FY 2025 Travis County Balcones Canyonlands Preserve
Non-native Invasive Plant Management Program Report



Nandina stump. (photo by Julie Murray)

Travis County
Department of Transportation and Natural Resources
Natural Resources and Environmental Quality Division

1 October 2024 – 30 September 2025

The Balcones Canyonlands Preserve (BCP), created in 1996 to protect the endangered golden-cheeked warbler (*Setophaga chrysoparia*) and other listed species, now encompasses over 33,000 acres of juniper-oak woodland but continues to face serious threats from biological invasions, especially non-native invasive plants (NNIPs). These species often grow faster, reproduce more readily, and face less herbivory than native plants, particularly because white-tailed deer preferentially browse native vegetation, giving invaders a competitive edge. As NNIPs spread, they reduce native plant and pollinator diversity, diminish habitat quality for insectivorous birds, and may limit key food sources critical to golden-cheeked warbler foraging. Invasion pressures are strongest near the wildland-urban interface (WUI), in riparian corridors, and on former homesteads where landscaping species escape into the preserve through seed dispersal or vegetative spread. With hardwood regeneration already lagging and development surrounding much of the preserve, managing these varied and widespread invasions is essential to maintaining the biodiversity and habitat integrity of the BCP.

Effective NNIP management requires identifying impacted areas, developing and implementing a treatment plan and maintenance regime, restoring treated areas, and working to prevent further invasion.

Identifying impacted areas

Travis County staff (staff) surveyed drainages and WUIs, areas where NNIPs flourish, using a systematic approach. The BCP is divided into management units, which are then divided into treatment units consisting of segments along drainages or WUIs. Surveyors visited segments, treating NNIPs as they went and as time permitted. As segments were surveyed, each was categorized as “Survey complete,” where no significant invasion was detected, or “Infested,” where more than 1,000 NNIPs were found. The completed segments will not need to be revisited for 5-10 years while the infested areas are prioritized for treatment.

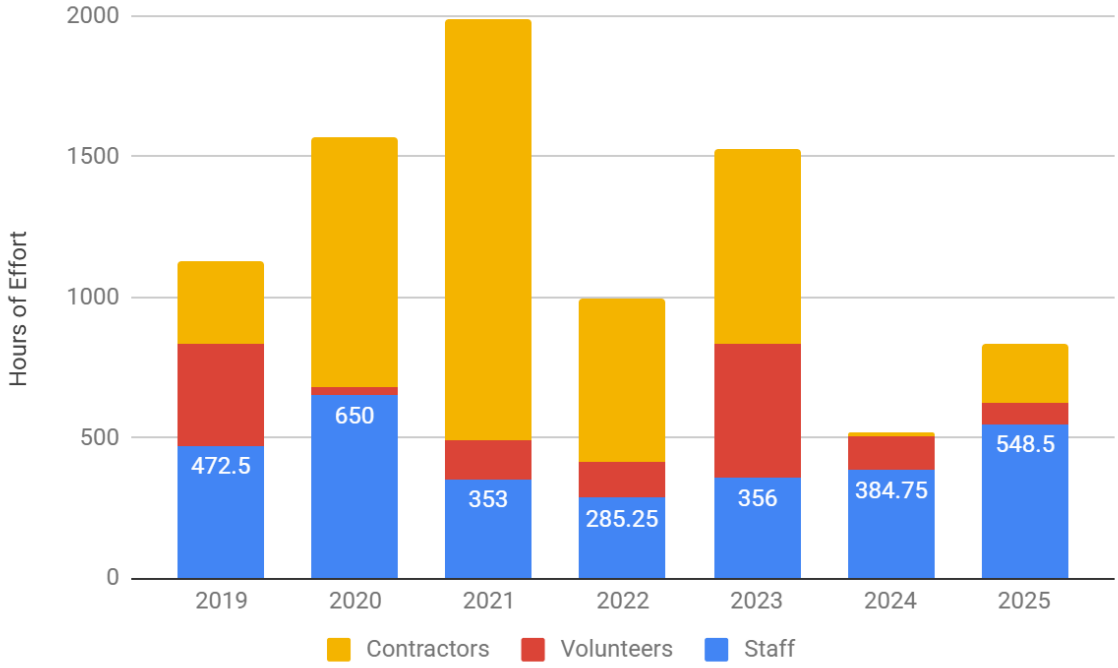
Table 1. Survey status of segments per management unit

Management Unit	Total Segments	Need survey	Minimally impacted	Infested
Cypress Creek	176	171	4	1
Jollyville	112	32	69	11
Bull Creek	50	34	9	7
Steiner Ranch	49	37	6	6
Lime Creek	41	31	9	1
South Lake Austin	29	25	4	
Kotrla	28	27	1	
North Lake Austin	25	24		1
Wild Basin	12	4		8
Stark's Mine	2	1		1
Total	524	**386**	**102**	**36**
% of total		**74%**	**19%**	**7%**
Linear kilometers	**146**	**97**	**31**	**18**

To date, 19% of the segments do not have significant infestations and seven percent of the segments do contain significant invasions (Table 1). 74% of the segments have not yet been surveyed. In FY2025, 2 segments were surveyed.

Once areas were identified as infested, staff systematically swept through the area, treating and mapping all NNIPs along the way. Of the 36 identified infested segments, nine were treated in FY 2025 (FY25). Treatment occurred along approximately 3 km of drainage at an average rate of 10m/hour.

Figure 1. NNIP Control Effort



Staff, volunteers, and contractors spent 805 hours conducting NNIP control in FY25 (Figure 1). NNIP control was achieved using mechanical and chemical methods, with hand-pulling and mechanical removal preferred when possible and applying herbicides only when necessary. When mechanical removal wasn't sufficient, staff used techniques such as "cut and treat," where cut stumps were immediately painted with herbicide, and "girdle and squirt," which removes a ring of bark on larger trees to allow precise application of triclopyr herbicide. These methods were effective for most woody species. However, several tracts of the BCP contain monoculture infestations by *Vinca major*, Johnsongrass (*Sorghum halepense*) and King Ranch bluestem (*Bothriochloa ischaemum*). These monocultures require species-specific treatment methods.

Vinca major

Greater periwinkle (*Vinca major*) is an invasive evergreen groundcover on the BCP that smothers native vegetation and degrades arthropod habitats through its dense, mat-forming stolons and unpalatable, waxy leaves. Because its proximity to sensitive Jollyville Plateau salamander habitat precludes herbicide use, staff utilized mechanical controls, primarily hand-pulling and smothering with shade cloth. While hand-pulling is effective for smaller patches and leading edges, dense infestations like the 5.5-acre population on the Bunten tract required more intensive labor; however,

shade cloth treatments followed by native reseeding have shown significant progress. As of 2025, these consistent restoration efforts have successfully reduced the 2017 Vinca footprint on the Bunten tract by 31%.

Johnsongrass

Johnsongrass is an aggressive invasive perennial on the BCP that spreads via seeds and rhizomes. Management focused on herbicide applications using sulfosulfuron during spring and early summer when plants were most actively growing. Targeted treatments across several tracts have begun to reduce Johnsongrass density (Table 2). Heritage Tree Care was contracted to assist with treatments at the Crossings conservation easement.

Table 2. Johnsongrass treatment on Travis County BCP tracts.

Tract	Sq. Meters Treated in 2021	Sq. Meters Treated in 2022	Sq. Meters Treated in 2023	Sq. Meters Treated in 2024	Sq. Meters Treated in 2025
Blackmore	526	526	526		926
Crossings	4330	4330		4330*	4330*
New Life	1942	1942			
Nootsie	2752	2752	2752	2752	2752
Snowden	4573	4573	662	662	662
Volente		2914			2914

*Heritage Tree Care

Prevention of NNIP Impacts

With continued urban development adjacent to the BCP, the threat of new plant invaders is constant. Treatment of NNIPs beyond the boundaries of the BCP and community engagement are essential to protecting the ecosystem and promoting high-quality habitat for native flora and fauna throughout the region.

NNIP Education

Many landowners are unaware of the harm caused by non-native plants that are commercially available. More than 800 hours of labor were dedicated to NNIP treatment on Travis County BCP tracts in FY25, but these efforts are undermined by the continued re-introduction of NNIPs from neighboring properties. To address the cause, public education is essential to prevent the continued planting and tolerance

of NNIPs in landscaping. The public must be provided with information about the harm of NNIPs and the benefits of native plants.

Native Plant Exchange Program

The Native Plant Exchange Program (NPEP) is an initiative designed to remove NNIPs from private property within ¼ mile of the BCP. The pilot program was launched in FY2024, targeting the neighborhoods of Grandview Hills, a subdivision fully surrounded by the BCP. With funding from Travis County Natural Resources and a grant from the U.S. Fish and Wildlife Service, the program is administered by TreeFolks and implemented by Heritage Tree Care. NNIPs on private land are removed and replaced with native plants at no cost to the participant. In its pilot phase, NPEP successfully served 14 homeowners and three Homeowner Associations (HOA), resulting in the removal of nearly 1,400 NNIPs and the installation of 120 native plants. Participating landowners receive a personalized consultation for the replacement of non-native invasive plants. NPEP contractors carried out the removals and replacements in February of 2025. For more details see Appendix A for program report.

APPENDIX A

Native Plant Exchange Program FY2025 Program Report

The Native Plant Exchange Program (NPEP) is an initiative led by Travis County Natural Resources aimed at reducing the spread of non-native invasive plants (NNIPs) from private property onto the Balcones Canyonlands Preserve (BCP) in northwest Travis County. Each year considerable effort and expense are required to remove and control NNIPs on preserve lands. These efforts are stymied by the continual reintroduction of NNIPs from neighboring properties. Prevention is essential to help protect local ecosystems, preserve biodiversity, and support endangered species like the golden-cheeked warbler. Controlling the proliferation of NNIPs not only enhances habitat health but also educates the community on the ecological benefits of native plant conservation. The County contracted with TreeFolks to replace invasive species on private lands within ¼ mile of the BCP with native plants.

Pilot Program

The pilot year of the program was focused on the neighborhoods in the Grandview Hills area, near Wilson Parke Avenue and FM 620. These neighborhoods are surrounded by the BCP. Many of the adjacent preserve lands are heavily impacted by NNIPs located in common areas and on residential lots.

Outreach Efforts

Informational flyers were sent to the presidents of the three Homeowners Associations (HOAs) in the area: The Parke, The Ridge, and The Estates. Information was distributed via NextDoor and flyers were posted in common areas of the neighborhoods. Invasive plant identification information was made available on the Travis County BCP website as well as a link to the application to participate. Four outreach events took place within the neighborhood to inform neighbors about the program and encourage applications.

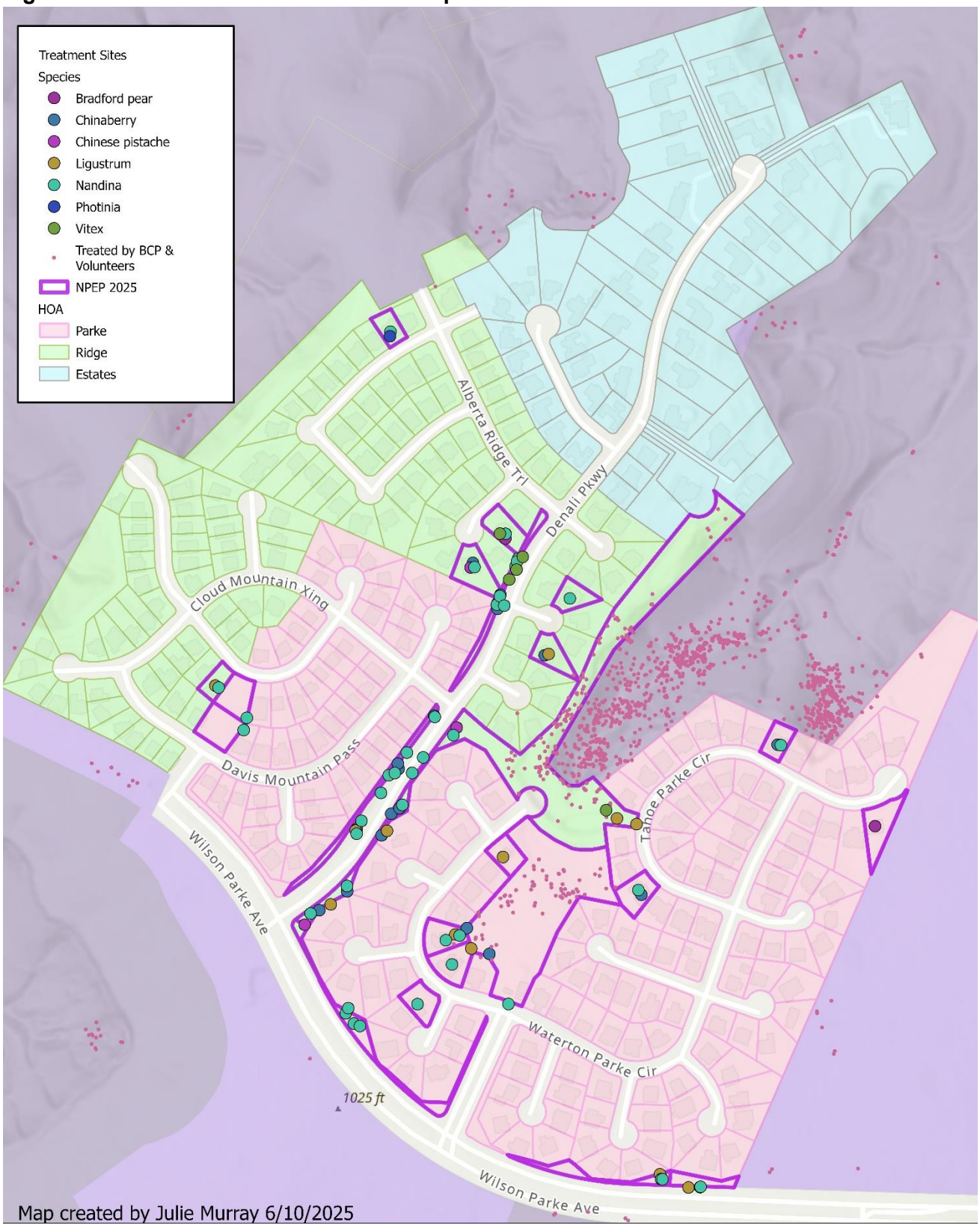
Removal/Replacement

TreeFolks contracted Heritage Tree Care for the removal/replacement phase of the project. In its pilot phase, NPEP successfully served 14 homeowners and three HOAs, resulting in the removal of nearly 1,400 NNIPs and the installation of 120 native plants (Table 1). Participating landowners receive a personalized consultation for the replacement of non-native invasive plants. NPEP contractors carried out the removals and replacements in February of 2025.

Grandview Hills

Thirteen homeowners and two HOAs participated in the pilot program. Common areas within the Parke and Ridge HOAs were treated through the program, but volunteers assisted as well (Figure 1). As of this writing, three more residents have expressed interest in participating in the next round of the NPEP.

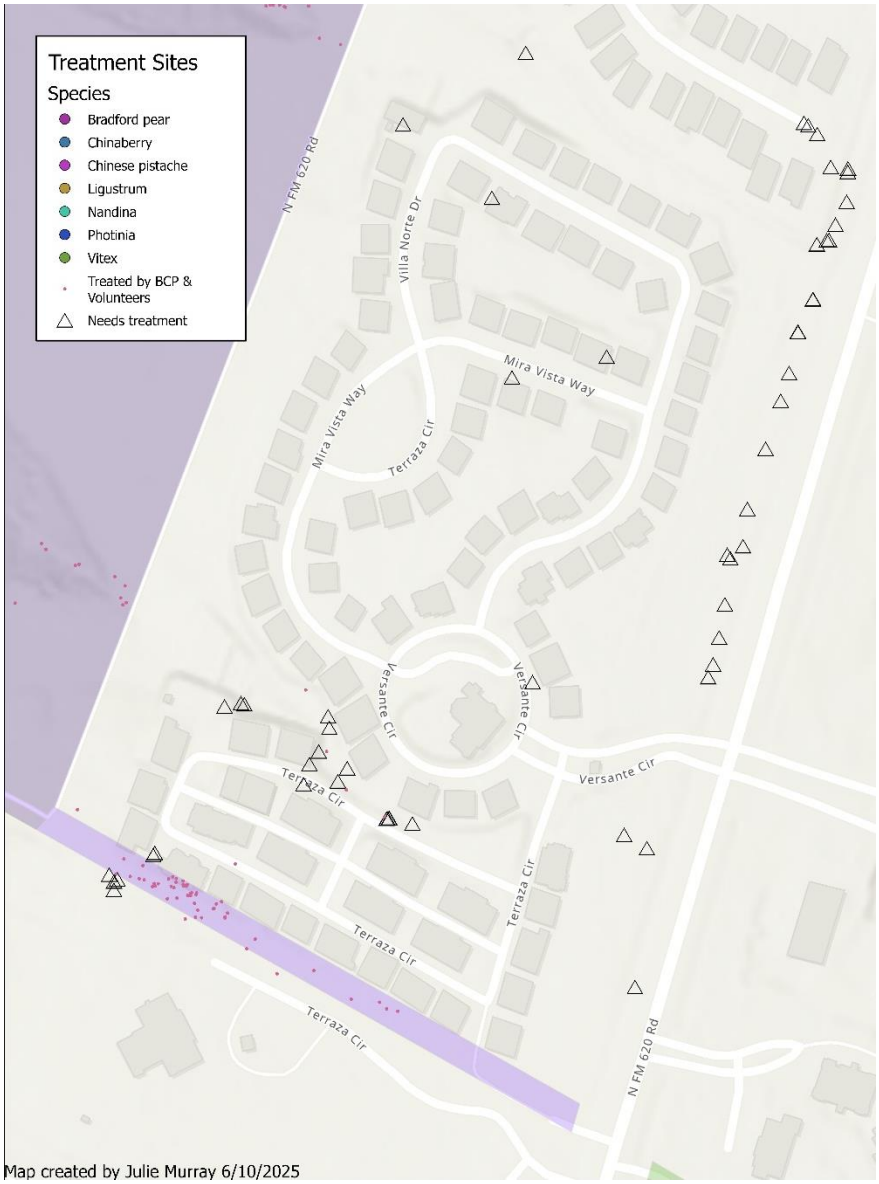
Figure 1. Grandview Hills Area – Invasive plant removal sites



Versante Canyon

The Versante Canyon HOA expressed interest in participating in the program. The HOA funded the removal of two large Chinaberry trees. NPEP funded the installation of 13 native plants in the entrance gardens. More than 150 non-native invasive plants were identified in the neighborhood, primarily in common areas, and should be targeted for removal with future NPEP funding (Figure 2).

Figure 2. Versante Canyon – Invasive Plant Treatment Sites



Wild Basin

There is a 3.5-acre lot located on the east side of Wild Basin Wilderness Preserve near Loop 360 that was home to many non-native invasive plants (Figure 3). The landowners have been working to remove the non-natives along Bee Creek, but more remained upstream. The NPEP assisted with the removal to help protect the surrounding preserve from invasion.

Figure 3. Wild Basin In-holding – Invasive Plant Treatment Sites

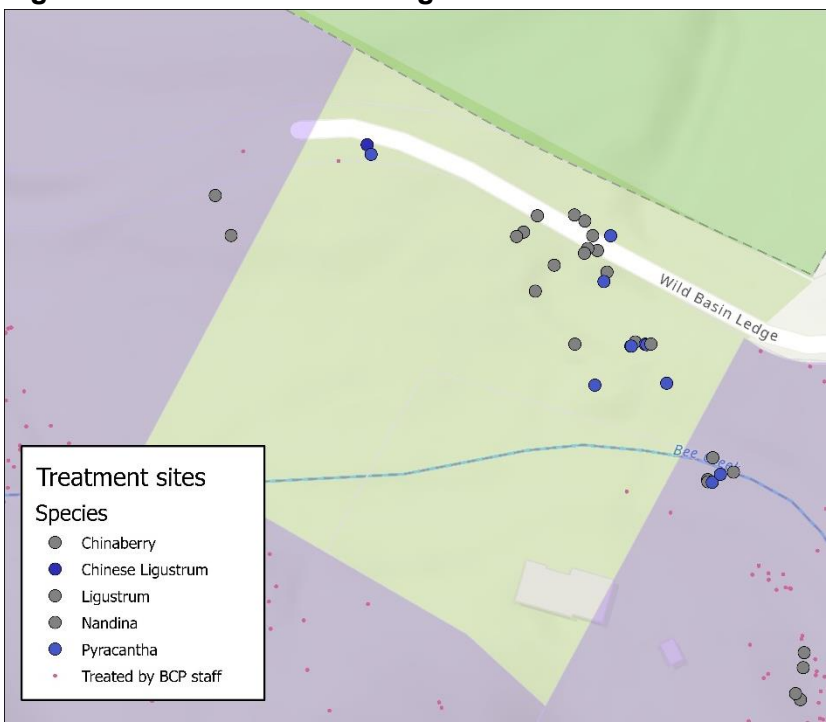


Table 1. Heritage Tree Care conducted the removal and installation of plants in February of 2025.

Species Removed	# of plants
Chinaberry	49
Chinese ligustrum	2
Chinese pistache	30
Ligustrum	265
Nandina	1013
Bradford pear	4
Photinia	1
Pyracantha	24
Vitex	6
Total	**1394**

Species Planted	# of plants
Yaupon holly	60
Cenizo	16
Golden leadball	1
Mexican buckeye	18
Mountain laurel	1
Cedar elm	1
Turk's cap	1
Red Salvia	5
Rock rose	4
Total	**120**

Program Feedback

After project implementation, participants were asked to participate in a survey. According to the respondents, the program flyers and tabling events were deemed the most effective in reaching participants. Social media also played a role in disseminating information. More than half of respondents applied to the program using the QR code, others used a link in the email communication. One neighbor commented, “overall, it was a great experience! I had no idea our home had plants that could harm our local and endangered wildlife. Like many who choose to buy a home in Grandview Hills, is to enjoy the local beauty of the nature we're so lucky to be surrounded by. It feels good to know we're doing what's right for the ecosystem.”