



OPEN SPACE CONSERVANCY TRUST STAFF REPORT

Item 4
January 19, 2023
Regular Business

AGENDA ITEM INFORMATION

TITLE:	Herbicide Use Protocol Amendment	<input type="checkbox"/> Discussion Only <input checked="" type="checkbox"/> Action Needed: <input checked="" type="checkbox"/> Motion <input type="checkbox"/> Ordinance <input type="checkbox"/> Resolution
RECOMMENDED ACTION:	Approve Herbicide Use Protocol amendments	
STAFF:	Lizzy Stone, Natural Resources Project Manager	
COUNCIL LIAISON:	Lisa Anderl	
EXHIBITS:	1. Herbicide Use Protocol Draft Changes	

SUMMARY

At the October 20, 2022 Open Space Conservancy Trust meeting, Trustees received a staff presentation and discussed proposed updates to the OSCT Herbicide Use Protocol. The staff report for that agenda item can be found here: [03 Staff Report- Herbicide Use Protocol Amendment](#) . The proposed Herbicide Use Protocol amendments include the use of triclopyr and imazapyr for specific noxious weed treatments on Trust properties, as well as several other minor updates. Including options for imazapyr and triclopyr treatments will provide more effective treatment of persistent noxious weed species, allowing for less herbicide to be used over time, in addition to decreasing reliance on glyphosate (eg. RoundUp) products. All proposed amendments are in alignment with the King County Noxious Weed Control Program’s recommended best management practices.

In the October 2022 discussion, Trustees requested more information about the category system used to describe the effects of herbicides on the environment, the biological mechanisms behind the herbicides’ function, and a summary of herbicide practices in nearby municipalities. The motion to approve the Herbicide Use Protocol amendments was tabled until the January 2023 meeting to allow for more discussion and a presentation of the requested information.

Ecotoxicity Categories

The EPA compiles and evaluates extensive research on each approved herbicide’s toxicity for a spectrum of organisms and ecosystems. One measure of toxicity is the ecotoxicity category, ranging from Practically Nontoxic (the lowest toxicity measure on the scale) to Very Highly Toxic. The ecotoxicity category describes how toxic a pesticide is to different organisms at varying levels of pesticide exposure. Very Highly Toxic pesticides are lethal at very low doses, while Practically Nontoxic pesticides are only lethal at extremely high doses. The aquatic formulations of glyphosate have been determined to be Practically Nontoxic to fish, invertebrates, birds and mammals. Triclopyr has been determined to range from Practically Nontoxic to Slightly Toxic to birds and estuarine/marine invertebrates and to be Practically Nontoxic to fish and freshwater invertebrates. Imazapyr has been determined to be Practically Nontoxic to fish, invertebrates, birds, or mammals. Evidence suggests

that glyphosate, triclopyr and imazapyr are minimally toxic to amphibians though an official classification has not been published.

Mode of Action

The mode of action is the way in which an herbicide controls susceptible plants. Mode of action usually describes a biological mechanism or enzyme in the plant that the herbicide disrupts, impacting plant growth and health. Diversifying the mode of action when choosing herbicides is important to reduce the risk of weeds building resistance to any one chemical.

Imazapyr, triclopyr, and glyphosate, the three herbicides that would be approved for select use with the proposed Herbicide Use Protocol amendments, each have a different mode of action. Imazapyr inhibits the formation of acetolactate synthase, an amino acid that is required for shoot and root growth. Triclopyr interrupts auxin absorption in plants, leading to misshapen growth and eventual death in broadleaf plants. Glyphosate interrupts the formation of an amino acid referred to as EPSP, which quickly impacts plant growth and leads to treated plants dying within days to weeks.

Herbicide Use Strategies in Nearby Municipalities

Like Mercer Island, many municipalities in the Pacific Northwest region strive to minimize the use of synthetic herbicides on City properties. Many of the region’s cities and agencies have adopted herbicide use policies or integrated pest management plans. Cities such as Seattle, Bothell, Tacoma, and Kirkland have made efforts to significantly reduce herbicide use in their landscapes.

In 2019, the City of Seattle restricted the use of glyphosate products unless an exception is approved by special process. In its place, manual and cultural weed management approaches are used wherever possible, while imazapyr, triclopyr and several other synthetic herbicides are used to treat noxious weeds such as holly, laurel, blackberry, knotweed, and others.

The City of Bothell eliminated the use of synthetic herbicides and pesticides except to address public safety hazards and control noxious weeds. Glyphosate is used only to treat noxious weeds such as knotweed.

The City of Portland published an updated integrated pest management plan in 2019, which emphasizes planning, design, cultural practices, and manual removal as first choices for weed management. The City of Portland permits herbicide use in specific, previously defined cases, including glyphosate and triclopyr treatment for invasive weeds in natural areas.

The City of Kirkland aims to minimize herbicide and pesticide use wherever possible, while still allowing for King County, Department of Ecology, and Department of Agriculture best management practices to be followed for noxious weed management in natural areas. Glyphosate, imazapyr, and triclopyr are still selectively used to control invasive weeds in parks.

RECOMMENDATION

Approve Herbicide Use Protocol amendments.