, lot size, and specific management practices. Thus, what has been observed in gardens in more humid, larger European cities may not hold true for the gardens of a small city such as Kamloops, located within the dry Interior of British Columbia. In addition, many garden studies have used only qualitative or quantitative approaches to explore the biological diversity and garden-gardener relationships (see for example: Loram et al., 2008; Jha et al., 2022; Haase & Gaeva, 2023; Lawrence, 2022).

Yet, despite the cultural view of plants as simply "living objects" (Lawrence, 2021, p. 631), garden plants have complex lives that may be difficult to describe through a single approach (Lawrence, 2021). Plants, especially garden plants, have unique interactions with time, space, and humans, at various social, cultural, and economic levels (Lawrence, 2021). The urban garden is a place where these meanings are negotiated as researchers seek to understand the social and cultural value of urban gardens. Gardens are created in social contexts that influence their form and function (Haase & Gaeva, 2023; Ginn, 2017). Gardens are created from human desire, the lived realities of plants, and historical, political, and social norms and practices (Ginn, 2017). Thus, the interplay between plants, human society, culture, and gardeners must be considered when studying urban gardens. In arid environments like Kamloops where most horticultural plants require summer

irrigation to survive, gardens are especially dependent on the intentions of gardeners (Avolio et al., 2019).

According to Avolio et al. (2019) urban gardens primarily contain deliberately cultivated plants that are selected from diverse regions of the world, due to the globalized horticultural trade. However, gardener intention and attention are increasingly complicated by climate change, making a deeper understanding of urban gardens vital (Vega et al., 2020). Urbanization changes the concentration and type of plants present in an area, as well as their participation in ecosystem processes like pollination (Harrison & Winfree, 2015). Given the important role urban gardens play in ecosystems, developing an understanding of their botanical composition is important to understand future environmental change. Cities generally display a decrease in native plant species, and an increase in non-native plant species compared to non-urban areas (McKinney, 2006). However, cities can be centres of high plant biodiversity (Avolio et al., 2019). The composition of plants in urban gardens is generally not well understood, but they are a key contributor to urban biodiversity (Loram et al., 2008).

Less well understood are the sociocultural dynamics of urban gardens. Recently, urban ecologists have been studying the ecosystem services and benefits humans gain from urban gardens (Vega et al., 2020). Lawrence (2021) states that understanding plants can be done by examining the individual relationships and interactions they have with their human caretakers. Paying attention to the small-scale relationships found in gardens gives us the opportunity to understand the broader ecological impacts of people's lifestyles in urban areas (Lawrence, 2021). Vega et al. (2021) found that encouraging the relationship between people and plants through community engagement, art, and citizen science had positive ecological and social impacts. To encourage connection between people and plants, art can be used to educate and increase people's appreciation for the beauty and importance of urban vegetation (Vega et al. 2021).

Thus, the purpose of this research project was to explore the ecological and cultural realities of urban gardens in Kamloops, BC through a mixed method approach that combines qualitative and quantitative methodologies intended to develop a holistic understanding of gardens. By situating the quantitative measures of plant species diversity and composition alongside thematic analysis of gardener interviews, I attempted to understand the diversity present in Kamloops urban gardens and explore the relationships that occur between plants and gardeners in these gardens. This UREAP project aimed to collect the quantitative and qualitative data and conduct a preliminary analysis of this data.

Methods:

Qualitative description of the garden-gardener relationship.

Before beginning any interview or field sampling, ethics approval was obtained (TRU REB Approval #103987). Participants were recruited through email, TRUConnect, and word of mouth. Initial recruitment emails were sent at the start of July, and the TRUConnect post was uploaded July 9th. By mid-July, participants were chosen and interviews were scheduled. Participants were chosen on a first-come first-serve basis, those who responded first and were available for the interview times were selected. Many gardeners expressed interest in being interviewed; the number of interested participants quickly exceeded the capacity had for field work. The 13 participants recruited represented 12 different gardens. Other than the necessity of participants' gardens being located within the city limits of Kamloops, geographic location did not determine participant selection. The chosen participants represent 8 of Kamloops' 27 neighborhoods (Figure 1; The City of Kamloops,
2024a).

Figure 1. Location of 12 gardens surveyed, July 4 - Aug 9, 2024. Gardens marked with orange symbols classified as high elevation (568m to 845m), gardens marked with yellow symbols classified as low elevation (349m to 403m).

Due to the nature of the selection process, I believe that participants were biased towards avid gardeners, as they were more likely to want to showcase their garden and respond quickly to recruitment efforts. Field work was conducted from July 4th to August 9th, 2024. Qualitative field work consisted of an on-site interview with the gardener in their garden. The interviews were recorded on OtterAI (an audio recording phone app that uses AI to transcribe recorded audio). Backup recordings were made on Voice Memos, on an iPad 9th generation. Each interview began with the prompt of "tell me about your garden; can you give me a tour of your garden?".

After the initial prompt, interviews diverged based on interviewee responses. Each interview also included various follow-up prompts, based on the interviewee's responses. Examples of follow-up prompts used throughout the 13 interviews were "where did you learn to garden?", "how long have you been gardening?", "do any plants hold special significance for you?", etc. Interviews were various lengths, and ranged from 16 minutes to over an hour, depending on how much each gardener had to say. All interviews ended with two questions. First, I asked what angle did they want their garden photographed from? Second, I asked plant specimen they would like to donate to the research project?

After I photographed the garden from the gardener's preferred location, I collected the donated plant specimen. Unlike scientific plant collecting which mandates collection of the entire plant (as much as possible), I followed the gardener's directions, allowing them to dictate whether the collection was of a single stem, leaf, or the entire plant. Once the interview had been concluded, I took photos of plants in the garden, to facilitate the compilation of the species list.

Collected specimens were pressed following standard botanical techniques. Following each interview, I wrote reflective notes on the interview, attempting to recognize my own biases as an interviewer and the potential impacts of these biases on my interpretations and the potential coding of the interviews. During the writing of these notes, I particularly focused on the sense of rapport between myself as the interviewer, and the interviewee. The interviews were transcribed using Otter.ai and TRU MyMedia. All transcriptions were stored on Microsoft Teams and Otter.ai.

Quantitative Plant Sampling.

In a subsequent visit(s) to the garden, I sampled the aerial abundance (measured in m^2) of all vascular plants found in each garden. With the help of a field assistant, I systematically walked each garden and recorded every vascular plant species we saw. Sampling times varied between gardens, ranging from a minimum of 2 hours to a maximum of 12 hours.

Given the globalized nature of the horticulture trade, identification of all observed species was laborious and relied upon multiple sources (gardeners, verbal identifications, horticultural tags on or near plants, Apple's Visual Look Up feature, and Seek). Seek is an app created by iNaturalist to identify organisms when out in the field (iNaturalist, 2023). I attempted to name all plants at the species level; however, when plants lacked the specific identifiable characters needed to differentiate between species, I recorded them at the genus level. When multiple plants of the same genus lacked the identifiable characters, but were distinguishable, I recorded them as different members of the same genus. If I was unable to identify individual plants, they were categorized as unknowns. I photographed all unknowns and wrote detailed descriptions to facilitate later identifications by experts. Plants that were too small to be identified or differentiated, such as seedlings, wilted, or half-eaten plants, were all recorded as "unknown weeds."

Aerial extent of each plant was estimated using a meter stick and total aerial extent for each species was summed for each garden. Trees and bushes that were too tall to be measured via aerial extent were simply counted. The growing location of each species was also recorded, with three different location categories: pot, ground, and greenhouse. The plant species recorded were vascular plants, namely flowering plants, gymnosperms, and ferns. Grass species were not identified, but the aerial extent of lawn was measured.

For all species that I could measure aerial extent, I calculated two measures of species abundance: frequency and total aerial extent. Frequency was calculated by summing the number of gardens that each species occurred within (i.e., 1-12). Total aerial extent was calculated by summing the aerial extent for each species across all 12 gardens. For each garden, I also calculated two measures of diversity: species richness and the Shannon Entropy Index. Species richness, defined as "the number of species occurring in a given area" (Portier et al., 2022, p. 2), was determined for each garden by counting the total number of species present. The diversity measure used was Shannon Entropy, calculated for each garden using the formula $H = -\sum pi \log pi$, where H = Shannon Diversity and pi = relative abundance of each species (Chao et al., 2014).

Two quantitative characteristics of gardens of garden elevation and the lot size (Table 1) were found using the City of Kamloops Property Information Portal (City of Kamloops, 2024b).

To analyze the influence of garden elevation and lot size on garden species richness, I graphed species richness and Shannon Diversity Index against elevation and lot size. To analyze the influence of elevation and lot size on species composition, I first used non-metric dimensional scaling (NMDS) to characterize the variation in species composition in gardens with the Bray-Curtis dissimilarity index. Species that occurred in less than three

gardens were omitted to improve the interpretability of the ordination results. Finally, any potential correlation of elevation or lot size with changes in species composition was illustrated with the use of joint plots. All analyses were completed in the R-4.4.1statistical environment. NMDS analysis was done using the vegan package, version 2.6-8.

Table 1. The elevation, elevation category, and lot size of each garden.

Garden code	Elevation (m)	Elevation Cat.	Lot size (m^2)
01AB	807	high	724.31
0204RH	697	high	1686.84
03NK	349	low	757.64
05BA	568	high	1064.97
06SB	386	low	557.41
07SB	375	low	557.00
08AB	845	high	464.98
09DT	365	low	648.10
10SB	403	low	557.54
11US	599	high	657.61
12WE	393	low	772.89
13SB	382	low	557.73

Results:

Gardener intentions and approaches:

While walking through these 12 gardens (Figure 2), it became apparent that no garden would be adequately summed up through a single description or motivation. Each garden was complex, often created from various priorities and attitudes held by the gardener. Some gardeners focused on ease of upkeep when cultivating their garden. Their gardens were primarily composed of plants that were easy to grow, and did not require constant maintenance. Instead of clearly delineated garden beds, some gardeners had a freer flowing approach to gardening.

Figure 2. Photographs taken of the 12 gardens. Each gardener selected the angle that they wanted their garden photographed from. The last two photographs are taken of the same garden, with different angles chosen by the two gardeners.

Other gardeners prioritized unique plants, and often had dense gardens that contained 'one of everything'. Gardeners focused on aesthetics chose plants that created appealing shapes and colours and arranged their garden beds to be visually appealing. Gardeners who wanted to cultivate food were more interested in the potential nourishment that their plants could provide, and usually had linear garden beds. When gardeners wanted to support pollinators, their gardens often showed this through the abundance of bees and other insects present on their flowers. Native plants, and other plants that grow well with little irrigation were common in gardens where gardeners were concerned with water use. Throughout all gardens, weeds were common, though individual gardener approaches to weeds tended to vary. Some gardeners methodically pulled weeds, while others let them grow if they provided colorful visual appeal.

The amount and type of land utilized for each garden further added to the diversity. Some gardens had large, established trees, and were primarily shaded. Other gardens had little shade, so gardeners had to work to avoid sun-frying sensitive plants. The type of soil and the slope of the lot also constrained and influenced the overall form of each garden. Some gardens had to work around rock, steep slopes, and nutrient poor soil, which was often overcome through the creative use of raised beds, retaining walls, and pots. There was also a notable difference with how much of each lot was devoted to plants. While plants almost filled the front, back, and sides of some gardener's lots, other gardeners restrained plants to beds that lined lawn and paved areas. Each garden was found to be a complex place, borne of the intentions and attitudes of its gardener, in cooperation with the land they were gardening. The interviews revealed that the gardeners held a variety of attitudes towards their gardens. Many gardeners had a history with specific plants that resulted in sentimental connections. Plants with history were often transplanted from former properties or grown from cuttings and seeds from the gardens of friends and relatives. Despite specific emotional connections, most or all the plants in each garden were selected based on their form and function. Aesthetic value, food production, and pollinator attraction were all determining factors that could influence the plants that gardeners grew and maintained.

The reasons each gardener had for gardening varied as much as their reasons for plant selection. Motivation for gardening was often a combination of factors; one sole reason did not adequately capture why a gardener gardened. Interviewed gardeners participated in the act of gardening because it is a reason to spend time outdoors; a means of food production; an enjoyable way to destress and relax; a way to create an aesthetically pleasing place to live, an avenue for connection with neighbors and other gardeners.

Specimens varied in plant type, amount collected, and the reason for collection. Gardeners selected plants that would look appealing when pressed, represented their garden, or were personally significant. Some plants were shared for a combination of the above reasons. Roughly half of the specimens collected had flowers blooming. Two specimens included the entire plant, from root to flower. Many cuttings included an entire flower or complete portion of a plant, but did not include the roots, as gardeners wished to keep their plants alive. Some gardeners struggled to narrow down their choices and gave multiple plants. The decision behind specimen choice was not an easy one; gardeners took time considering what they wanted to give away. Gardeners often walked through their garden while making this decision, considering the various plants they could offer.

Similarly to the difficulty of specimen choice, the angle for photographing was not a straightforward decision. Although some gardeners had a pre-selected place that they frequently photographed their garden from, generally they took their time deciding how they wanted their garden to be captured.

Conversation in the interviews was wide ranging and included common themes such as the personal value of gardening; food security; drought and water use; fire risk; bees and other pollinators; social pressure for yard maintenance; weeding; familial history of, and cultural connections to, gardening.

Plant species richness and abundance:

Overall, 757 species were found across 12 gardens in Kamloops (Master Species List in appendix). Of the total number of species found, 145 remain as unknowns that will be later identified; however, their occurrence as unique species has been maintained in my dataset. The size of city lots surveyed ranged from 464.98m^2 to 1686.84m^2 with a mean size of 750.59m^2 (Table 1). Plot size includes the house and paved areas of each property. Garden elevation ranged from 349m to 845m, with a mean of 514.08m (table 1). The plant species richness of the gardens ranged from 47 to 210 with a mean of 117.17. The mean Shannon Entropy Index for the gardens surveyed was 1.47. Of the 757 species found, 512 of them were present in only one garden.

Of the 20 most frequent species occurring in gardens, 11 of them are species generally considered by the gardeners interviewed as weeds that they did not intentionally plant (Table 2). Seven of the top 20 most frequent species are edible plants, grown for food. Six species were common to the top 20 most abundant species as measured by frequency (Table 2), and aerial extent (Table 3): namely *Parthenocissus quinquefolia, Iris* spp., *Trifolium* spp., *Rubus idaeus, Medicago lupulina*, and *Chenopodium album*.

I found no correlation between garden elevation or garden lot size with either species richness or Shannon Entropy Index (Figure 2). In comparison, in the ordination of species composition, elevation but not plot size was significantly associated with overall changes in species composition (Figure 3).

Table 2. The 20 most abundant species by frequency (left), and aerial extent (right). Note *Parthenocissus quinquefolia, Iris* spp., *Trifolium* spp., *Rubus idaeus, Medicago lupulina,* and *Chenopodium album* occurred in both lists.

Species	Frequency	Aerial Extent (m^2)	Species	Aerial Extent (m^2)	Frequency
Taraxacum officinale	12	22.85	Parthenocissus quinquefolia	202.68	9
Medicago lupulina	11	37.97	Geranium macrorrhizum	82.25	4
Iris spp.	10	41.64	Juniperus scopulorum	70.82	3
Trifolium spp.	10	39.97	Mahonia aquifolium	51.40	5
Chenopodium album	10	25.57	Bassia scoparia	45.67	4
Solanum lycopersicum	10	18.99	Lobularia maritima	42.65	4
Parthenocissus quinquefolia	9	202.68	Iris spp.	41.64	10
Rubus idaeus	9	38.84	Trifolium spp.	39.97	10
Oxalis spp.	9	20.88	Rubus idaeus	38.84	9
Petroselinum crispum	9	3.54	Medicago lupulina	37.97	11
Stellaria media	9	2.99	Rhamnus spp.	36.00	1
Fallopia convolvulus	8	24.07	Symphoricarpos albus	35.20	4
Fragaria × ananassa	8	22.73	Convolvulus arvensis	29.26	3
Paeonia spp.	8	22.18	Polygonum aviculare	29.15	5
Cucurbita pepo	8	14.036	Helianthus annuus	29.05	6
Lactuca serriola	8	13.07	Syringa vulgaris	27.99	2
Rheum rhabarbarum	8	9.47	Phlox subulata	27.17	3
Plantago major	8	3.03	Physocarpus opulifolius	26.73	3
Unknown weeds	8	2.62	Lamium maculatum	26.60	2
Capsicum annuum	8	2.00	Chenopodium album	25.57	10

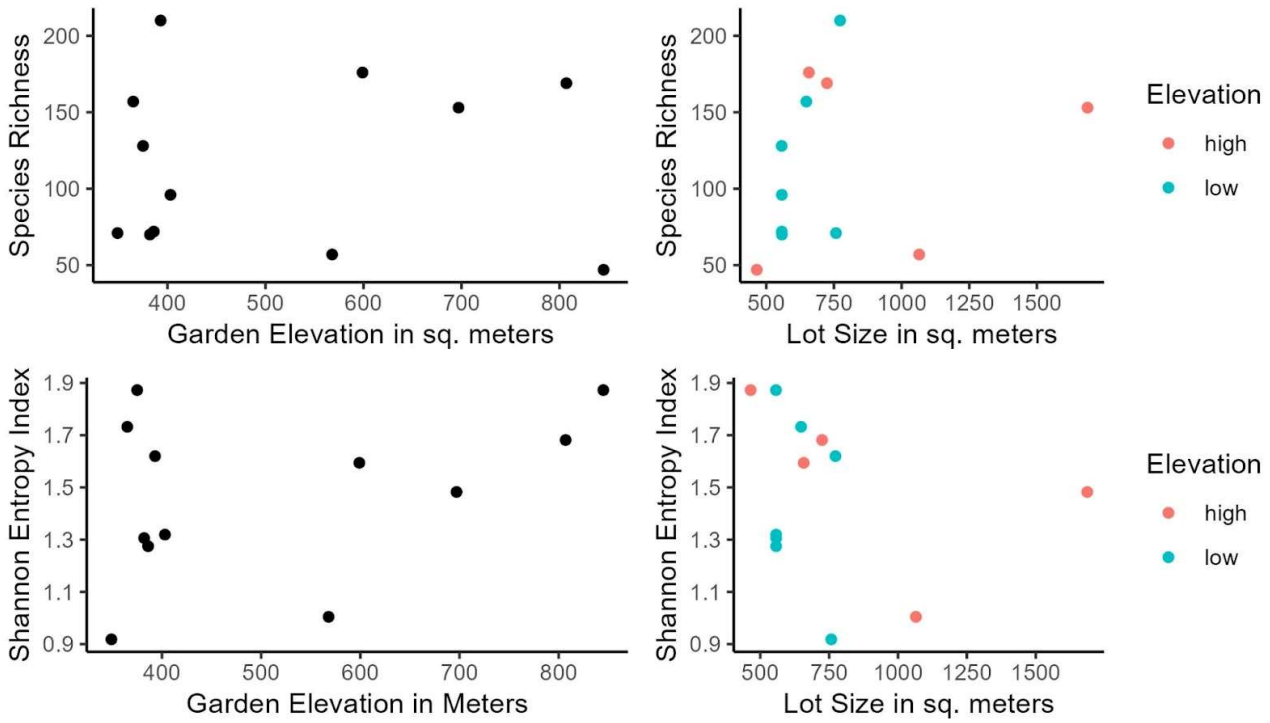

Figure 2. Garden species richness and diversity show little correlation with either garden elevation or lot size. Garden richness was calculated as total richness per lot; diversity calculated with Shannon Entropy Index.

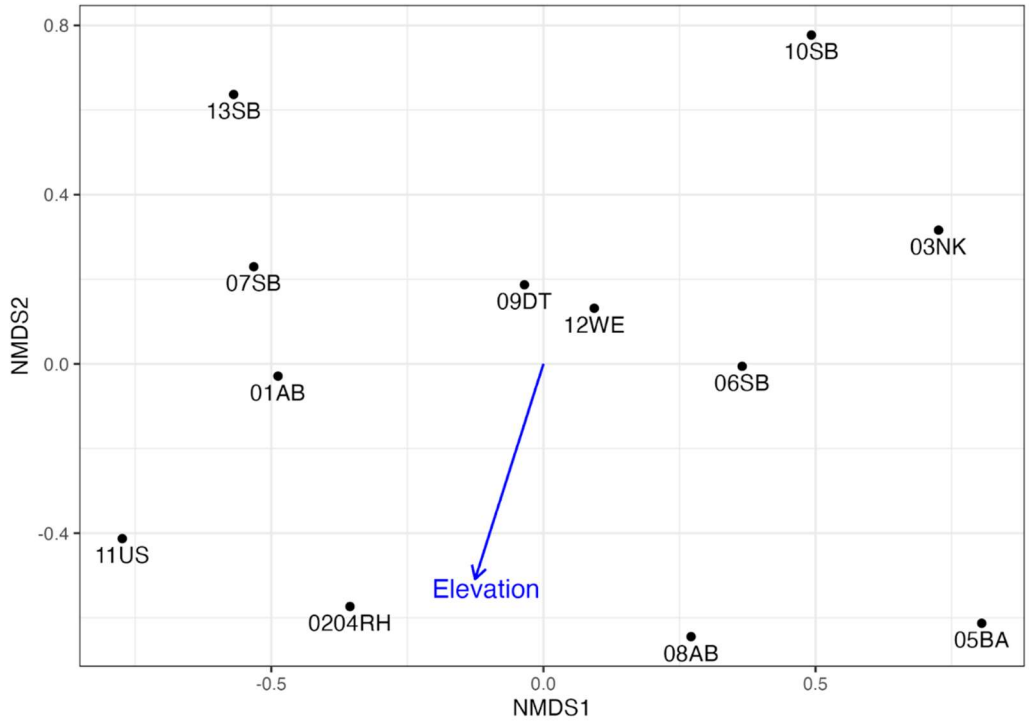

Figure 3. Ordination plot for species that occur in 3 or more gardens, indicating that elevation (m) was significantly correlated with a shift in species composition.

Discussion:

The results of this study indicate that in Kamloops, BC, gardens are rich sites of nature-culture interactions. Not only did the 13 gardeners indicate that they had multiple intentions when gardening, but their gardens supported a diverse and divergent array of plant species that exceeds those found in both other urban landscapes and those found in nearby native plant communities.

For instance, urban gardens in Britian display mean species richness and total richness values that were nearly ½ of the richness values I observed in this study (mean of 57.6 compared to 117.17) (Loram et al., 2008). Plant species richness is well-known to increase with area sampled (Hill, 1994). It should be noted that the mean lot size of sampled gardens in Kamloops was larger than mean lot size in in Britain; however, my lot size also included areas such as driveways and patios that could not support cultivation (Loram et al., 2008).

The ability of urban gardens to support botanical diversity is also interesting when compared to nearby, uncultivated areas. The Lac du Bois Grassland Provincial Park displayed mean species richness and total richness values that were substantially smaller than the richness values observed within this study (mean of 36.3 compared to 117.17) (May & Baldwin, 2011). The size of sampled native plots was smaller than the lot size of Kamloops' gardens I sampled; however, as mentioned previously, my lot size included areas that did not support cultivation.

Not only did the urban gardens I sampled contain higher numbers of plants compared to other uncultivated areas, but they also contained more rare species. The percentage of plants found in this study that are rare (present in only one garden) is nearly double the percentage of rare species found globally (36.5% compared to 67.6%) (Enquist et al., 2019). Species rarity is common in native areas, but the proportion of rare plants I observed in this study exceeds that typically found in native areas (Crisfield et al., 2019). The rare species I observed may only be rare in the context of the 12 gardens I studied, which would account for their unusually large presence. Globally, these species may not be classified as rare and would not be included in rarity estimates. Still, the high number of rare plants I observed show that the selection happening in urban gardens is due primarily to human desire, not natural ecological factors.

The rarity found in Kamloops gardens is interesting, given two phenomena experienced by many of the observed gardens. Firstly, gardeners often share plants amount each other, gifting cuttings, seeds, and divided plants. Secondly, volunteers (plants gardeners allow to remain, that started growing without gardener intention) come into a garden from

neighboring gardens and uncultivated areas. Despite plant-sharing and volunteer plants, the gardens observed were unique, and people are selecting different assemblages of plants, as demonstrated by the large number of rare plants.

Across the 12 gardens, I found no correlation between garden elevation and lot size with either plant species richness or the Shannon Entropy Index. This is unexpected as the size of the area surveyed typically has a direct impact on the number of species found; larger areas will have more species (Hill, 1994). However, as noted above, lot size may not be directly correlated with the cultivated area. Further analyses, using GIS and aerial photos to subtract non-growing areas from overall lot size, will be important to definitively assert that there is no relationship between lot size and species richness. Lot size is also not correlated with the Shannon Entropy Index; however, this is less unexpected as diversity is often more influenced by habitat diversity than by area alone.

Gardens within the city limits of Kamloops span four plant hardiness zones (Figure 2) that are largely distributed along an elevational gradient. Plant hardiness zones are defined zones that "identify the location of environmental conditions under which a species or variety of plant can successfully survive and grow" (McKenney et al., 2007, p. 929). These hardiness zones were developed using climate averages like minimum temperature and provide information about what plants can grow in what areas, which is an important consideration for gardeners. The gardener's knowledge of the plant hardiness zone that their garden resides in will impact the plants they decide to grow and maintain (McKenney et al., 2014).

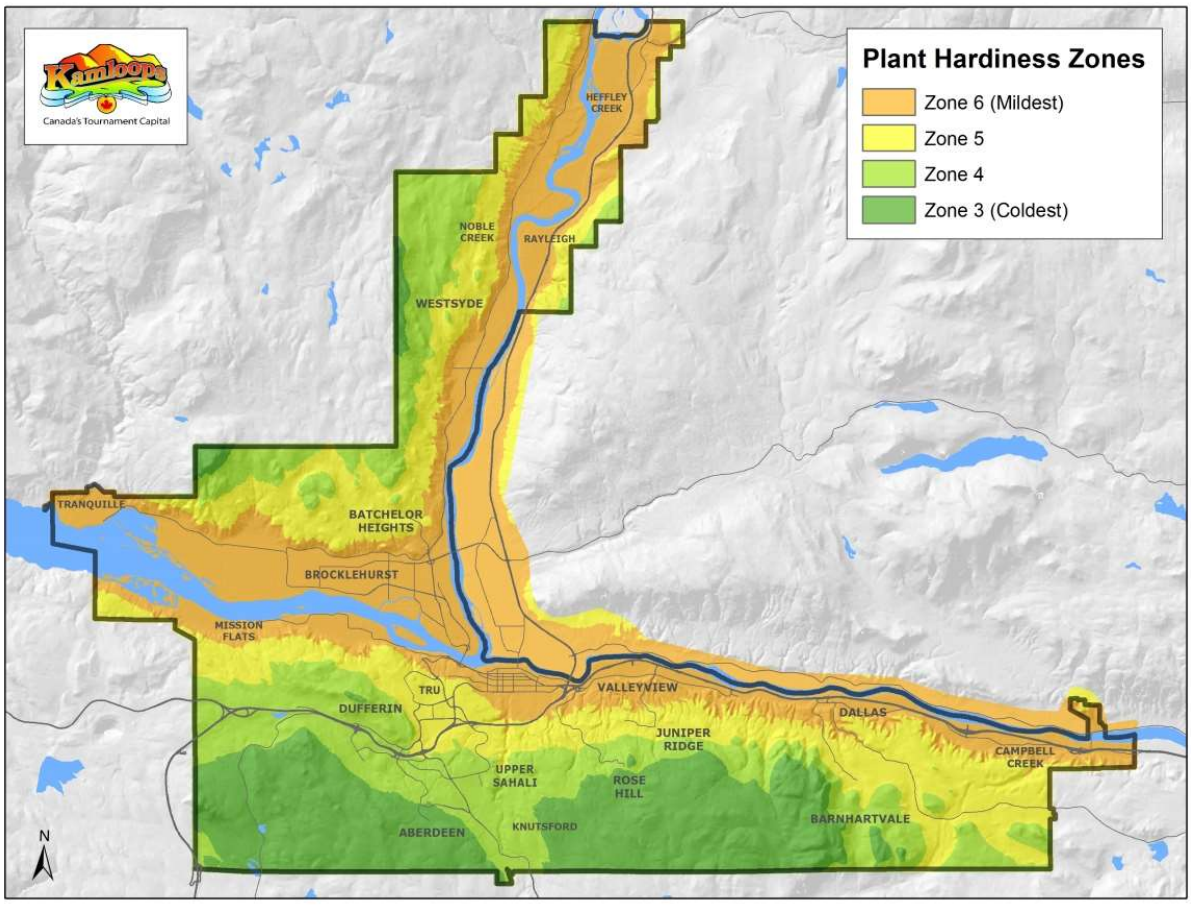

Figure 4. Map of plant hardiness zones in Kamloops, BC. From "Plant Hardiness Zone Map" by the City of Kamloops, n.d., https://www.kamloops.ca/sites/default/files/docs/parks-recreation/planthardiness_letter_landscape_version_5.jpg.

In this study, I observed an impact of plant hardiness zone (as measured by garden elevation) on the composition of the gardens, but not on the richness or diversity of garden flora. This preliminary result supports the assertion of McKenney et al. (2014) that "most gardeners know the hardiness zone in which they live and use this information to select climatically appropriate species for their location" (p. 341). This result also highlights Kamloops gardens as sites in which gardeners are paying attention to not just their intentions and desires, but to the lived experiences (and climatic tolerances) of the plants they cultivate within their gardens.

In addition, the failure of two quantitative measures like elevation and lot size to explain the biodiversity and composition of urban gardens points to their further complexity. Urban gardens are curated by their gardeners and are influenced by far more variables than native plant communities. While factors like lot size and elevation place some constraints on gardeners, they do not directly determine the overall biodiversity and composition of their garden. The garden is created by the gardener, in negotiation with the environmental characteristics of their garden. Certainly, in this research project, Kamloops gardeners identified multiple complex factors at play influencing their decisions, such as the investment of time and or money they are willing to put in, and the reasons they have for gardening. According to the interviews, the motivation behind gardening was very individual; it was a combination of reasons like enjoyment, aesthetics, emotional connection, social pressure, or food security. The quantitative analysis of urban gardens is a necessary piece that must also be combined with qualitative analysis to understand the full scope of urban gardens as complex socio-cultural phenomena that are co-created between gardeners and their plants, in combination with various other constraining factors like lot size, elevation, and climate.

It should be noted that a critical component of this research project was to the collect the interviews, field data, botanical specimens to support further research projects. First the interviews gathered during this research project will be more extensive analyzed as part of a Geography 4480 Directed Studies in the Winter 2025 semester. Interview transcripts will be coded in NVivo based on themes, and a primary theme will be chosen through which to analyse the interviews and create a paper. Initial reviews of the interviews have yielded a variety of common themes that could be chosen to focus on for further analysis. Some of the various themes that have emerged include familial connection and family history of gardening; water use, irrigation, and drought; fire protection, resistance, and risk; pollinators and other wildlife; native versus cultivated plants; responses to weeds and volunteer plants; motivation for gardening, whether is be aesthetics, enjoyment, a reason to spend time in nature, acceptance or rejection of social pressure towards landscaping, food security, or a combination of the above.

Likewise, this research project has also laid the foundation for a Biology 4480 directed studies using botanical art to explore the relationship between gardeners and gardens in Kamloops. During Fall 2024, I will create 13 art pieces representing the gardens, the species within, and their relationship with their gardeners. This work will be exhibited at the TRU Faculty of Science poster conference, and the TRU Undergraduate Research & Innovation Conference. I will also explore opportunities to exhibit this work in the community.

Finally, the completion of this research project has amply demonstrated the keen interest of Kamloops gardeners to be active participants in urban garden research. Certainly, the response of gardeners willing to participate far exceeded my sampling capacity. I sampled twelve gardens and interviewed 13 gardeners. In the future, surveying a larger sample size of gardens in Kamloops would allow greater neighbourhood representation. Likewise, urban gardens in Kamloops could be paired with wild, uncultivated areas of similar location and elevation, to understand the differences in biodiversity of wild and native plants in similar geographic areas. Follow-up quantitative surveys could be given to the participants of this study, to see what other factors may influence the biodiversity and composition of their gardens. Given the potential importance of gardens in providing ecosystem services it would also be useful to quantify the time and money put into gardens, irrigation, where and how plants are procured, as well as how the age of gardens influences their capacity to provide ecosystem services.

Due to the important ecological and cultural services they provide, understanding urban gardens is increasingly important in our ever-urbanizing world. Urban gardens are sites of nature-culture interaction, whose unique realities are negotiated from the lived experiences of gardeners and their plants, and the physical and social space they exist in. To work towards a more complete understanding of these spaces, the plants that make up an urban garden must not only be identified and counted, but they must also be listened to through the words of their caretakers.

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Appendix A. Complete list of species and their presence in 12 gardens sampled in Kamloops BC, 2024.

	01AB	0204RH	03NK	05BA	06SB	07SB	08AB	09DT	10SB	11US	12WE	13SB	Freq	Aerial Extent
Achillea filipendulina	0	0	0	0	0	0	0	0	0	1.27	0	0	1	2.27
Achillea millefolium	0	0.04	0.036	0.98	0	0	0	0.6	0.58	0.58	0.16	0	7	9.976
Aconitum napellus	0	0	0	0	0	0	0	0.92	0	0	0	0	1	1.92
Actinidia arguta	0	0	0	0	0	0	0	0.04	0	1	0	0	2	3.04
Adenophora confusa	0	0	0	0	0	0	0	0.01	0	0	0	0	1	1.01
Aegopodium podagraria	0	0	0	0	0	0	0	0	0	0.17	0	0.09	2	2.26
Agapanthus spp.	0.925	0	0	0	0	0	0	0	0	0	0	0	1	1.925
Agastache foeniculum	0	0	0	0	0	0	0	0	0.9	0.79	0	0	2	3.69
Ageratum houstonianum	0	0	0	0	0	0	0	0	0	0	0.1	0	1	1.1
Ajuga reptans	0	0	0	0	0	0	0	0.05	0	0	0.86	0	2	2.91
Alcea rosea	0	0.04	0	0	2.06	0	0	1.1	0	0	4.9	0	4	12.1
Alchemilla alpina	0	0	0	0	0	0	0	0	0	0	0.06	0	1	1.06
Alchemilla mollis	1.86	1	0	0	0	0.56	0	1.26	0	2.44	0.37	0	6	13.49
Allium × proliferum	0	0	0	0	0	1.1	0	0	0	0	0	0	1	2.1
Allium cepa	0	0	0.2	0	0	0	0	0	0	0	0	0	1	1.2
Allium garlichead	0	0	0	0	0	0	0	0.01	0	0	0	0	1	1.01
Allium neapolitanum	0	0	0	0.02	0	0	0	0	0	0	0	0	1	1.02
Allium sativum	0.15	0	0	0	0	0	0	0	0	0	0.02	0.24	3	3.41
Allium schoenoprasum	1.2309	0.25	0	0	0	0	0	0.16	0	0.15	0	0.64	5	7.4309
Allium siculum	0	0	0.14	0	0	0	0	0	0	0	0	0	1	1.14
Allium spp.	0	0	0	0	0.05	0	0	0	0	0.2	0	0	2	2.25
Alyssum desertorum	0	0	0.46	0	0.23	0	0	0.04	0.02	0	0	0	4	4.75
Amaranthus blitoides	0	0	0	0	0	0	0	0	1.04	0	0	0	1	2.04
Amaranthus viridis	0	0	0	0	0	0	0	0	0	0	0.42	0	1	1.42
Amaryllis spp.	0	0	0	0	0.02	0	0	0.28	0	0	0	0	2	2.3
Anemone canadensis	0	0	0	0	0	0	0	0	0	0	0.36	0	1	1.36
Anemone spp.	0	0	0	0	0	0	0	0	0	0	1.87	0	1	2.87
Anethum graveolens	0	0.02	0	0	0	0	0	0.03	0	0.26	0.39	0	4	4.7
Antennaria spp.	0	0	0	0	0	0	0	0	0	0.23	0	0	1	1.23
Antirrhinum majus	0	0	0	0	0.44	0.04	0	0	0	0	0.46	6.55	4	11.49

	01AB	0204RH	03NK	05BA	06SB	07SB	08AB	09DT	10SB	11US	12WE	13SB	Freq	Aerial Extent
Antirrhinum spp.	0	0.2	0	0.025	0	0	0	0	0	0	0	0	2	2.225
Aquilegia canadensis	0	0	0	0	0	0	0	0.13	0	0	0	0	1	1.13
Aquilegia spp.	0	0	0	0	0.39	0.28	0	0	0.05	0	0.13	0	4	4.85
Aquilegia vulgaris	0.36	0	0	0	0	0	0	0	0	0	0	0	1	1.36
Arabis caucasica	6.2626	1.7	0	0	0	0	0	0	0	3.27	0	0	3	14.2326
Arctium lappa	0	0	0	0.06	0	0	0	0	0	0	0	0	1	1.06
Arctostaphylos uva-ursi	0	0	0	0	0	0	0	0	0	0.5	0	0.48	2	2.98
Armoracia rusticana	0	1	0	0	0	0	0	0.7	0	0	0	0	2	3.7
Aronia melanocarpa	1.43	0	0	0	0	0	0	0	0	0	0	0	1	2.43
Artemisia abrotanum	0	0.18	0	0	0	0	0	0	0	2.31	0	0	2	4.49
Artemisia dracunculus	0	0	0	0	0	0	0	1	0	0.14	0	0	2	3.14
Artemisia schmidtiana	0	0	0	0	0	0	0	0	0	1.47	0	0	1	2.47
Artemisia spp.	0.43	0	0	0	0	0	0	0	0	0	0	0	1	1.43
Artemisia tridentata	0	2	0	0	0	0	0	0	0	0	0	0	1	3
Aruncus dioicus	3.6	0	0	0	0	0	0	0	0	0.28	0	0	2	5.88
Asarum canadense	0	0	0	0	0	0	0	0	0	0	0.04	0	1	1.04
Asarum europaeum	0	0	0	0	0	0	0	0	0	0	0.03	0	1	1.03
Aspidotis densa	0.09	0	0	0	0	0	0	0	0	0	0	0	1	1.09
Aster spp.	0	0	0	0	0	0.94	0	0	0	0	0	0	1	1.94
Aster x frikartii	0	0	0	0	0	0	0	1.07	0	5.33	0	0	2	8.4
Astilbe chinensis	0	0	0	0	0	0	0	0	0	0	0.74	0	1	1.74
Astilbe pink	0	0	0	0	0	0	0	0.2	0	0	0	0	1	1.2
Astilbe white	0	0	0	0	0	0	0	0.2	0	0	0	0	1	1.2
Astragalus collinus	0	0.29	0	2.3	0	0	0	0	0	0	0	0	2	4.59
Astrantia major	0	0	0	0	0	0	0	0	0	0.56	0	0	1	1.56
Athyrium niponicum	0	0	0	0	0	0	0	0	0	0.36	0	0	1	1.36
Atocion armeria	0	0.06	0	0	0	0	0	0	0	0	0	0	1	1.06
Atriplex prostrata	0	0	0	0.21	0	0	0	0	0	0	0	0	1	1.21
Aubrieta deltoidea	1.371	0	0	0	0	0	0	0	0	0	0.02	0	2	3.391
Aurinia saxatilis	0	0	0	0	0	0	0	0.66	0	2.72	1.23	0	3	7.61
Austrocylindropuntia subulata	0	0	0	0	0	0	0	0	0	0	0.02	0	1	1.02
Bacopa megacopa blue	0	0	0	0	0	0	0	0	0	0	0.28	0	1	1.28

	01AB	0204RH	03NK	05BA	06SB	07SB	08AB	09DT	10SB	11US	12WE	13SB	Freq	Aerial Extent
Bacopa megacopa white	0	0	0	0	0	0	0	0	0	0	0.31	0	1	1.31
Baptisia 'violet dusk'	0	0	0	0	0	0	0	0	0	1.68	0	0	1	2.68
Bassia scoparia	0	0	39.54	0	0.13	0	0	5.4	0.6	0	0	0	4	49.67
Begonia ‘Angel Wing’	0	0	0	0	0	0	0	0.09	0	0	0	0	1	1.09
Begonia cucullata	0	0.06	0	0	0	0.3	0	0	0	0	0	0	2	2.36
Begonia rex	0.22	0	0	0	0	0	0	0	0	0	0	0	1	1.22
Begonia x Tuberhybrida	0	0.12	0	0	0	0	0	0	0	0	0	0	1	1.12
Berberis thunbergii	2.5	1.1	0	0	0	0	0	0.25	0.43	3.35	0	0	5	12.63
Bergenia cordifolia	1.05	0	0	0	0	0	0	0	0	0	0	0	1	2.05
Bergenia crassifolia	0	0	0	0	0	1.8	0	0	0	0.09	0.2	0	3	5.09
Beta vulgaris	0	0.4	0	0.5	0	0.3	1.65	0.25	0	0	0.4	0.03	7	10.53
Bidens aurea	0	0.56	0	0	0	0	0	0	0	0	0	0	1	1.56
Bidens ferulifolia	0.03	0	0	0	0	0	0	0	0	0	0	0	1	1.03
Bistorta spp.	0	0	2	0	0	0	0	0	0	0	0	0	1	3
Boechera retrofracta	0	0	0	0.07	0	0	0	0	0	0	0	0	1	1.07
Borago officinalis	0.6609	0	0	0	0	0	0	1.28	0	0	0	0	2	3.9409
Brassica oleracea	0	1	0	0	0	0.28	0	0	0.13	0.16	0.34	0.6	6	8.51
Brunnera macrophylla	0.56	0	0	0	0	0	0	0	0	0	0	0	1	1.56
Buxus sempervirens	0	0	0	0	0	0	0	0	0	0	1.08	0	1	2.08
Calendula spp.	0	0	0	0	0	0	0	0	0	0.06	0	0	1	1.06
Calibrachoa x hybrida	0	0	0	0	0	0	0	0	0	0	0.12	0	1	1.12
Calluna vulgaris	0	0	0	0	0	0.04	0	0	0.15	0	0.06	0	3	3.25
Calystegia sepium	0.02	0	0	0	0	0	0	0	0	0	0	0	1	1.02
Campanula glomerata	5.2016	0.04	0	0	0	0	0	0	0	0	0	0	2	7.2416
Campanula persicifolia	2.6373	0.09	0	0	0	2.59	0	0	0	1.08	0	0	4	10.3973
Campanula poscharskyana	0	0	0	0	0	0	0	0	0	0.04	0	0	1	1.04
Campanula rapunculoides	0	0.16	0	0	1.85	0.22	0	0	0	0	0	0.01	4	6.24
Campanula trachelium	0	0	0	0	0.05	0	0	0	0	0	0	0	1	1.05
Campanula 'Pink Octopus'	0	0	0	0	0	0	0	0.4	0	0	0	0	1	1.4
Canna indica	0	0	0	0	0	0.58	0	0	0	0	0	0	1	1.58
Capsella bursa-pastoris	0	0	0	0	0	0	0	0	0	0.12	0	0	1	1.12
Capsicum annuum	0	0.04	0.2596	0	0	0.08	0.28	0.27	0.03	0.98	0.06	0	8	9.9996

	01AB	0204RH	03NK	05BA	06SB	07SB	08AB	09DT	10SB	11US	12WE	13SB	Freq	Aerial Extent
Caragana arborescens	1.1	0	0	0	0	0	0	0	0	0	0	0	1	2.1
Cardamine hirsuta	0	0	0	0	0	0	0	0	0	0	0.01	0	1	1.01
Castilleja miniata	0	0	0	0	0	0	0	0	0	0.01	0	0	1	1.01
Ceanothus spp.	0	0	0	0	0	0	0	0	0	0.01	0	0	1	1.01
Celosia argentea	0	0	0	0	0	0	0	0	0	0	0.13	0	1	1.13
Centaurea aspera	0	0	0	0.04	0	0	0	0	0	0	0	0	1	1.04
Centaurea jacea	0	0.04	0	0	0	0	0	0	0	0	0	0	1	1.04
Centaurea macrocephala	0	0.64	0	0	0	0	0	0.2	0	0	0	0	2	2.84
Centaurea montana	1.305	0	0	0	0	0.12	0	2.12	0	0	0	0	3	6.545
Centaurea scabiosa	2	0	0	0	0	0	0	0	0	0	0	0	1	3
Centaurea spp.	0	0	0	0.06	0	0	0	0	0	0	0	0	1	1.06
Centaurea stoebe	0	0.01	0	5.39	0	0	0	0	0	0	0	0	2	7.4
Cerastium alpinum	0	0	0	0	0	0	0	0	0	0	0.02	0	1	1.02
Cerastium fontanum	0	0	0	0	0.88	0.02	1.13	0	0	0	0	0.01	4	6.04
Cerastium tomentosum	0	0.16	0	0.02	0	0	0	1	0	0	0	0	3	4.18
Cercis canadensis	0	0	0	0	0	0	0	3	0	0	0	0	1	4
Chamaenerion angustifolium	0	0	0	0	0	0	0.11	0.48	0	1.62	0.1	0	4	6.31
Chelone lyonii	0	0	0	0	0	0	0	0.42	0	0	0	0	1	1.42
Chenopodium album	0	0	10.68	0.26	11.51	0.02	1.24	0.12	0.82	0.01	0.34	0.57	10	35.57
Chrysanthemum spp.	1.195	0	0	0	0	0	0	0	0	0	0	0	1	2.195
Cirsium maculatum	0	0	0	0	0	0	0	0	0	0.02	0	0	1	1.02
Cirsium vulgare	0	0	0	0.03	0	0	0.22	0	0	0	0	0	2	2.25
Citrullus lanatus	0	0	0	0	0	0	0.4	0	0.06	0	0	0	2	2.46
Citrus limon	0	0	0.0135	0	0	0	0	0	0	0	0	0	1	1.0135
Citrus lime	0	0	0.21	0	0	0	0	0	0	0	0	0	1	1.21
Clarkia unguiculata	0	0	0	0	0	0	0	0	0	0	0.01	0	1	1.01
Clematis arabella	0	0	0	0	0	0	0	0	0	0	0.4	0	1	1.4
Clematis spp.	0	0.3	0	0	0	1.2	0	0	0	0	0	0	2	3.5
Clematis tangutica	0	0	0	0	0	0	0	0	0	10	0	0	1	11
Clematis viticella	1.3	0	0	0	0.5	0	0	0	0.32	0	0	0	3	5.12
Cleome serrulata	0	0	0	0	0	0	0	0	0.39	3.75	0	0	2	6.14
Clinopodium nepeta	0	0	0	0	0	0	0	0	0	0.01	0	0	1	1.01

	01AB	0204RH	03NK	05BA	06SB	07SB	08AB	09DT	10SB	11US	12WE	13SB	Freq	Aerial Extent
Coleus amboinicus	0	0	0	0	0	0	0	0	0	0	0.32	0	1	1.32
Coleus scutellarioides	0	0	0	0	0	0.82	0	0.29	0	0	0	0	2	3.11
Convallaria majalis	3.83	0.02	0	0	0.28	0	0	1.58	0	0	0	0	4	9.71
Convolvulus arvensis	0	0	6.39	0	22.84	0	0	0	0.03	0	0	0	3	32.26
Convolvulus sabatius	0	0	0	0	0	0	0	0	0	0	0.24	0	1	1.24
Coreopsis grandiflora	0	0.26	0	0	0	0	0	0	0	0	0	0	1	1.26
Coreopsis lanceolata	0	0	0	0	0	0	0	0	1.32	0	0	0	1	2.32
Coreopsis verticillata	0.2075	0	0	0	0	0	0	0	0	0	1.97	0	2	4.1775
Coreopsis x hybrida	0	0	0	0	0	0	0	0	0	0	0.28	0	1	1.28
Coriandrum sativum	0	0.2	0.021	0.24	0	0	0	0	0	0	0	0	3	3.461
Cornus sericea	0	0	0	0	0	0	0	0	0	1.4	0	0	1	2.4
Cornus spp.	0	0	0	0	0	1.56	0	0	0	0	0	0	1	2.56
Cosmos bipinnatus	0	0	0	0	0	0	0	0	1.89	0.94	0.16	0	3	5.99
Cosmos sulphureus	0	0	0	0	0	0	0	0	0.09	0.16	0	0	2	2.25
Cota tinctoria	0	0	0	0	0	0	0	0	0	0	0.38	0	1	1.38
Cotoneaster lucidus	0	0.04	0	0	0	0	0	0	0	0	0	0	1	1.04
Crassula ovata	0	0	0	0	0	0	0	0	0	0	0.04	0	1	1.04
Cucumis melo	0	0	0	0	0	0	0.5	0	0	0	0	0.03	2	2.53
Cucumis sativus	0	0.09	0	0	0	0	0	0	0	3.06	0	0	2	5.15
Cucumis spp.	0	0.04	0	0	0	0	0	0	0	0	0	0	1	1.04
Cucurbita maxima	0	0	0	0	0	0	0.49	0	0.8	0	0	0	2	3.29
Cucurbita pepo	0	0.9	2.2655	1.2	0	0	1.8	0	0.16	6.36	1.2	0.15	8	22.0355
Curio talinoides	0	0	0	0	0	0	0	0	0	0	0.04	0	1	1.04
Cynoglossum officinale	0.116	0	0	0	0	0	0	0	0	0	0	0	1	1.116
Cynoglossum spp.	0	0	0	0	0	0	0	0	0	0	0.59	0	1	1.59
Dahlia pinnata	0	0	0	0	0	0.2	0	0	0	0	0	0	1	1.2
Dahlia spp.	0	0	0	0	0	0	0	0.6	0	0	0.04	0	2	2.64
Dasiphora fruticosa	0.8	1.7	0	0	1.7	0	0	0	0	0.42	0	0	4	8.62
Daucus carota	0	0.5	0	0	0	0	4.94	0	0	0.7	0.24	0	4	10.38
Delphinium elatum	0	0	0	0	0	0	0	1.5	0	0	0	0	1	2.5
Delphinium grandiflorum	0	0	0	0	0	0	0	0	0	0	0.02	0	1	1.02
Delphinium spp.	0	0	0	0	0	0	0	0	0	0	0	0.24	1	1.24

	01AB	0204RH	03NK	05BA	06SB	07SB	08AB	09DT	10SB	11US	12WE	13SB	Freq	Aerial Extent
Dianthus chinensis	0	0	0	0	0	0	0.12	0	0	0	0.09	0	2	2.21
Dianthus deltoides	0.153	0.12	0	0	0	0.15	0	0	0	0	0	0	3	3.423
Dianthus plumarius	0	0	0	0	0.1	0	0	0	0	0	0	0	1	1.1
Dicentra formosa	1.1	0	0	0	0	0.42	0	0.4	0	0	0	0	3	4.92
Dichondra argentea	0	0	0	0	0	0	0	0	0	0	0.13	0	1	1.13
Digitalis grandiflora	0.1975	0	0	0	0	0	0	0.01	0	0	0	0	2	2.2075
Digitalis purpurea	0.1	0	0	0	0	0	0	2.48	0	0	0	0	2	4.58
Dittrichia viscosa	0	0	0	0.01	0	0	0	0	0	0	0	0	1	1.01
Duranta repens	0	0	0	0	0	1.2	0	0	0	0	0	0	1	2.2
Dysphania ambrosioides	0	0.09	0	0	0	0	0	0	0	0	0	0	1	1.09
Echeveria elegans	0	0	0	0	0	0	0	0	0	0	0.01	0	1	1.01
Echeveria gibbiflora	0	0	0	0	0	0	0	0	0	0	0.02	0	1	1.02
Echinacea purpurea	0	0	0.018	0	0	0	0	0.26	0.61	1.06	2	0	5	8.948
Echinops sphaerocephalus	3.1	1.7	0	0	2.44	0	0	1.3	0	2.96	0	0	5	16.5
Elaeagnus angustifolia	0	0	0	0	0	0	0	0	0.06	0	0	0	1	1.06
Epilobium ciliatum	0	0	0	0.01	0	0.01	0	0	0	0	0	0	2	2.02
Epimedium alpinum	0	0	0	0	0	0	0	0	0	2.76	0	0	1	3.76
Ericameria nauseosa	0	1	0	0	0	0	0	0	0	0.01	0	0	2	3.01
Erigeron spp.	0	0	0	0	0.26	0	0	0	0	0	0	0	1	1.26
Erigeron annuus	0	0	0	0.01	0	0	0	0	0	0	0	0	1	1.01
Erigeron canadensis	0	0	0.2825	0	0	0	0	0	0	0.08	0.02	0	3	3.3825
Erigeron speciosus	0	0.16	0	0	0	0	0	0	0	0.58	0	0	2	2.74
Eriogonum umbellatum	0	0	0	0	0	0	0	0	0	0.35	0	0	1	1.35
Eruca vesicaria	0	0.08	0	0	0	0	0	0	0	0	0	0	1	1.08
Eryngium planum	0	0.06	0	0	0	0	0	0	0	1.85	0.01	0	3	4.92
Erysimum capitatum	0	0	0	0	0	0	0	0	0.6	0	0	0	1	1.6
Eschscholzia californica	0	0	0	0	0	0	0	0	4.07	0	0.82	0	2	6.89
Euonymus alatus	0	0	0	0	0	0	0	4.59	0	0	0	0	1	5.59
Euonymus fortunei	0	0	0	0	4	0	0	0	3.44	0	0	0	2	9.44
Euphorbia hybrid	0	0	0	0	0	0	0	0	0	0	0.12	0	1	1.12
Euphorbia maculata	0	0	2.19	0	0	0	0	0	0	0	0	0	1	3.19
Euphorbia myrsinites	0	0	0	0.18	0	0	0	0	0	0	0	0	1	1.18

	01AB	0204RH	03NK	05BA	06SB	07SB	08AB	09DT	10SB	11US	12WE	13SB	Freq	Aerial Extent
Eutrochium spp.	0	0	0	0	0	0	0	2.9	0	9.45	0	0	2	14.35
Fallopia baldschuanica	0	0	0	0	2	0	0	0	0	0	0	0	1	3
Fallopia convolvulus	0.321	0	10.83	0	11.44	0.31	0	0.11	0	0.02	0.58	0.46	8	32.071
Fragaria × ananassa	0	9	0.153	0.18	0	0.8	4.87	1.46	0	5.82	0.45	0	8	30.733
Fragaria vesca	0.63	0	0	0	0	0.03	0	0	0	0	0	0	2	2.66
Fuchsia magellanica	0	0.04	0	0	0	0.46	0	0	0	0	0.12	0	3	3.62
Gaillardia aristata	0.04	0	0	0	0	0	0	0	4.81	0.08	0.79	0	4	9.72
Gaillardia spp.	0	0	0	0	0	0	0	0.01	0	0.02	0	0	2	2.03
Galinsoga quadriradiata	0	0.01	0	0	0	0	0	0	0	0	0	0.86	2	2.87
Galium anisophyllon	3.6	0	0	0	0	0	0	0	0	0	0	0	1	4.6
Galium odoratum	11.23	0	0	0	0	0	0	0	0	0	0	0	1	12.23
Geranium himalayense	0	0	0	0	0	0.4	0	0	0	0	0	0	1	1.4
Geranium ibericum	0	0	0	0	0	0	0	0.6	0	0	0	0	1	1.6
Geranium macrorrhizum	0	0	0	0	0	0.39	0	4.87	0	76.63	0.36	0	4	86.25
Geranium molle	0	0	0	0	0	0	0	0	0	0	0.04	0	1	1.04
Geranium phaeum	4.42	0	0	0	0	0	0	0	0	0	0	0	1	5.42
Geranium pratense	0	0	0	0	0	0	0	0	0	0	0.1	0	1	1.1
Geranium pusillum	0	0	0	0	2.76	0	0	0	0	0	0	0.02	2	4.78
Geranium robertianum	0	0.04	0	0	0	0	0	0	0	0	0	0	1	1.04
Geranium sanguineum	0	0.01	0	0	0	0	0	0	0	1.64	0.18	0	3	4.83
Geranium spp.	0	0	0	0	0	0	0	0	0	0	0.04	0	1	1.04
Geranium sylvaticum	0	0	0	0	0	0	0	0	0	2.24	0	0	1	3.24
Geranium viscosissimum	0	0	0	0	0	0	0	0	0	0.04	0	0	1	1.04
Gerbera spp.	0	0	0	0	0.01	0	0	0	0	0	0	0	1	1.01
Geum coccineum	0	0	0	0	0	0	0	0	0	0	0.1	0	1	1.1
Geum large	0	0	0	0	0	0	0	0	0	0.01	0	0	1	1.01
Geum small	0	0	0	0	0	0	0	0	0	0.01	0	0	1	1.01
Geum spp.	0.25	0	0	0	0	0	0	0	0	0	0	0	1	1.25
Gilia tricolor	0	0	0	0	0	0	0	0	0.16	0	0	0	1	1.16
Gladiolus spp.	0.16	0	0	0	0	0	0	0	0	0	0	0	1	1.16
Glandularia bipinnatifida	0	0	0	0	0	0	0	0	0.08	0	0	0	1	1.08
Glechoma hederacea	0	0	0	0	0	3.43	0	0.82	0	0	0.04	0	3	7.29

	01AB	0204RH	03NK	05BA	06SB	07SB	08AB	09DT	10SB	11US	12WE	13SB	Freq	Aerial Extent
Glycine max	0	0	0.2	0	0	0	0	0	0	0	0	0	1	1.2
Gnaphalium uliginosum	0	0	0.025	0	0	0	0	0	0	0	0	0	1	1.025
Grindelia squarrosa	0	0	0	0	0.04	0	0	0	0	0	0	0	1	1.04
Gypsophila muralis	0	0	0	0	0	0	0	0	0	0	0.15	0	1	1.15
Hatiora salicornioides	0	0	0	0	0	0	0	0	0	0	0.08	0	1	1.08
Hedera helix	0	0	0	0	0	0.24	0	0	7.65	0	0	0	2	9.89
Helianthus annuus	0	0.09	0.9392	0	0.04	0	0	20.85	6.35	0	0.78	0	6	35.0492
Helianthus tuberosus	0	0.2	0	0	0	0	0	0	0	0	0	0	1	1.2
Heliopsis helianthoides	0	0	0	0	0	1.04	0	0	0	0	0.98	0	2	4.02
Helleborus niger	0	0	0	0	0	0.12	0	0	0	0	0	0	1	1.12
Hemerocallis fulva	0.49	0	0	0	2.5	0.5	0	5.98	0	4.81	1.4	8.36	7	31.04
Hemerocallis lilioasphodelus	4.58	0.09	0	0	0	0	0	0	0	0.76	0	0	3	8.43
Hemerocallis spp.	0	0	0	0	0	1.92	0	0	0.12	0	1.75	0.2	4	7.99
Hemerocallis 'Stella de Oro'	0	0	0	0	0	0	0	0.36	0	0	0	0	1	1.36
Hemiandra pungens	0.12	0	0	0	0	0	0	0	0	0	0	0	1	1.12
Hepatica spp.	0	0	0	0	0	0	0	0	0	0	0.04	0	1	1.04
Hesperis matronalis	0	0.06	0	0	0	0	0	1.55	0	0	0	0	2	3.61
Heterotheca villosa	0	0	0	0	0	0	0	0	0	0.15	0	0	1	1.15
Heuchera red dragon	0	0.06	0	0	0	0	0	0	0	0	0	0	1	1.06
Heuchera sanguinea	0.16	0	0	0	0	0.56	0	0.24	0	0.02	0.66	0	5	6.64
Heuchera spp.	0	0	0	0.04	0	0	0	0	0	0	0	0	1	1.04
Heuchera villosa	0.565	0	0	0	0	0	0	0	0	0.66	0	0	2	3.225
Hieracium spp.	0	0	0	0.3	0	0	0	0	0	0	0	0	1	1.3
Holodiscus discolor	0	0	0	0	0	0	0	0	0	0.8	0	0	1	1.8
Hosta allegan fog	0.06	0	0	0	0	0	0	0	0	0	0	0	1	1.06
Hosta dark green	0	0	0	0	0	0.36	0	0	0	1	0	0	2	3.36
Hosta dark green and white	0	0	0	0	0	0	0	0.15	0	0	0	0	1	1.15
Hosta dark green light green edge	0	0	0	0	0	0	0	0	0	1.44	0	0	1	2.44
Hosta dark green white edge	0	0	0	0	0	0	0	0.36	0	0.5	0	1.22	3	5.08
Hosta dark green yellow edge	0	0	0	0	0	0.2	0	0	0	0.4	0	0	2	2.6
Hosta devon	0	0	0	0	0	0.8	0	1	0	5	0	7.3	4	18.1
Hosta devon green	0.08	0.15	0	0	0	0	0	0	0	0	0	0	2	2.23

	01AB	0204RH	03NK	05BA	06SB	07SB	08AB	09DT	10SB	11US	12WE	13SB	Freq	Aerial Extent
Hosta el nino	0.57	0	0	0	0	0	0	0	0	0	0	0	1	1.57
Hosta first frost	0.07	0	0	0	0	0	0	0	0	0	0	0	1	1.07
Hosta 'Frances Williams'	0	0	0	0	0	0	0	0.12	0	0	0	0	1	1.12
Hosta golden tiara	0.45	0	0	0	0	0	0	0	0	0	0	0	1	1.45
Hosta green	0	0	0	0	0	0	0	0	0	0	0.3	0	1	1.3
Hosta green and dark green	0.15	0	0	0	0	0	0	0	0	0	0	0	1	1.15
Hosta green and white	0	0.06	0	0	0	0	0	0	0	0	0	0	1	1.06
Hosta green middle dark green edge	0	0	0	0	0	0	0	0.78	0	0	0	0	1	1.78
Hosta green middle white edge	0	0	0	0	0	0	0	0.08	0	0	0	0	1	1.08
Hosta green white edge	0	0	0	0	0	0	0	0	0	0	2.7	0	1	3.7
Hosta guacamole	0.335	0	0	0	0	0	0	0	0	0	0	0	1	1.335
Hosta june	0.0858	0	0	0	0	0	0	0	0	0	0	0	1	1.0858
Hosta light green	0.26	0	0	0	0	0	0	1.45	0	2.29	0.56	0	4	8.56
Hosta light green and white	0	0	0	0	0	0	0	1	0	0	0	0	1	2
Hosta light green dark edge	0	0	0	0	0	0.25	0	0	0	0	0	0	1	1.25
Hosta light yellow green	0	0	0	0	0	0	0	0	0	0.18	0	0	1	1.18
Hosta mighty mouse	0.054	0	0	0	0	0	0	0	0	0	0	0	1	1.054
Hosta minuteman	0.898	0	0	0	0	0	0	0	0	0	0	0	1	1.898
Hosta orange marmalade	0.09	0	0	0	0	0	0	0	0	0	0	0	1	1.09
Hosta patriot	0.32	0	0	0	0	0	0	0	0	0	0	0	1	1.32
Hosta plantaginea	0	0	0	0	0.7	0	0	0	0	0	0	0	1	1.7
Hosta sieboldiana	0	0	0	0	0	0	0	2.6	0	0	0	0	1	3.6
Hosta small green	0	0.06	0	0	0	0	0	0	0	0	0	0	1	1.06
Hosta small leaf	0	0	0	0	0	0.09	0	0	0	0	0	0	1	1.09
Hosta snake eyes	0.475	0	0	0	0	0	0	0	0	0	0	0	1	1.475
Hosta touch of class	0.111	0	0	0	0	0	0	0	0	0	0	0	1	1.111
Hosta undulata	0.74	0	0	0	0	0	0	0	0	0	0	0	1	1.74
Hosta vulcan	0.16	0	0	0	0	0	0	0	0	0	0	0	1	1.16
Hosta white centre green edge	0	0	0	0	0	0	0	0	0	0.2	0.12	0	2	2.32
Hosta white middle green edge	0	0	0	0	0	0	0	1.14	0	0	0	0	1	2.14
Hosta winter snow	1.4	0	0	0	0	0	0	0	0	0	0	0	1	2.4
Hosta yellow green	0	0	0	0	0	0	0	0	0	0	0.16	0	1	1.16

	01AB	0204RH	03NK	05BA	06SB	07SB	08AB	09DT	10SB	11US	12WE	13SB	Freq	Aerial Extent
Hosta yellow green dark green edge hosta	0	0	0	0	0	2.61	0	0	0	0	0	0	1	3.61
Humulus	0	0	0.01	0	0	0	0	0	0	0	0	0	1	1.01
Hydrangea arborescens	0	0.12	0	0	0	0	10	0	0	9.3	0	0	3	22.42
Hydrangea macrophylla	0	0	0	0	0	0	0	0	0	0	0	0.84	1	1.84
Hydrangea paniculata	0	0	0	0	0	0.56	0	0	0	0	0	0	1	1.56
Hydrangea petiolaris	0	0	0	0	0	0	0	0	0	0	12.25	0	1	13.25
Hydrangea spp.	1.32	0	0	0	0	0	0	0	0	0	0	0	1	2.32
Hydrangea spp.	0	0.36	0	0	0	0.65	0	0	0	0	0	0	2	3.01
Hylotelephium spectabile	0.95	0.06	0	0	0.85	1.4	0	0.37	0	1.38	0.69	0	7	12.7
Hylotelephium telephium	0	0	0.44	0	0	0	0	0	0	0	0	0	1	1.44
Hypericum spp.	0.045	0	0	0	0	0	0	0	0	0.05	0	0	2	2.095
Hypochaeris maculata	2.29	0	0	0	0	0	0	0	0	0	0	0	1	3.29
Hyssopus officinalis	0	0	2.1	0	0	0	0	0	0	0	0	0	1	3.1
Iberis sempervirens	0.165	0	0	0	0	0	0	0	0	0	3.74	0	2	5.905
Iberis spp.	0	0	0	0	0	0	0	0	0	0	0.2	0	1	1.2
Iberis umbellata	0	0	0	0	0	0	0	0	0	0	0.01	0	1	1.01
Ilex aquifolium	0	0	0	0	0	0	0	0	0	1.2	0	0	1	2.2
Impatiens walleriana	0	0.04	0	0	0	0.25	0.16	0	0	0	0.19	0	4	4.64
Ipomoea batatas	0	0	0	0	0	0.52	0	0.74	0	0	0.94	0	3	5.2
Ipomoea indica	0	0	0	0	0	0	0	0	0.52	0	0	0	1	1.52
Iresine herbstii	0	0	0	0	0	0	0	0.16	0	0	0	0	1	1.16
Iris pallida	0	0	0	0	0.07	0.77	0	0	0	0	0.04	0	3	3.88
Iris sibirica	2.25	0	0	0	0	0	0	1	0	0	0	0	2	5.25
Iris spp.	10.22	0.32	1.815	0	4.93	0.13	0	8.48	0.01	1.66	7.52	6.55	10	51.635
Iris versicolor	0.06	0	0	0	0	0	0	0	0	0	0	0	1	1.06
Jacobaea maritima	0	0	0	0	0	0	0	0	0	0	1.59	0	1	2.59
Jugludiea spp.	0	0.56	0	0	0	0	0	0	0	0	0	0	1	1.56
Juniperus scopulorum	0	5.5	0	0	43	0	0	0	0	0	22.32	0	3	73.82
Kalanchoe delagoensis	0	0	0	0	0	0	0	0	0	0	0.02	0	1	1.02

	01AB	0204RH	03NK	05BA	06SB	07SB	08AB	09DT	10SB	11US	12WE	13SB	Freq	Aerial Extent
Kalanchoe laxiflora	0	0	0	0	0	0	0	0	0	0	0.01	0	1	1.01
Kalanchoe millotii or marnieriana	0	0	0	0	0	0	0	0	0	0	0.02	0	1	1.02
Kalanchoe tomentosa	0	0	0	0	0	0	0	0	0	0	0.07	0	1	1.07
Lablab purpureus	0	0	0	0	0	0	0	0	0.96	0	0	0	1	1.96
Lactuca Less lobed	0	0	0	0	0	0	0	0	0.08	0	0	0	1	1.08
Lactuca muralis	1.09	0.01	0	3.09	0	0	0.04	0	0.04	0.2	0.39	0	7	11.86
Lactuca sativa	0	0.01	0	0	0	0	0	0.25	0	0.01	0.24	0.37	5	5.88
Lactuca serriola	0	0	1.94	3.9	0.36	0.02	6.76	0.01	0.01	0	0	0.07	8	21.07
Lactuca spp.	0	0	0	0	0	0	0	0	0	0	0.39	1.22	2	3.61
Lactuca spp.	0	0	0	0	0	0	0.03	0.1	0	0.04	0	0	3	3.17
Lamium galeobdolon	0.68	0.3	0	0	0	0	0	0.72	0	0.58	0	0	4	6.28
Lamium maculatum	26.3998	0	0	0	0	0	0	0	0	0	0.2	0	2	28.5998
Lamprocapnos spectabilis	0.2	0	0	0	0	1.5	0	4	0	1.28	0	3.23	5	15.21
Lappula squarrosa	0	0	0	0	0	0	0.06	0	0	0	0	0	1	1.06
Lapsana communis	2.7	0	0	0	0	0	0	0	0	0	0	0	1	3.7
Lavandula angustifolia	2.179	0.09	0	0	0.8	0.16	0	0.02	0	0	1.64	0	6	10.889
Leonurus spp.	0.16	0	0	0	0	0	0	0	0	0	0	0	1	1.16
Leucanthemum × superbum	0	0	0	0	0	0.12	0	0	0	0	0	0	1	1.12
Leucanthemum maximum	0	0	0	0	0.3	0	0	0	0	1.7	0	0	2	4
Leucanthemum vulgare	7.346	0	0	0	2.29	0	0	0	0	0	0.24	0	3	12.876
Levisticum officinale	0	0	0	0	0	0	0	1	0	0.7	0	0	2	3.7
Ligularia dentata	0	0	0	0	0	0	0	2.1	0	0	0	0	1	3.1
Ligularia stenocephala	0	0	0	0	0	0	0	0.98	0	0	0.15	0	2	3.13
Lilium 1	0	0	0	0	0	0	0	0	0	0	0	0.01	1	1.01
Lilium 2	0	0	0	0	0	0	0	0	0	0	0	0.03	1	1.03
Lilium 3	0	0	0	0	0	0	0	0	0	0	0	0.02	1	1.02
Lilium 4	0	0	0	0	0	0	0	0	0	0	0	0.05	1	1.05
Lilium auratum	0	0	0	0	0	0	0	0	0	0	0.08	0	1	1.08
Lilium lancifolium	0	0	0	0	0	0	0	0.12	0	0	0	0	1	1.12
Lilium leichtlinii	0.0625	0	0	0	0	0	0	0	0	0	0	0	1	1.0625
Lilium orient	0	0	0	0	0	0	0	0	0.21	0	0	0	1	1.21
Lilium spp.	0	0	0	0	0	0.01	0	0	0	0.41	0.28	0	3	3.7

	01AB	0204RH	03NK	05BA	06SB	07SB	08AB	09DT	10SB	11US	12WE	13SB	Freq	Aerial Extent
Limonium humile	0	0	0	0	0	0	0	0	0	0	0.16	0	1	1.16
Linaria maroccana	0	0	0	0	0	0	0	0	0.19	0	0	0	1	1.19
Linum	0	0.09	0	0	0	0	0	0	0	0	0	0	1	1.09
Linum medium	0	0	0	0	0	0	0	0	2.38	0	0	0	1	3.38
Linum smallii	0	0	0	0	0	0	0	0	0.77	0	0	0	1	1.77
Lithospermum ruderale	0	0.3	0	0	0	0	0	0	0	0	0	0	1	1.3
Lobelia erinus	0	0.01	0	0	0	0	0	0	0	0	0	4.37	2	6.38
Lobularia maritima	0	0	0	0	0.6	0.71	0	0	40.15	1.19	0	0	4	46.65
Lonicera caerulea	0	0.06	0	0	0	0	0	4	0.1	0	0	0	3	7.16
Lonicera caprifolium	0	0	0	0	0	0	0	0	0	0	0	1.2	1	2.2
Lonicera implexa	0	0	0	0	0	0	0	0	0.18	0	0	0	1	1.18
Lonicera periclymenum	0	0	0	0	0	0	0	0	0.4	0	0	0	1	1.4
Lonicera sempervirens	0	0	0	0	0	0	0	0.4	0	0	0	0	1	1.4
Lonicera spp.	0	0	0	0	0	0.14	0	0	0	0	0	0	1	1.14
Lotus corniculatus	0	0	0	0	0	0	0	0	2	0	0	0	1	3
Lupinus spp.	0	0.16	0	0	0	0.33	0	0	0.06	0	0	0	3	3.55
Lysimachia nummularia	0.92	0.04	0	0	0	0.7	0	1.66	0	0	5.3	0	5	13.62
Machaeranthera tanacetifolia	0	0	0	0	0	0	0	0	0	0	0.06	0	1	1.06
Mahonia aquifolium	1.2	0.15	0	45.18	0.08	0	0	0	0	4.79	0	0	5	56.4
Maianthemum racemosum	0	0.02	0	0	0	0	0	0	0	0	0	0	1	1.02
Malus pumila	16.38	0	0	0	0	0	0	0	0	0	0	0	1	17.38
Malva moschata	0	0	0	0	0	0	0	0.52	0	0	0	0	1	1.52
Malva neglecta	0	0	0.82	0	6.68	0	0	0.41	0	0	0.15	0	4	12.06
Mandevilla sanderi	0	0	0	0	0	0	0	0	0	0	0.3	0	1	1.3
Matricaria chamomilla	0	0	0.1314	0	0	0	0	0	0	0	0	0	1	1.1314
Matricaria discoidea	0	0	0.09	0.02	0	0	0	0	0	0	0	0	2	2.11
Matteuccia struthiopteris	4.38	0	0	0	0	1.73	0	7.31	0	0	0.32	0.2	5	18.94
Matthiola incana	0	0	0	0.01	0	0	0	0	0	0	0	0	1	1.01
Medicago lupulina	0.33	0.06	1.535	0.08	7.01	0.08	17.37	0	10.7	0.22	0.27	0.31	11	48.965
Medicago sativa	0.7	0.15	0	9.77	4.94	0	1.6	0	0	0.03	0	0	6	23.19
Melissa officinalis	0	0	0	0	0	0	0	4.09	0	0	0	0	1	5.09

	01AB	0204RH	03NK	05BA	06SB	07SB	08AB	09DT	10SB	11US	12WE	13SB	Freq	Aerial Extent
Mentha × piperita	0	0.04	0.0375	0	0	0.12	0	0.28	0	0.44	0	0	5	5.9175
Mentha longifolia	0	0.09	0	0	0	0	0	0	0	0	0	0	1	1.09
Mentha spicata	0	0	0.0432	0	0	0	0.08	0	0	0.25	0	0	3	3.3732
Mentzelia lindleyi	0	0	0	0	0	0	0	0	0.15	0	0	0	1	1.15
Mesembryanthemum cordifolium	0	0	0	0	0	0.77	0	0	0	0	0.25	0	2	3.02
Monarda didyma	1.17	0	0	0	0	0.09	0	3.1	0	9.7	0	0	4	18.06
Monarda fistulosa	0	0.09	0	0	0	0	0	0	0	2	0	0	2	4.09
Morus spp.	0	0	0	0	0	0	0	0	0	0	0	0.05	1	1.05
Myosotis stricta	0.01	0.02	0	0	0	0	0	0	0.23	0	0.43	0	4	4.69
Myosotis sylvatica	0	0.04	0	0	0	0	0	0	0	0	0	0	1	1.04
Nemophila maculata	0	0	0	0.12	0	0	0	0	0	0	0	0	1	1.12
Nemophila menziesii	0	0	0	0	0	0	0	0	0.1	0	0	0	1	1.1
Nepeta × faassenii	0	0	0	0	0	0	0	0	0	9.08	0.11	0	2	11.19
Nepeta cataria	0	0	0.02	0	0	0	0	0.05	0	0	0	0	2	2.07
Nigella damascena	0	0	0	0	0	0	0	0	0	0.16	0.06	0	2	2.22
Ocimum basilicum	0.105	0.16	0	0	0	0.52	0	0.27	0	0.24	0.1	0.12	7	8.515
Oenothera macrocarpa	0	0	0	0	0	0	0	0	0.5	0	0	0	1	1.5
Oenothera spp.	0	0	0	0	0	0	0	3.5	0	0	0	0	1	4.5
Opuntia monacantha	0	0	0	0	0	0	0	0	0	0	0.01	0	1	1.01
Opuntia spp.	0	0	0	0	0	0	0	0	0	0.02	0	0	1	1.02
Origanum vulgare	0.8175	0.04	0	0	0	0.06	0.36	0.4	0	19.39	0.24	0	7	28.3075
Osmunda regalis	0	0	0	0	0	0	0	0	0	3.57	0	0	1	4.57
Oxalis spp.	8.741	0	2.6382	0	1.72	0.38	0	0.19	0.38	0.08	1.54	5.21	9	29.8792
Oxalis triangularis	0	0.09	0	0	0	0	0	0.24	0	0	0	0	2	2.33
Pachysandra terminalis	0	0	0	0	0	0	0	0.01	0	0	0	0	1	1.01
Paeonia spp.	1.13	0	0	0.2	0.49	4	0	0.75	0	0.6	4.16	10.85	8	30.18
Paeonia tenuifolia	0	0	0	0	0	0.9	0	0	0	0	0	0	1	1.9
Papaver orientale	1.1625	0.16	0	0	1	0.16	0	0.4	0.09	0	0	0	6	8.9725
Papaver rhoeas	0	0	0	0	0	0	0	0	0.83	0	0	0	1	1.83
Papaver somniferum	0.10894	0	0	0	0.01	0.45	0	0.3	0	0.03	0	0	5	5.89894
Parietaria pensylvanica	0	0	0	0	0	0	0	0	0	0	0	0.54	1	1.54

	01AB	0204RH	03NK	05BA	06SB	07SB	08AB	09DT	10SB	11US	12WE	13SB	Freq	Aerial Extent
Parthenocissus quinquefolia	0	0	99.987	2.87	29.89	0.2	0	28	4.21	0.02	37.39	0.11	9	211.677
Pastinaca sativa	0	0.2	0	0	0	0	0	0	0	0	0	0	1	1.2
Pelargonium crispum	0	0	0	0	0	0	0	0.16	0	0	0	0	1	1.16
Pelargonium grandad mac	0.41	0	0	0	0	0	0	0	0	0	0	0	1	1.41
Pelargonium hortorum	0	0	0	0	0.03	0	0	0	0	0	0	0	1	1.03
Pelargonium zonale	2.68	0.4	0	0	0	0.86	0	0.18	0	0	0.01	0.77	6	10.9
Penstemon digitalis	0	0	0	0	0	0	0	0	0	0.18	0	0	1	1.18
Penstemon fruticosus	0	0	0	0	0	0	0	0	0	0.04	0	0	1	1.04
Penstemon grandiflorus	0	0	0	0	0	0	0	0	0	0	0.01	0	1	1.01
Penstemon hirsutus	0	0	0	0	0	0	0	0.09	0	0	0	0	1	1.09
Peperomia graveolens	0	0	0	0	0	0	0	0	0	0	0.03	0	1	1.03
Persicaria spp.	0	0	0	0	0	0	0	0	0.35	0	0	0	1	1.35
Petrosedum rupestre	0	0	0.72	0	0	1.49	0	0.25	0	0	0.22	0	4	6.68
Petroselinum crispum	0.4425	0.16	0	0.02	0	0.4	0.16	0.33	0	0.8	1.13	0.1	9	12.5425
Petunia × atkinsiana	0	0.025	0	0	1.41	1.8	0	0	0.09	0	1.48	5.45	6	16.255
Phacelia campanularia	0	0	0	0	0	0	0	0	0.02	0	0	0	1	1.02
Phacelia parryi	0	0	0	0	0	0	0	0	0	0	0.04	0	1	1.04
Phacelia tanacetifolia	0	0	0	0	0	0	0	0	0	0.2	0	0	1	1.2
Phaseolus coccineus	0	0	0	0	0	0	2.1	0	0	0.6	0	0	2	4.7
Phaseolus vulgaris	0	0.5	0.2725	0	0	0	0	0	0.14	0	2	10	5	17.9125
Phedimus kamtschaticus	0	0	0	0	0	0	0	0.9	0	0	0	0	1	1.9
Phedimus spurius	0.241	0.06	0	0	0	0.1	0	0.5	0	0.54	2.2	0	6	9.641
Philadelphus coronarius	0.24	0	0	0	0	0	0	0	0	0	0	0	1	1.24
Phlomis spp.	0	0	0	0	0	0	0	0	0	0.8	0	0	1	1.8
Phlox paniculata	0.2	0	0	0	0	0.54	0	1	0	0	0.31	0.32	5	7.37
Phlox subulata	0.216	0	0	0.97	0	0	0	0	0	0	0	25.98	3	30.166
Physalis spp.	0	0.3	0	0	0	0	0	0	0	0	0.96	0	2	3.26
Physocarpus opulifolius	3	0	0	0	0	0	0	0.04	0	23.69	0	0	3	29.73
Physostegia virginiana	0	0	0	0	0	1.68	0	0	0	0	0	0	1	2.68
Pilosella aurantiaca	0	0	0	0	0	0.3	0	0	0	0	0	0	1	1.3
Pinus mugo	0	0	0	0	0	0	0	0	0	0.55	0	0	1	1.55

	01AB	0204RH	03NK	05BA	06SB	07SB	08AB	09DT	10SB	11US	12WE	13SB	Freq	Aerial Extent
Pinus ponderosa	0	0	0	0	0	0	0	0	0	0	0.01	0	1	1.01
Pisum sativum	0	0.6	0.3135	0.4	0	0	2.37	0	0	0	0.5	0	5	9.1835
Plantago major	0	0	0.1805	0	0.07	0.17	0.12	0.16	0	0.21	2.11	0.01	8	11.0305
Platycodon grandiflorus	0	0	0	0	0	0	0	0.12	0	0	0	0	1	1.12
Polemonium caeruleum	0.027	0	0	0	0	0	0	0.1	0	0	0	0	2	2.127
Polygonatum odoratum	0	0	0	0	0	0	0	0	0	0.45	0	0	1	1.45
Polygonum aviculare	0	0	15.94	0	0.03	0	0	3.84	9.32	0.02	0	0	5	34.15
Polygonum spp.	0	0	0	0	0	0	0	0	0	0	0	0.29	1	1.29
Portulaca grandiflora	0	0	0	0	0	0.58	0	0	0.76	0	0	0	2	3.34
Portulaca oleracea	0	0	0.2	0	0	0.03	0.04	0	4.21	0.36	0.08	1.97	7	13.89
Primula veris	0	0	0	0	0	0	0	0	0	0	0.32	0	1	1.32
Prunus × cistena	0	0	0	0	0	0.98	0	0	0	0	0	0	1	1.98
Prunus cherry bush	0	0	0	0	0	0	0.42	0	0	0	0	0	1	1.42
Prunus fruticosa	0	0	0.0321	0	0	0	0	0	0	0	0	0	1	1.0321
Prunus padus	0	0.09	0	0	0	0	0	0	0	0	0	0	1	1.09
Prunus persica	0	0	0.133	0	0	0	0	0	0	0	0	0	1	1.133
Prunus tomentosa	0	0	0	0	0	0	0	6	0	0	0	0	1	7
Pseudofumaria lutea	0	0	0	0	0	0	0	7.29	0	0	0	0	1	8.29
Pseudotsuga menziesii	0	0	0	0	0	0	0	0	11	0	0	0	1	12
Pulmonaria longifolia	0	0	0	0	0	0.09	0	0	0	0	0	0	1	1.09
Pulmonaria saccharata	0	0	0	0	0	0	0	0.2	0	0	0	0	1	1.2
Pulmonaria spp.	0.56	0	0	0	0	0	0	0	0	0	0	0	1	1.56
Pulsatilla spp.	0	0	0	0	0	0	0	0	0	0.79	0	0	1	1.79
Raphanus sativus	0	1	0	0	0	0	0	0	0	0	0	0	1	2
Ratibida columnifera	0	0	0	0	0	0	0	0	1.5	0	0	0	1	2.5
Rhamnus spp.	36	0	0	0	0	0	0	0	0	0	0	0	1	37
Rheum rhabarbarum	1.87	1.4	0.3224	0.24	0.09	0	1.25	3	0	0	1.3	0	8	17.4724
Rhododendron	0	0	0	0	0	0	0	0	0	0	0	1.1	1	2.1
Ribes alpinum	0	0	0	0	0	0	0	0	0	0.2	0	0	1	1.2
Ribes nigrum	0	0.5	0	0	0	0	0	0.25	0	1.3	0	0	3	5.05
Ribes rubrum	0	0.4	0	0	0	0	0	0	0	0	0	0	1	1.4
Ribes uva-crispa	0	1.5	0	0	0	0	0	0	0	0	0	0	1	2.5

	01AB	0204RH	03NK	05BA	06SB	07SB	08AB	09DT	10SB	11US	12WE	13SB	Freq	Aerial Extent
Rodgersia aesculifolia	0	0	0	0	0	0.44	0	0	0	0	0	0	1	1.44
Rosa	1	0	0	0	0	0.76	0	0.05	0	0	0	0	3	4.81
Rosa × damascena	0.175	0	0	0	0	0.66	0	0	0	0	0	0	2	2.835
Rosa 2	0	0	0	0	0	0.26	0	0	0	0	0	0	1	1.26
Rosa gallica	1.38	0	0	0	0	0	0	0	0	0	0	0	1	2.38
Rosa multiflora	1.7	0	0	0	1.5	0	0	0	0	0	0	0	2	5.2
Rosa rugosa	10.3	0	0	0	0	0	0	0	0	2.99	0	0	2	15.29
Rosa 'Chinook Sunrise'	0	0	0.1505	0	0	0	0	0	0	0	0	0	1	1.1505
Rubus idaeus	6.25	8	0.425	0.06	1.53	2.01	0	16	0.07	4.49	0	0	9	47.835
Rubus subg. Rubus	0	0	0	0	0	0	0	0	0	0.54	0	0	1	1.54
Rudbeckia fulgida	0	0	0	0	0	0	0	3.22	0	0.71	0	0	2	5.93
Rudbeckia hirta	0	0.04	0	0	0	0	0	1.9	0.15	0.02	5.08	0	5	12.19
Rumex acetosa	0	0	0	0	0	0	0	0.3	0	0	0	0	1	1.3
Rumex spp.	0	0	0	0	0.01	0	0	0	0	0	0	0	1	1.01
Salvia argentea	0	0	0	0	0	0	0	0	0	0	0.25	0	1	1.25
Salvia guaranitica	0	0	0	0	0	0.32	0	0	0	0	0	0	1	1.32
Salvia lanceolata	0	0	0	0	0	0	0	0	0	0.8	0	0	1	1.8
Salvia nemorosa	0.07	0.2	0	0	0	1.04	0	0.64	0	0	0	0	4	5.95
Salvia officinalis	0	0.15	0	0	0	0	0	0.91	0	0.16	0	0	3	4.22
Salvia pratensis	0.343	0	0	0	0	0	0	0	0	0	0	0	1	1.343
Salvia rosmarinus	0.3	0.06	0	0	0	0.16	0	0.02	0	0.09	0.09	0.06	7	7.78
Salvia splendens x darcyi	0	0	0	0	0	0	0	0	0	0	0.16	0	1	1.16
Salvia verticillata	0	0	0	0	0	0	0	0	0	0.67	0	0	1	1.67
Salvia yangii	0.26	0.8	0	0	0	0	0	0.65	0	0.19	0	0	4	5.9
Sambucus spp.	0.25	0	0	0	0	0	0	0	0	0	0	0	1	1.25
Samolus spp.	0.009	0	0	0	0	0	0	0	0	0	0	0	1	1.009
Sanguinaria canadensis	0	0	0	0	0	0	0	0	0	0	0.02	0	1	1.02
Sanguisorba officinalis	0	0	0	0	0	0	0	0	0	0	0.02	0	1	1.02
Saponaria ocymoides	0	0.12	0	0	0	0	0	0	0	0	0	0	1	1.12
Satureja hortensis	0	0	0	0	0	0	0	0	0	0.03	0	0	1	1.03
Saxifraga spp.	0	0	0	0	0	0	0	0.04	0	0	0	0	1	1.04
Scabiosa columbaria	0	0	0	0	0	0	0	0	0	0	0.09	0	1	1.09

	01AB	0204RH	03NK	05BA	06SB	07SB	08AB	09DT	10SB	11US	12WE	13SB	Freq	Aerial Extent
Scaevola aemula	0.1	0	0	0	0	0	0	0	0	0	0	0	1	1.1
Sedum acre	0.02	0.03	0	0.6	0	0	0	0	0	0	0	0	3	3.65
Sedum album	1.31	0	0	0	0	0	0	0	0	0	0.65	0	2	3.96
Sedum boogie woogie	0.03	0	0	0	0	0	0	0	0	0	0	0	1	1.03
Sedum dasyphyllum	0	0	0	0	0	0	0	0	0	0	0.04	0	1	1.04
Sedum makinoi	0	0	0	0	0	0	0	0	0	0	0.09	0	1	1.09
Sedum sexangulare	0	0	0	0	0	0	0	0	0	0.03	0.39	0	2	2.42
Sedum 'Firecracker'	0	0	0	0	0	0	0	0	0	0	0.06	0	1	1.06
Sempervivum arachnoideum	0.12	0	0.09	0	0	0	0	0	0	0	0.01	0	3	3.22
Sempervivum globiferum	0	0.04	0	0	0	0	0	0	0	0	0	0	1	1.04
Sempervivum red/green	0.06	0	0	0	0	0	0	0	0	0	0	0	1	1.06
Sempervivum tectorum	0.495	0.04	0	0	0	0	0	0.02	0	0	1.87	0	4	6.425
Sempervivum 'Emerald Explosion'	0	0	0	0	0	0	0	0	0	0	0.16	0	1	1.16
Sempervivum 'Hairy Balls'	0	0	0.07	0	0	0	0	0	0	0	0	0	1	1.07
Sempervivum 'Henry's Black'	0	0	0	0	0	0	0	0	0	0	0.12	0	1	1.12
Sempervivum 'oddity'	0.02	0	0.03	0	0	0	0	0	0	0	0	0	2	2.05
Senecio spp.	0	0	0.41	0	0	0	0	0	0.36	0	0	0	2	2.77
Senecio vulgaris	0	0	0	0	0	0	0.05	0	0	0	0	0.1	2	2.15
Sibbaldiopsis tridentata	0	0	0	0	0	0	0	0	0	0.01	0	0	1	1.01
Silene chalcedonica	0.14	0	0	0	0	0.66	0	0	0	0	1.2	0	3	5
Silene coronaria	0.09	0.3	0	0	0	1.04	0	0	0	0	0	0	3	4.43
Silene latifolia	0	0.01	0	1.38	0	0	0	0	0	0	0	0	2	3.39
Silene uniflora	0	0	0	0	0	0	0	0	0	0	0.09	0	1	1.09
Sisymbrium loeselii	0	0	2.684	1.58	1.14	0	0.16	0	0	0	0.33	0	5	10.894
Solanum dulcamara	0	0	0	0	0	0	0	0	0	0.02	0	0	1	1.02
Solanum lycopersicum	4.88	0.01	1.5226	0	0.04	2.22	2.26	3	0	2.75	1.66	0.65	10	28.9926
Solanum melongena	0	0.01	0.015	0	0	0	0.12	0.09	0	0	0	0	4	4.235
Solanum sticky	0	0	0	0	0	0	0	0	0.03	0	0	0	1	1.03
Solanum tuberosum	0	3	0.9175	0	0	0	5.5	0.86	0	0	0	0	4	14.2775
Solidago canadensis	0	0	0	0	0	0	0	1.1	0	17.71	0	0	2	20.81
Sonchus arvensis	0	0	0	0	0	0	0	0	0	0	0	0.05	1	1.05
Sonchus oleraceus	0	0	0.569	0	0	0.02	0	0	0	0	0	0.74	3	4.329

	01AB	0204RH	03NK	05BA	06SB	07SB	08AB	09DT	10SB	11US	12WE	13SB	Freq	Aerial Extent
Sonchus spp.	0.135	0	2.61	0	0	0	0	0	0	0	0	0	2	4.745
Spinacia oleracea	0	1.82	0	0	0	0	0	0	0	0	0	0	1	2.82
Spiraea betulifolia	0	0	0	0	0	0	0	0	0	0.22	0	0	1	1.22
Spiraea japonica	0	0.56	0	0	3.72	0.12	0	3.31	0	0	1.84	0	5	14.55
Spiraea large	0	0	0	0	0	0	0	0	0	0.6	0	0	1	1.6
Spiraea prunifolia	0	0	0	0	0	1.45	0	0	0	0	0	0	1	2.45
Spiraea spp.	0.79	0	0	4.9	0	0	0	0	0	0	0	0	2	7.69
Spiraea trilobata	4	6	0	0	0	0	0	0	0	0	0.6	0	3	13.6
Stachys byzantina	2.38	3	0	0	0	0	0	0.21	0	0	0	0	3	8.59
Stachys officinalis	0	0	0	0	0	0	0	0	0	0.41	0	0	1	1.41
Stellaria media	0.53	0.04	0	0.04	0.01	0	0.74	0.05	0	0.75	0.07	0.76	9	11.99
Strelitzia spp.	0	0	0	0	0	0	0	0	0	0	0.18	0	1	1.18
Sutera cordata	0	0	0	0	0	0	0	0	0	0	0.09	0	1	1.09
Symphoricarpos albus	27.5	0	0	2.5	0	0	0	2.2	0	3	0	0	4	39.2
Symphoricarpos orbiculatus	0	0	0	0	0	0	0	0	0	0.72	0	0	1	1.72
Symphyotrichum ericoides	0	0	0	0	0	0	0	0	0	0.31	0	0	1	1.31
Symphyotrichum novae-angliae	0	0	0	0	0	0	0	0.76	0	0	0	0	1	1.76
Symphytum officinale	0	0	0	0	0	0	0	3.8	0	0	0	0	1	4.8
Syringa meyeri	0	4	0	0	0	0	0	0	0	0	0	0	1	5
Syringa vulgaris	0	27	0	0	0	0.99	0	0	0	0	0	0	2	29.99
Syringa x hyacinthiflora	0	0	0	0	0	0	0.2	0	0	0	0	0	1	1.2
Syringa x hyacinthiflora	0	0	0.0425	0	0	0	0	0	0	0	0	0	1	1.0425
Tagetes erecta	0	0	0.3653	0	0.98	0	0	0	0	0	0	0	2	3.3453
Tagetes minuta	0	0	0	0	0.03	0	0	0	0	0	0	0	1	1.03
Tagetes spp.	0	0.01	0	0	0	0	0	0.09	0.06	0	0	0	3	3.16
Tagetes tenuifolia	0	0	0	0	0	0.83	0	0	0	0.69	0	0	2	3.52
Tanacetum parthenium	0.474	0	0	0	0.02	0.14	0	3.18	0.01	0	0	0	5	8.824
Tanacetum vulgare	0.005	1.2	0	0	0	0	0	0	0	0	0	0	2	3.205
Taraxacum erythrospermum	0	0	0	0	0	0	0.04	0	0	0	0	0.06	2	2.1
Taraxacum officinale	0.3598	0.2	0.81	1.56	7.64	0.58	8.62	0.24	0.53	0.28	0.96	1.07	12	34.8498
Thlaspi arvense	0.04	0	0	0	0	0	0	0	0	0	0	0	1	1.04
Thymus fuzzy	0	0	0	0	0	0	0	0	0	12.09	0	0	1	13.09

	01AB	0204RH	03NK	05BA	06SB	07SB	08AB	09DT	10SB	11US	12WE	13SB	Freq	Aerial Extent
Thymus pseudolanuginosus	0.24	0	0	0	0	0	0	0	0	0	0.24	0	2	2.48
Thymus pulegioides	0	0	0	0	0	0	0	0	0	0.09	0	0	1	1.09
Thymus spp.	0	0.06	0	0	0	0.12	0	0	0	0	0	0	2	2.18
Thymus vulgaris	0.2	0	0	0	0	0	0	0.06	0	0.18	0	0	3	3.44
Tilia tomentosa	0	0	0	0	0.56	0	0	0	0	0	0	0	1	1.56
Total	287.0826	101.305	217.286	91.625	193.05	69.61	78.36	228.22	131.61	335.48	170.4	112.89	12	2028.91864
Tradescantia pallida	0	0.02	0	0	0	0	0	0.04	0	0	0	0	2	2.06
Tradescantia zebrina	0	0	0	0	0	0	0	0	0	0	0.09	0	1	1.09
Tradescantia × andersoniana	0	0	0	0	0	0.49	0	0.16	0	0	0	0	2	2.65
Tragopogon	0	0	0	0	0.21	0	0	0	0	0	0	0.06	2	2.27
Tragopogon dubius	0	0.04	0.554	0.37	0	0	0.35	0.01	0	0	0	0	5	6.324
Trifolium incarnatum	0	0	0	0	0	0	0	0	0.2	0	0	0	1	1.2
Trifolium spp.	16	0.16	0	0	3.04	4.35	1.17	0.08	14.14	0.64	0.38	0.01	10	49.97
Trillium grandiflorum	0	0	0	0	0	0.42	0	0	0	0	0	0	1	1.42
Tropaeolum majus	0	0	0	0	0	0	0	0	0	0.11	0.63	0	2	2.74
Tropaeolum minus	0	0	0	0	0	0	0	0	0.54	0	0	0	1	1.54
uniperus scopulorum	0	0	0	23	0	0	0	0	0	0	0	0	1	24
Unknown 3 lobed leaf	0	0	0	0	0.24	0	0	0	0	0	0	0	1	1.24
Unknown alternate astragalus	0	0	0	0	0	0	0.02	0	0	0	0	0	1	1.02
Unknown bridal wreath	0	0	0	0	0	0.27	0	0	0	0	0	0	1	1.27
Unknown bugloss	0	0	0	0	0	0	0	0	0	0	0.24	0	1	1.24
Unknown burr weed	0	0	0	0	0	0	0	0.18	0	0	0	0	1	1.18
Unknown bushy campanula	0	0	0	0	0	0	0	0	0	0	0.26	0	1	1.26
Unknown bushy salvia	0	0	0	0	0	0	0	0	0	0.08	0	0	1	1.08
Unknown carrot ish	0	0	0	0	0	0	0	0	0	0	0.08	0	1	1.08
Unknown circular leaf	0	0	0	0	0	0	0	0	0	0	0.17	0	1	1.17
Unknown clustered phlox	0	0.08	0	0	0	0	0	0	0	0	0	0	1	1.08
Unknown creeping four leaf	0	0.09	0	0	0	0	0	0	0	0	0	0	1	1.09
Unknown crispy bush	0	0	0	0	0	0	0	0	8	0	0	0	1	9
Unknown crispy fern	0	0	0	0	0	0	0	0	0	0.66	0	0	1	1.66
Unknown daisy	0	1	0	0	0	0	0	0	0	0	0	0	1	2

	01AB	0204RH	03NK	05BA	06SB	07SB	08AB	09DT	10SB	11US	12WE	13SB	Freq	Aerial Extent
Unknown dark sort of serrated leaf	0	0	0	0	0	0	0	0	0	0	0.03	0	1	1.03
Unknown dead bush ish	0	0.2	0	0	0	0	0	0	0	0	0	0	1	1.2
Unknown delphinium ish	0	0	0	0	0	0	0	0	0	0	0.01	0	1	1.01
Unknown differrent mock orange	2.6	0	0	0	0	0	0	0	0	0	0	0	1	3.6
Unknown divided daisy	0	0.09	0	0	0	0	0	0	0	0	0	0	1	1.09
Unknown flat spikey evergreen	0.5	0	0	0	0	0	0	0	0	0	0	0	1	1.5
Unknown fried potato	0	0.15	0	0	0	0	0	0	0	0	0	0	1	1.15
Unknown fuzzy clover	0	0	0	0	0	0	0	0	1.56	0	0	0	1	2.56
Unknown fuzzy pointed serrated	0	0	0	0	0	0	0	0	0.02	0	0	0	1	1.02
Unknown half eaten leaf	0	0	0	0	0	0	0	0	0	0.02	0	0	1	1.02
Unknown heart seed pod	0	0	0	0.02	0	0	0	0	0	0	0	0	1	1.02
Unknown heart shaped leaf	0	0	0	0	0	0	0	0	0	0	0.04	0	1	1.04
Unknown heart shaped leaf	0	0	0	0	0.98	0	0	0	0	0	0	0	1	1.98
Unknown heart shaped sapling	0	0	0	0	0	0	0	0	0	0	0	0.02	1	1.02
Unknown large chickweed ish	0	0	0	0	0	0	0	0	0	0	0.03	0	1	1.03
Unknown large green leaf	0	0	0	0	0	0	0	0	0	0.06	0	0	1	1.06
Unknown large leaf phedimus	0	0	0	0	0	0.04	0	0	0	0	0	0	1	1.04
Unknown large mint ish	0	0	0	0	0	0	0	0	0	0.2	0	0	1	1.2
Unknown large sage	0	0	0	0	0	0	0	0	0	1.22	0	0	1	2.22
Unknown large sage white flower	0	0	0	0	0	0.18	0	0	0	0	0	0	1	1.18
Unknown large soft leaves	0	0	0	0	0	0	0	0.3	0	0	0	0	1	1.3
Unknown large succulent ish	0	0	0	0	0	0	0	0	0	0	0.04	0	1	1.04
Unknown lettuce ish	0.05	0	0	0	0	0	0	0	0	0	0	0	1	1.05
Unknown light green pointy leaf	0	0	0	0	0	0	0	0	0.03	0	0	0	1	1.03
Unknown light green sapling red stem	0	0	0	0	0	0	0.08	0	0	0	0	0	1	1.08
Unknown linear weed	0	0	0	0.01	0	0	0	0	0	0	0	0	1	1.01
Unknown lobed leaf	0	0	0	0	0	0	0	0	0.1	0	0	0	1	1.1
Unknown lobed leaf round flower	0.89	0	0	0	0	0	0	0	0	0	0	0	1	1.89
Unknown lobed leaf yellow flower	0	0	0.72	0	0	0	0	0	0	0	0	0	1	1.72
Unknown lobed serrated leaf	0	0.2	0	0	0	0	0	0	0	0	0	0	1	1.2
Unknown lobed succulent	0	0	0	0	0	0	0	0	0	0	0.74	0	1	1.74
Unknown lobed vine	0	0	0	0	0	0.15	0	0	0	0	0	0	1	1.15

	01AB	0204RH	03NK	05BA	06SB	07SB	08AB	09DT	10SB	11US	12WE	13SB	Freq	Aerial Extent
Unknown lobey lettuce	0	0	0	0	0	0	0	0	0	0	0.06	0	1	1.06
Unknown long skinny dark leaf	0	0	0	0	0	0	0	0	0	0	0.03	0	1	1.03
Unknown long skinny oval leaf	0	0	0	0	0	0	0	0	0	0	0	0.02	1	1.02
Unknown long skinny pointed leaf	0	0	0	0	0	0	0	0	0	0.04	0	0	1	1.04
Unknown long thin serrated leaf	0	0	0	0	0	0	0	0	0	0.01	0	0	1	1.01
Unknown mint like leaf	0	0	0	0.08	0	0	0	0	0	0	0	0	1	1.08
Unknown mint/sage	0	0	0	0	0	0	0	0	0	0	0.15	0	1	1.15
Unknown mutated berry	0	0.09	0	0	0	0	0	0	0	0	0	0	1	1.09
Unknown narrow leaves red stem	0	0	0.04	0	0	0	0	0	0	0	0	0	1	1.04
Unknown no petal daisy	0	0	0	0	0	0	0	0	0	0	0	0.12	1	1.12
Unknown non-shiny Mahonia	0	0	0	0	0	0	0	0	0	0	0	3.89	1	4.89
Unknown oak lobed bush	0	0	0	0	0	0	0	0	0	0.51	0	0	1	1.51
Unknown oblong bush	0.12	0	0	0	0	0	0	0	0	0	0	0	1	1.12
Unknown one leaf dead stalk with leaves	0.021	0	0	0	0	0	0	0	0	0	0	0	1	1.021
Unknown opposite slender leaved vine	0	0.04	0	0	0	0	0	0	0	0	0	0	1	1.04
Unknown pink cluster	0.02	0	0	0	0	0	0	0	0	0	0	0	1	1.02
Unknown pink daisy yellow centre	0.15	0	0	0	0	0	0	0	0	0	0	0	1	1.15
Unknown pointed serrated leaf	0	0	0	0	0	0	0	0	0	0.08	0	0	1	1.08
Unknown pointy lobed leaf	0	0	0	0	0	0	0	0	0	0.07	0	0	1	1.07
Unknown pointy scalloped leaf	0	0	0	0	0	0	0	0	0	0.06	0	0	1	1.06
Unknown potato ish	0	0	0	0	0	0.09	0	0	0	0	0	0	1	1.09
Unknown puffy phedimus	0	0	0	0	0	0	0	0	0	0	0.15	0	1	1.15
Unknown purple raceme flower	0	0	0	0	0	0	0	0	0.01	0	0	0	1	1.01
Unknown reaching succulent	0	0	0	0	0	0.03	0	0	0	0	0	0	1	1.03
Unknown red and yellow succulent	0	0	0	0	0	0	0	0	0	0	0.01	0	1	1.01
Unknown red leaved bush	0	0.09	0	0	0	0	0	0	0	0	0	0	1	1.09
Unknown red sapling	0.25	0	0	0	0	0	0	0	0	0	0	0	1	1.25
Unknown rosemary bush	0	0	0	0	0	0	0	0	0	2	0	0	1	3
Unknown round acer	0	0	0	0	0	0	0	0.01	0	0	0	0	1	1.01
Unknown round serrated leaf	0	0	0	1.61	0	0	0	0	0	0	0	0	1	2.61
Unknown round spikey leaves	0.08	0	0	0	0	0	0	0	0	0	0	0	1	1.08
Unknown Rudbeckia pointed leaf	0	0	0	0	0	0	0	0	0	0.24	0	0	1	1.24

	01AB	0204RH	03NK	05BA	06SB	07SB	08AB	09DT	10SB	11US	12WE	13SB	Freq	Aerial Extent
Unknown sad cucumber	0	0	0	0	0	0	0	0	0	0	0.01	0	1	1.01
Unknown sad droopy leaf	0	0.02	0	0	0	0	0	0	0	0	0	0	1	1.02
Unknown sapling	0	0	0	0	0	0.09	0	0	0	0	0	0	1	1.09
Unknown scalloped leaf bush	0	1	0	0	0	0	0	0	0	0	0	0	1	2
Unknown scalloped leaf weed	0	0	0	0	0.09	0	0	0	0	0	0	0	1	1.09
Unknown seedling	0	0	0	0	0	0	0	0	0	0	0.03	0	1	1.03
Unknown serrated compound leaves	0.01	0	0	0	0	0	0	0	0	0	0	0	1	1.01
Unknown serrated leaf dead flower	0	0.09	0	0	0	0	0	0	0	0	0	0	1	1.09
Unknown serrated pointy leaf	0	0	0	0	0	0	0	0	0.03	0	0	0	1	1.03
Unknown serrated weed	0	0	0	0	0.01	0	0	0	0	0	0	0	1	1.01
Unknown shiny leaf	0	0	0	0	0	0.4	0	0	0	0	0	0	1	1.4
Unknown shiny pointed cross	0	0	0	0	0	0	0	0	0	0	0.01	0	1	1.01
Unknown slender heart shaped leaf	0	0	0	0	0	0	0	0	0	0	0.58	0	1	1.58
Unknown small and crispy	0	0	0	0	0	0	0	0	0.02	0	0	0	1	1.02
Unknown small blue flower	0	0	0	0	0	0	0	0	0.07	0	0	0	1	1.07
Unknown small creeping plant	0	0	0.0276	0	0	0	0	0	0	0	0	0	1	1.0276
Unknown small daisy	0	0	0	0	0	0	0	0	0.88	0	0	0	1	1.88
Unknown small iberis umbellata	0	0	0	0	0	0	0	0	0	0	0.06	0	1	1.06
Unknown small lactuca	0	0	0	0	0	0	0	0	0	0	0.01	0	1	1.01
unknown Small pink	0	0	0	0	0.07	0	0	0	0	0	0	0	1	1.07
Unknown small pink raceme	0	0	0	0	0	0	0	0	0	0	0.02	0	1	1.02
Unknown small pointy leaf campanula	0	0	0	0	0	0	0	0	0	0	0.01	0	1	1.01
Unknown small purple flower	0	0	0	0	0	0	0	0	0.01	0	0	0	1	1.01
Unknown small round succulent	0	0	0	0	0	0.24	0	0	0	0	0	0	1	1.24
Unknown small sapling	0	0	0	0	0	0.2	0	0	0	0	0	0	1	1.2
Unknown small spinle	0	0	0	0	0	0	0	0	0	0	0.12	0	1	1.12
Unknown small spready	0	0	0	0	0	0	0	0	0	0.06	0	0	1	1.06
Unknown small strawberry	0	0	0.002	0	0	0	0	0	0	0	0	0	1	1.002
Unknown small weed yellow flower	0	0	0	0.01	0	0	0	0	0	0	0	0	1	1.01
Unknown small white flower	0	0	0	0	0	0	0	0	0	0	0.01	0	1	1.01
Unknown small yellow flower thin leaf	0	0	0	0	0	0	0	0	0	0.01	0	0	1	1.01
Unknown soft green leaf	0	0	0	0	0	0	0	0	0	0	0.26	0	1	1.26

	01AB	0204RH	03NK	05BA	06SB	07SB	08AB	09DT	10SB	11US	12WE	13SB	Freq	Aerial Extent
Unknown spikey	0	0	0.0075	0	0	0	0	0	0	0	0	0	1	1.0075
Unknown spikey weed	0	0.06	0	0	0	0	0	0	0	0	0	0	1	1.06
Unknown spinach tree	0	0	0	0.4	0	0	0	0	0	0	0	0	1	1.4
Unknown spready sedum sexangulare	0	0	0	0	0	0	0	0	0	0	0.21	0	1	1.21
Unknown stacked jagged leaves	0	0	0	0	0	0	0	0	0	0.06	0	0	1	1.06
Unknown strange vine	0	0	0	0	0	0	0	0.12	0	0	0	0	1	1.12
Unknown sunflower-like	0.1865	0	0	0	0	0	0	0	0	0	0	0	1	1.1865
Unknown tall chickweed	0	0	0	0	0	0	0.02	0	0	0	0	0	1	1.02
Unknown tall sapling	0	0	0	0	0	0	0	0	0.03	0	0	0	1	1.03
Unknown thin pointy leaf cross	0.15	0	0	0	0	0	0	0	0	0	0	0	1	1.15
Unknown thistle soft	0	0	0	0.04	0	0	0	0	0	0	0	0	1	1.04
Unknown thumberry	0	0	0	0	0	0.22	0	0	0	0	0	0	1	1.22
Unknown tickseed ish	0	0	0	0	0	0	0	0	0	0	0.01	0	1	1.01
Unknown triangle lobed succulent	0	0	0	0	0	0	0	0	0	0	0.27	0	1	1.27
Unknown variegated phedimus	0	0	0	0	0	0.49	0	0	0	0	0	0	1	1.49
Unknown variegated sapling	0	0	0	0	0	0.06	0	0	0	0	0	0	1	1.06
Unknown very lobed aquilegia	0	0	0	0	0	0	0	0	0	0	0	0.04	1	1.04
Unknown very lobed leaf	0	0	0	0	0	0	0	0	0.06	0	0	0	1	1.06
Unknown weeds	0	0	0	0	0.04	0	0	0	0	0	0	0	1	1.04
Unknown weeds	0.0084	0	0	1.235	0	0.33	0.1	0.18	0	0.19	0.26	0.32	8	10.6234
Unknown weirdo	0	0.06	0	0	0	0	0	0	0	0	0	0	1	1.06
Unknown white flower narrow leaf	0	0	0	0	0	0	0	0	0.33	0	0	0	1	1.33
Unknown white flower serrated leaf	0	0	0	0	0	0	0	0	0	0	0.28	0	1	1.28
Unknown white flowered shrub	1.5	0	0	0	0	0	0	0	0	0	0	0	1	2.5
Unknown white solidago	0	0	0	0	0	0	0	0	0	0.1	0	0	1	1.1
Unknown whorled leaves parallel venation	0	0.04	0	0	0	0	0	0	0	0	0	0	1	1.04
Unknown wildflower seedlings	0	0	0	0.84	0	0	0	0	0	0	0	0	1	1.84
Unknown yellow green serrated triangle	0	0.4	0	0	0	0	0	0	0	0	0	0	1	1.4
Unknown yellow green succulent	0	0	0	0	0	0	0	0	0	0	0.03	0	1	1.03
Unknown yellow lobed succulent	0	0	0	0	0	0.14	0	0	0	0	0.32	0	2	2.46

	01AB	0204RH	03NK	05BA	06SB	07SB	08AB	09DT	10SB	11US	12WE	13SB	Freq	Aerial Extent
Unknown yellow middle white edge daisy	0	0	0	0	0	0	0	0	0.08	0	0	0	1	1.08
Unknown yellow small daisy	0	0	0	0	0	0	0	0	0.02	0	0	0	1	1.02
Unkown grey rosemary	0.297	0	0	0	0	0	0	0	0	0	0	0	1	1.297
Unkown iris lily	0.32	0	0	0	0	0	0	0	0	0	0	0	1	1.32
Unkown thin pointy leaf white flower	0.4	0	0	0	0	0	0	0	0	0	0	0	1	1.4
Unkown weeds	0	0	0	0	0	0	0	0	0.03	0	0	0	1	1.03
Vaccinium cespitosum	0	0	0	0	0	0	0.18	0	0	0	0	0	1	1.18
Vaccinium corymbosum	0.48	0	0	0	0	0	0	0	0	0	0	0	1	1.48
Vaccinium myrtillus	0	0	0	0	0	0	0	0	0.08	0	0	0	1	1.08
Vaccinium spp.	0	0	0.065	0	0	0	0	0	0	0	0	0	1	1.065
Valeriana rubra	0	0.7	0	0	0	0	0	0	0	0	0	0	1	1.7
Verbascum thapsus	0	0	0	0.17	0	0	0	3.06	0	0	0	0	2	5.23
Verbena bracteata	0	0	0.4	0	0	0	0	0	0	0	0	0	1	1.4
Verbena hybrida	0	0	0	0	0	0	0	0	0	0	0.13	0	1	1.13
Verbena spp.	0	0.16	0	0	0	0	0	0	0	0	0	0	1	1.16
Veronica grandis	0	0	0	0	0	0	0	1.2	0	0	0	0	1	2.2
Veronica longifolia	1.879	0	0	0	0	0	0	0	0	0	0	0.15	2	4.029
Veronica persica	0	0	0	0	0	0	0.02	0	0	0	0	0	1	1.02
Veronica spicata	0	0	0	0	0	1.14	0	0	0	0	0.06	0	2	3.2
Veronica spp.	0	0.2	0	0	0	0	0	0.16	0	0	0.03	0	3	3.39
Veronicastrum virginicum	0	0	0	0	0	0	0	0.6	0	1.5	0	0	2	4.1
Vinca major	0.865	4	0	0	0	0.8	0	0	0	0	1.41	0	4	11.075
Vinca spp.	0.6	0	0	0	0	0	0	0	0	0	0	0	1	1.6
Viola calcarata	0	0	0.0112	0	0	0	0	0	0	0	0	0	1	1.0112
Viola lutea	0.3	0	0.0025	0	0	0	0	0	0	0	0	0	2	2.3025
Viola odorata	0.76	0	0	0	0.63	1.28	0	1.43	0	0.3	3.88	0.32	7	15.6
Viola tricolor	0.239	0.03	0.0395	0	0	0	0	0	0.06	0	0.2	0	5	5.5685
Viola spp.	0	0.06	0	0	0	0	0	0	0	0	0	0	1	1.06
Vitis spp.	0	0	0	0	0	0	0	0	0	0.04	6	0	2	8.04
Weigela florida	0	0	0	0	0	0	0	0	0	0	0	4.8	1	5.8
Yucca filamentosa	0	0.09	0	0	0	0.18	0	0	0	0	0	0	2	2.27

	01AB	0204RH	03NK	05BA	06SB	07SB	08AB	09DT	10SB	11US	12WE	13SB	Freq	Aerial Extent
Zea mays	0	0	0.36	0	1	0	0	0	0.8	0	0	0	3	5.16
Zinnia elegans	0	0	0	0	0	2.89	0	0	0.04	0	0.32	0.48	4	7.73