

**Howard County Department of Recreation and
Parks**

**2021 Pesticide Usage
Annual Report**



**Presented By:
The Natural and Historic Resources Division**

Report 2021

HOWARD COUNTY DEPARTMENT OF RECREATION & PARKS

Overview

The Department of Recreation & Parks (DRP) is charged with the stewardship of approximately 10,000 acres of Parklands within Howard County as set forth in Title 19, subtitle 2 of the Howard County Code. The management of these County owned lands is accomplished using an Adaptive Management Approach to maintenance and conservation practices.

The Department is committed to protecting, enhancing and restoring the natural environment while providing safe, sustainable parks and recreational amenities. In 2016, the Department created two policies to limit the use of pesticides and restrict the use of neonicotinoids: *Pesticide Use on Parkland & Neonicotinoid Use on Parkland*.

Continuing our Department's proactive approach, we have eliminated the use of Glyphosate from our operations as of October 4, 2019. Therefore, the Department has taken a proactive approach, limiting the use of pesticides and using them in accordance with the manufacturer label and accepted Integrated Pest Management practices (IPM).

This report is being submitted in accordance with the Howard County Policy and Procedure titled: *Pesticide Use on County Property, # 100.18*.

Photo on cover: Fiery Skipper, Centennial Park

Table of Contents

Pesticide Usage Performed by Staff.....3

Pesticide Usage for Noxious Weeds (Contractor).....7

Invasive Species Treatments (Contractor)8

Horticulture and Land Management Treatments (Contractor)8

Agriculture Pesticide Applications (Leased Parkland)13

Aquatic Pesticide Applications (Contractor).....14

15% Increase and Decrease in Usage Over Past Two Years (Staff).....15

Exemption Requests.....16

Staff Trainings & Educational Initiatives 2021.....16

Alternatives Considered.....16

Plans for Future Pesticide Use and Reductions.....17

Pesticide Usage by location (Applications performed by staff)

<u>Pesticide by Site (In Ounces)</u>	<u>2020</u>	<u>2021</u>
Alpha Ridge Landfill		
Deer Pro	666	0
Alpha Ridge Park		
Cheeta Pro	680	280
Pathfinder	4	0
Animal Control Facilities		
Cheetah Pro	0	8
Polaris	0	10
Atholton Park		
Cheetah Pro	0	17.5
B&O Railroad		
Snapshot 2.5 TG	128	184
2-4D Low V ester	7	0
Baldwin Commons		
Cheetah Pro	0	32
Belmont		
Avenger	0	75
Cheetah Pro	0	70
Dr. Earth Final Stop Weed and Grass	0	128
Fiesta	0	30
Lesco Triclopyr 4 Ester	0	55
Blandair Park		
Snapshot 2.5 TG	0	2720
Cedar Lane		
Cheetah Pro	0	206.5
Centennial Park		
Cheetah Pro	64	68
Brushmaster	0	3
Lesco Triclopyr 4 Ester	0	4
Cooksville Highway Shop		
Brushmaster	0	8
Cradle Rock Elementary School		
Cheetah Pro	0	8.75
Cypressmede Park		
Cheetah Pro	16	24
Daisy Road		
EZ-Ject Copperhead	1.7	0
Pathfinder II	0	14

David Force Park		
Pathfinder II	0	29
Dickinson Park		
Cheetah Pro	0	84.5
Dorsey Hall OS		
4-Poster Tickicide	163.98	83.7
Elkridge Library		
Fiesta	0	5
Ellicott City Colored School Restored		
2-4 D Low V-4 Ester	1.5	0
Snapshot 2.5 TG	32	40
Guilford Park		
Cheetah Pro	0	35
Gwynn Acres		
Lesco Triclopyr 4 Ester	0	11
Howard Complex-Carroll/Ligon Bldg		
Cheetah Pro	1.25	0
Kerger Road Pumping Station		
Raid Wasp & Hornet	0	28
Kiwanis Wallas Park		
Cheetah Pro	2	0
Lake Elkhorn Middle School		
Cheetah Pro	0	54
Long Reach Garden Plot		
Lesco Triclopyr 4 Ester	0	128
Martin Road Park		
Cheetah Pro	0	13
Meadowbrook Park		
Pathfinder II	10	0
Cheetah Pro	0	30
Polaris	0	4
Middle Patuxent Environmental Area		
Arsenal	0	0.5
Brushmaster	14.63	192.66
EZ-Ject Copperhead	1.6	0.8
Garlon 4 Ultra	685.04	326.56
Garlon 4	0	16
Garlon 3A	156.66	343.98
Stalker	73.48	38.36
North Laurel Community Center		
Cheetah Pro	0	93
Paddocks East FCE		
EZ-Ject Copperhead	1	0

Pathfinder II	29	0
Parking Lot B 8000 Main Street E.C.		
Polaris	0	40.4
Parking Lot D 8267 Main St.		
Raid Wasp & Hornet	0	6
Parking Lot F		
Fiesta	0	5
Patapsco Female Institute		
2-4 D Low V-4 Ester	5.5	17.5
Pathfinder II	158	156.5
Snapshot 2.5 TG	288	424
Recreation and Parks HQ		
Fiesta	0	10
Cheetah Pro	26	9.7
Polaris	0	15
Rockburn Branch Park		
Raid Wasp and Hornet Killer	16	42
Garlon 4 Ultra	0	32
Rockland Arts Center		
Spectracide Wasp & Hornet	18	0
Rogers Ave Forest Conservation area		
Pathfinder II	4	0
Schooley Mill Park		
Cheetah Pro	0	115.5
Savage Mill Trail		
Polaris	0	49.5
Savage Park		
Cheetah Pro	0	117.5
St. Mary's Cemetery Open Space		
Pathfinder II	0	54
Stream Bankway Open Space		
Pathfinder II	0	7
Tiller Drive		
Low V-4 Ester	1	0
Troy Park		
Raid Wasp and Hornet	24	0
Spectracide Wasp and Hornet	152	0
Warfield Pond Park		
Cheetah Pro	120	6
Waterloo Park		
Spectracide Wasp and Hornet	78	0
Enforcer Wasp & Hornet	0	24

Waverly Cottage		
Lesco Triclopyr 4 Ester	4	0
Cheetah Pro	0	21
West Friendship Park		
EZ-Ject Copperhead	0	1
2-4 D Low-V Ester	11	14.16
Pathfinder II	204	25.16
Western Regional Park		
4-Poster Tickicide	23.37	0
Cheetah Pro	856	870
West Side Garden Plots		
E-Z Ject Copperhead	0	2.4
Windsor Court Open Space		
Polaris	0	12.25
Worthington Dog Park		
Raid Wasp & Hornet	0	3.5
Total	4,727.71	7,568.72

Pesticide Usage for Noxious Weeds (Contractor)

Canada Thistle Treatments (Noxious Weeds)		
Site	Concentrate Ounces	Concentrate Ounces
	2020	2021
Alpha Ridge Park		
Milestone	0	1.2
Belmont		
Transline	0	11
Cedar Lane		
Milestone	1.2	0.48
Centennial		
Transline	11.25	11
Cypressmede Park		
Milestone	0.24	0.48
Daisy Meadow		
Milestone	1.2	1.08
Dayton Park		
Milestone	0.72	1.32
Meadowbrook Park		
Milestone	1.68	1.68
Rockburn Branch Park		
Transline	4.05	22
Schooley Mill Park		
Milestone	1.2	2.16
Taylor Farm		
Milestone	0	2.52
Troy Park		
Transline	19.125	16.5
West Friendship		
Transline	33.75	0
Milestone	0	8.88
Western Regional Park		
Transline	45.75	0
Milestone	0	7.32
Worthington		
Total	120.165	95.66

Invasive Species Treatments- Contractor Pesticide Records			
Site	Concentrate Ounces		
	2021	2022	2023
Middle Patuxent Environmental Area (Invasive Species Treatments)			
Triclopyr 3	134.48	0	0
Milestone	14	0	0
Crossbow	164.64	0	0
Total	313.12	0	0

Horticulture and Land Management- Contractor Pesticide Records			
Site	Concentrate Ounces		
	2021	2022	2023
Animal Control Building			
Cheetah Pro	7.55	0	0
Snapshot	64	0	0
Ascend One Building			
Horticultural Oil	40	0	0
Snapshot	160	0	0
B&O Station			
Cheetah Pro	1	0	0
Snapshot	4	0	0
Bailey Park			
Cheetah Pro	5.1	0	0
Contract Blox	38	0	0
Contract Soft Bait	313	0	0
Snapshot	80	0	0
Ditrac Track Powder	10	0	
Bain 50+ Center			
Cheetah Pro	12.75	0	0
Snapshot	48	0	0
Banneker Fire Station			
Snapshot	1.6		
Belmont Manor and Historic Park			
Altus	45	0	0
Arbortect 20s	614.4	0	0

Avid	2.4	0	0
Distance	0.3	0	0
Docket	1.25	0	0
Horsepower	224	0	0
Snapshot	456.32	0	0
Tenacity	18.6	0	
Blandair Park			
Cheetah Pro	4.5	0	0
Altus	5.25	0	0
Horticultural Oil	128	0	0
Centennial Park			
Acelepryn	5	0	0
Arbortect 20s	72		
Central Branch Library			
Adorn	6	0	0
Cheetah Pro	1	0	0
Snapshot	96	0	0
Central Maryland Transit Facility			
Cheetah Pro	54	0	0
Ellicott City Colored School Restored			
Cheetah Pro	0.5	0	0
Snapshot	10.5	0	0
Community Outreach Center			
Snapshot	16	0	0
Old County Courthouse and Jail			
Snapshot	128	0	0
Cypressmede Park			
Altus	2.5	0	0
Horticultural Oil	128	0	0
Detention Center			
Snapshot	213	0	0
Elkridge Library			
Cheetah Pro	62	0	0
Snapshot	272.32	0	0
Elkridge Community Sign			
Cheetah Pro	56	0	0
Snapshot	99.36	0	0
Ellicott City Flood Property 1			
Cheetah Pro	0.25	0	0
Ellicott City Flood Property 2			

Cheetah Pro	0.25	0	0
Ellicott City Flood Property 3			
Cheetah Pro	0.25	0	0
Ellicott City Flood Property 6			
Cheetah Pro	0.25	0	0
Ellicott City Flood Property 7			
Cheetah Pro	0.25	0	0
Ellicott City Flood Property 8			
Cheetah Pro	0.25		
Ellicott City Flood Property 9			
Cheetah Pro	0.25	0	0
Ellicott City Flood Property 10			
Cheetah Pro	0.25		
Ellicott City Flood Property 11			
Cheetah Pro	0.25	0	0
Ellicott City Flood Property 12			
Cheetah Pro	0.25	0	0
Ellicott City Flood Property 13			
Cheetah Pro	0.25	0	0
Ellicott City Flood Property 14			
Cheetah Pro	0.25	0	0
East Columbia Library			
Snapshot	72	0	0
Gary Arthur Community Center			
Cheetah Pro	15	0	0
Protect DF	3.2	0	0
Snapshot	256	0	0
Strider	0.6	0	0
Glenwood Branch Library			
Cheetah Pro	7.4	0	0
Glenwood Fire Station			
Cheetah Pro	1.5	0	0
Snapshot	8	0	0
Harriet Tubman Center			
Cheetah Pro	50	0	0
Snapshot	84.64	0	0
Howard Complex			
Cheetah Pro	3.3	0	0
Snapshot	320	0	0
Howard County Center of the Arts			

Cheetah Pro	8.2	0	0
Hurst Property			
Cheetah Pro	12	0	0
James Robey Public Safety Training Center			
Altus	4	0	0
Cheetah Pro	6	0	0
Distance	10	0	0
Snapshot	80	0	0
Jessup Community Sign			
Cheetah Pro	40	0	0
Snapshot	22.08	0	0
Kiwanis Wallace Park			
Snapshot	19.2	0	0
Long Reach Fire Station			
Snapshot	16	0	0
Long Reach Village Center			
Cheetah Pro	7.5	0	0
Snapshot	96	0	0
Meadowbrook Park			
Acelepryn	2	0	0
Snapshot	32	0	0
Mendenhall Building			
Snapshot	64	0	0
Miller Complex			
Snapshot	288	0	0
Triact	128	0	0
Cheetah Pro	50	0	0
Distance	1.2	0	0
Horticultural Oil	9.6	0	0
Snapshot	202.4	0	0
North Laurel Community Center			
Cheetah Pro	146	0	0
Distance	5.6	0	0
Horticultural Oil	44.8	0	0
Snapshot	363.84	0	0
Old Fire House			
Cheetah Pro	0.5	0	0
Parking Lot A			
Cheetah Pro	0.25	0	0
Snapshot	8	0	0
Parking Lot B			

Cheetah Pro	0.5	0	0
Parking Lot D			
Cheetah Pro	2	0	0
Snapshot	1.6	0	0
Parking Lot F			
Cheetah Pro	1	0	0
Snapshot	16	0	0
Parking Lot G			
Cheetah Pro	0.5	0	0
Snapshot	8	0	0
Patapsco Female Institute			
Snapshot	96	0	0
Pocket Park			
Cheetah Pro	0.25	0	0
Savage Branch Library			
Snapshot	19.2	0	0
Savage Community Sign			
Cheetah Pro	46	0	0
Snapshot	11.04	0	0
Savage Mill Trail			
Distance	0.56	0	0
Horticultural Oil	4.48	0	0
Scaggsville Public Safety Complex			
Cheetah Pro	56	0	0
Snapshot	176.64	0	0
Tiber Park			
Cheetah Pro	0.5	0	0
Snapshot	1.6	0	0
Ulman Building			
Cheetah Pro	14.4	0	0
Snapshot	88	0	0
Warfield Building			
Cheetah Pro	0.6	0	0
Snapshot	64	0	0
Waverly Mansion			
Acelepryn	3	0	0
Cheetah Pro	6.65	0	0
Mefenoxzam	0.5	0	0
Snapshot	128	0	0
Triact	84	0	0

Welcome Center			
Cheetah Pro	0.25	0	0
Old West Friendship Fire Station			
Snapshot	24	0	0
Western Regional Park			
Acelepryn	0.75	0	0
Total	6,855.03	0	0

Agriculture Pesticide Applications (Leased Parkland)		
Site/Farmer	Concentrate Ounces	
	2020	2021
Benson Branch Park		
2-4-D (Feaga)	480	512
Aatrex (Feaga)	1200	1200
Gramoxone (Feaga)	1080	1080
Princep (Feaga)	800	800
Dicamba (Feaga)	240	256
Ravine (Mullinix)	2520	250
Devour (Mullinix)	896	896
Durango (Mullinix)	700	700
Veritas (Mullinix)	0	212
South Fulton Park		
AC Warrior (Iager)	No data submitted	No data submitted
Prowl H2O (Iager)	No data submitted	1216
West Friendship Park		
Harmony Extra 5G (Mullinix)	27.72	27.72
Devour (Mullinix)	1,696	1696
Ravine (Mullinix)	4,240	4240
Durango (Mullinix)	1,325	1050
Agriculture Totals	15,204.72	14,135.72

Aquatic Pesticide Applications (Contractor)		
Site	Pounds	
	2020	2021
Font Hill Park		
Endothall	10.6	10.6
Fluoridone	0.83	0.56
Guilford Park		
Endothall	10.6	6.4
Flumioxazin	0.72	0.5
Copper	4.75	2.1
Sewell's Orchard Park		
Endothall	31.78	31.78
Copper	130	92
Centennial Park		
Flumioxazin	0.78	1.28
Copper	264.25	250
Diquat Dibromide	0.5	1.2
Warfield Pond Park		
Copper	47.5	32
Fluoridone	2	1.25
Total Aquatic	504.31	429.67

15% Increase and Decrease in Usage Over Past Two Years (Staff)

Pesticide Name	2018	2019	2020	2021	% Change	Description of 15 % Increase or Decrease
	Ounces Used				2020/2021	
2-4-D Lo-V Ester	84	0	25	31.66	+26.64	Product used for invasive species
4-Poster Tickicide	518.58	90.7	187.35	83.70	-55.3	Reduced deer tick suppression sites
Arsenal	0	0	0	0.50	n/a	Slight increase
Avenger Weed Killer	0	383	0	75	n/a	Product not used during 2021
BRUSH MASTER	0	38.75	14.63	203.66	+1,292.07	Increased invasive species management
Cheetah Pro	0	5	1,765.25	2,048.45	+16.04	New product to replace glyphosate-based herbicides
DeerPro Repellant	2,132.48	0	666	0	-100	Product not used during 2021
Dr. Earth Final Stop	0	0	0	128	n/a	Organic alternative to glyphosate
Enforcer Wasp & Hornet	0	0	0	24	n/a	Increased occurrence of stinging insects in parks
EZ-Ject Copperhead	0	8.63	4.30	4.20	-2.3	Reduced tree injections performed during 2021
Fiesta	0	0	0	50	n/a	Natural turf broadleaf weed control
Garlon 4 Ultra	434.08	0	685.04	358.56	-47.6	Decrease in applications to invasive species (MPEA)
Garlon 4	0	0	0	16	n/a	Increased need for this product for invasive species (MPEA)
Garlon 3 A	0	0	156.66	343.98	+119.57	Increased need for this product for invasive species (MPEA)
Lesco Triclopyr 4 Ester	0	0	4	198	+4,850	Increased need for this product used for invasive species
Pathfinder II	0	153	409	270.50	-33.86	Decrease in applications to invasive species
Polaris	0	0	0	131.15	n/a	Increased need for this product used for invasive species
Raid Wasp and Hornet	0	0	40	79.50	+98.75	Increased stinging insect treatments to structures in parks
Spectracide Wasp and Hornet	0	0	248	0	-100	Product not used.
Stalker	7.68	7.68	73.48	38.36	-47.79	Decrease in applications to invasive species
SNAPSHOT 2.5 TG	0	472	448	3,368	+651.78	Increased weed suppression in landscape beds
Weedone LV4 EC	4	0	1	0	-100	Product not used.
TOTAL	5,734.62	2,994.49	4,727.71	7,453.22	+57.64	Increased weed and invasives suppression.

Exemption Requests

None

Staff Trainings & Educational Initiatives 2021

1. The Department has 61 registered pesticide applicators.
2. The Department has 31 certified applicators.
3. The following categories are covered by the Department of Recreation and Parks:
 - a. Forestry (2)
 - b. Ornamental Plant Exterior (3A)
 - c. Ornamental Plant Interior (3B)
 - d. Turf (3C)
 - e. Aquatic (5)
 - f. Right A Way (6)
 - g. General Pest Control (7A)
 - h. Public Health (8)
4. During 2021 the Department trained 11 new registered applicators and 4 existing certified applicators attended the required updates.
5. During 2021, the Department conducted an in-house training for 14 employees.
6. Existing certified applicators attended an annual required training for their respective category.
7. Many staff throughout the Department read and review the Weekly IPM Newsletter and updates from the University of Maryland Cooperative Extension. This weekly periodical provides updates on pests and diseases throughout Maryland and provides educational information with regard to Integrated Pest Management and pesticide use.
8. The 2021 Parks Winter Training was cancelled due to COVID 19.

Alternatives Considered

1. Foamstream
Foamstream is a herbicide free product used to control unwanted weeds. It utilizes a low-pressure biodegradable foam and hot water (steam) to kill weeds, dormant seeds algae and moss. Foamstream can also be used to clean and disinfect play equipment and other outdoor surfaces.
2. Organic Herbicides
 - a. The Department will continue to research and incorporate Organic and OMRI listed herbicides.
3. Cultural Practices
 - a. Hand weeding- staff hand weeds landscape beds where applicable. This practice reduces the use of herbicides.
 - b. Mulching- mulching can help reduce annual weeds, it incorporates organic matter into the soil as the mulch decomposes.
 - c. Incorporation of organic matter-adding organic matter can improve overall soil health and microbial activity leading to improved health of trees, shrubs, turf and the entire landscape.
 - d. Cover crops- cover crops are regularly used in natural resource and forest management projects to help reduce the establishment of invasive plants.

Plans for Future Pesticide Use and Reductions

The Department of Recreation and Parks manages over 9,000 acres of both developed parks and natural areas. Pesticides are an essential part of the management of invasive species and unwanted vegetation in natural resource management, park operations and horticultural practices. Recreation and Parks in partnership with the Office of Community Sustainability will continue to research and trial new alternative herbicides, organic products and cultural practices to reduce future pesticide use. Additionally, staff will continue to practice Integrated Pest Management to maximize the effects of strategically applied pesticide applications to control pests and invasive plants.