City of Charlottesville
Department of Parks and Recreation
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"A World Class City"

PARKS AND RECREATION ADVISORY BOARD AGENDA March 16, 2016

ADMINISTRATIVE ITEMS

ADMIN-1 Advisory Board Member Introductions
ADMIN-2 Adoption of Minutes – February 17, 2016 Advisory Board Meeting

INFORMATION ITEMS

I-1 Therapeutic Recration Summer 2016 Program Outline
I-2 2015 Integrated Pest Management Annual Report
I-3 Meadow Creek Valley Master Plan Implementation
I-4 Tonsler Park Master Plan Implementation Update
I-5 Update on Piedmont Family YMCA
I-6 Parks and Recreation Maintenance Project Report
I-7 Ragged Mountain Planning Process Update & Schedule

CHAIRMAN'S MATTERS
BOARD MATTERS
DIRECTOR'S MATTERS

ADJOURNMENT

ATTACHMENT 1 - Integrated Pest Management 2015 Annual Report
ATTACHMENT 2 - Parks and Recreation Maintenance Project Report

City of Charlottesville
Parks and Recreation Advisory Board – Agenda Item
March 16, 2016

ADMINISTRATIVE – 1

Advisory Board Member Introductions

ADMINISTRATIVE – 2

Adoption of Minutes – February 17, 2016 Parks and Recreation Advisory Board Meeting

ACTION REQUIRED:
Advisory Board adoption of the minutes of the February 17, 2016 meeting.

ENCLOSED DOCUMENTS:
Minutes of February 17, 2016 meeting.

PARKS AND RECREATION ADVISORY BOARD

MINUTES

February 17, 2016

The Parks and Recreation Advisory Board held a regular meeting on Wednesday, February 17, 2016 at 5:30 p.m. held @ Carver Recreation Center. Members present were: Ruth Barnett, Anne Hemenway, David Hirschman, Jody Lahendro, Ned Michie, Scott Morgan, Maurice Walker and Mary Wilson. Members absent: Llezelle Dugger

Staff: Brian Daly, Doug Ehman, Vic Garber, Riaan Anthony

Guests: Peggy & Mike Van Yahres, Chris Murray, Roxanne White

Motion – Approval of Minutes – 1/20/16

- Anne Hemenway made a motion to approve January 20th minutes, Ned Michie second, motion was unanimously approved.

Advisory Board Member Introduction:

- Ned Michie – born in Charlottesville, went to Charlottesville public schools, grew up next to Meadowcreek, interested in city things, father was in politics, daughter went through city schools, has been on City School Board approximately 12 years, on Advisory Board as liaison for school board and has been on Advisory Board approximately 5 years. Stated that the Parks Division is in charge of school grounds
- Jody Lahendro – on Planning Commission 1 ½ years, assigned to be representative for Advisory Board and Tree Commission. Historic preservation manager for UVA 11 years, private practice for 18 years as architect, degree from Virginia Tech, has 3 children @ STAB, likes parks, trees, amateur gardener, enjoys serving community

Presentation:

- Presented by Peggy and Mike Van Yahres, Chris Murray, Roxanne White:
- Van Yahres-Murray Memorial Grove @ McIntire Park
  - Want to preserve oaks on top of hills, perpetuate their care
  - Honor 3 individuals, Mitch Van Yahres, Bunny & Jim Murray
  - McIntire Botanical Board – Roxanne & Peggy Van Yahres serve on board
  - Work with Chamber to honor all members past and future, they also want to plant trees
  - Mike Van Yahres stated that he took a look @ trees, total of 21 trees, one dead and dying rest in great condition. Trees are over 100 years old; every tree can live for 30-40 years more except one. Keep them maintained, to preempt what nature can do. With proper maintenance and an endowment believes some of them will be around 100 years
  - Mitch Van Yahres – would be honored & delighted
  - Chris Murray stated that community service was what they were about, parents were a team, ability to look @ big picture, on Water Board, CASA volunteer at age 80, House of Delegates for 8 years, had 8 sons
  - Roxanne White – member of the Tree commission, wonderful combination for the people & trees, possibility of expanding the oak grove, they are disappearing around the state, trees do a lot for the environment
  - Peggy Van Yahres stated that the project will be privately funded, will not be asking for money from the City

- Water Street Studio – will bring back to board in a couple of months
- Anne Hemenway commented that it was a beautiful area
- Jody Lahendro stated he liked the invisible design concept. Mike Van Yahres replied that the design was consistent with the master plan
- Brian Daly stated that the naming policy would take place, would ask general opinion of Advisory Board. Board members would have to take action on naming based on policy. Will be sending out naming policy to board members

Housing Sites Recreational Programming Update

- Riaan Anthony gave the following updates on housing sites:
    - Activity ramped up with grants, 4 sites, Greenstone, Friendship Court, Westhaven and South 1st Street
    - 7,600 attending program – offer recreational activities, enrichment activities, arts & crafts, provide meals
    - Unique & different @ each one, goal is to reach more kids, staffing issues, now only have one staff per site. FY 17 budget includes new initiative for two staff per site
    - Provide meals – 24,000/year, times are limited 4-7 during school year, summer – 6 week camp, 5-8 pm to accommodate campers
    - After school – 4 sites – grants, Child Care Food Program, reimbursable program, meals served reimbursed, different amount for summer than after school; program not intended to make money
    - NRPA/Walmart Grant - $25,000 - just closed out final report, increase meals in the community, reduce waste, contract with schools to meet standards, cannot claim overages, need waste line item to pay for overages, schools allow staff to make decisions on numbers on a day to day basis,
    - Major goal – to see numbers and programming increase
    - Partner with City of Promise for computer lab
    - All staff are part time employees, additional staff would also be part time
    - Age of kids – under 18, some programs for 9 & older
    - What kind of programs – homework, meals, physical activity, athletics, arts & crafts, partner with housing sites twice every semester to do a field trip, ex. museum, partner with UVA interns - nutrition education program; partner with housing board, 50/50 with city.
    - Asked how much buy in from parents, Riaan Anthony replied varies from community to community. Try to put staff @ locations that know the community & parents. Started this year with parent handbook, open houses

Meadowcreek Valley Master Plan Implementation

- Doug Ehman reported that he is still waiting for report to come back
- Brian Daly stated that they have received an easement behind Seminole Square
- Coming together waiting on study, should have in next 2-3 weeks
- Contractors working on alignment of trail, started 2-3 weeks ago

Tonsler Park Master Plan Implementation Update

- Doug Ehman reported that plans for the stairs to Ridge Street are complete, will go out for bid next month, master planning effort for splash pad – news release went out today, meeting next Thursday, January 25th, first of three meetings,
- Splash pad - lock down type & style, features, plaza style; 2nd meeting – facilities – features, 3nd meeting – show where at, after can have hard design, project budget $500 million, placement in area where new trail is, hopefully construction begin this summer,
- Design – will require Vortex equipment, will do concept, schematics, contract to do water, electricity, no substitutions, LPDA – local firm
- Funds are presently in CIP
- Next winter – meeting series similar for field house

Update on Piedmont Family YMCA

- Doug Ehman reported that the YMCA project is rolling along, little ahead of schedule, some walls up, a lot of pool work to do
- Railroad bridge – Federal Department of Transportation – one more approval, lock in aerial with railroad

P&R Maintenance Project Report

- Adding McIntire softball lighting, parking, west side parking lot
- Skatepark – in proposed CIP not yet approved, sewer line – 95% designed, larger projects will start to be listed in maintenance report
- Doug Ehman stated that he will try to get Pat Tedesco, Project Manager to next meeting
- Pen Park tennis courts – requested in proposed CIP, no funding approved yet

Ragged Mountain Planning Process Update & Schedule

- Brian Daly stated that the planning process will begin end of month; first meeting 2/29, press release going out tomorrow
- Sort of following Master Plan process, three public meetings, more educational first meeting, 2nd – charette type, held @ Trinity Church near Ragged mountain,

Chairman's Matters

- Stated that he was the Integrated Pest Management Committee liaison – written plan in accordance with City plan, very progressive, deliberate intentional process to reduce chemicals, Doug Ehman stated that he will have plan in March for board to review

Board matters

- Anne Hemenway asked about snow removal – stated that neighbor put something on Facebook, corrected that the complaint was not P&R responsibility, stated that she thought staff did a great job

Directors Matters

- Budget meeting will not fall on board meeting this year

- David Hirschman– talked about field trip for Advisory Board members to Ragged Mtn. asked if it fit in time wise with meeting in March, will need weather contingency, wait until after time change

Motion – Adjourn Meeting

- Maurice Walker made a motion to adjourn meeting, Anne Hemenway second, motion was unanimously approved
- Meeting adjourned @ 6:50 pm

Respectfully submitted,

Linda Daly
Secretary to the Advisory Board

City of Charlottesville
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INFORMATION - 1

Therapeutic Recreation Summer 2016 Program Outline

Sarah Blech, Therapeutic Recreation Manager will provide an update on new program initiatives, summer camp opportunities, VSA programs and events planned for this coming Spring, Summer and Fall.

INFORMATION – 2

2015 Integrated Pest Management Annual Report

On April 20, 2015, City Council adopted the City's first Integrated Pest Management (IPM) Policy. This policy guides the staff's IPM program and prescribed the generation of an annual report that is presented to the Parks and Recreation Advisory Board each March. The 2015 Annual Report is complete and will be presented to the Board by staff.

INFORMATION - 3

Meadow Creek Valley Master Plan Implementation

Staff will provide an update of the ongoing efforts to implement the Master Plan for the Meadow Creek Valley.

INFORMATION - 4

Tonsler Park Master Plan Implementation

Staff will provide an update of the ongoing efforts to implement the Master Plan for Tonsler Park. The first public meeting for planning of the new spray ground features was held on Thursday, February 25, 6pm at Tonsler Center. The next public design comment meeting will be held March 29 at 6pm at the Tonsler Recreation Center.

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INFORMATION - 4

Update on Piedmont Family YMCA Construction

Staff will provide an update of the construction progress of the new YMCA facility in McIntire Park.

INFORMATION - 5

Parks and Recreation Maintenance Project Report

Staff have developed a reporting structure for ongoing maintenance and renovation projects at Parks and Recreation facilities. The actual report will be provided and outlined at the Board meeting. Staff intends to include this item as a standing Agenda Item in all future meetings.

INFORMATION - 6

Ragged Mountain Planning Process Update & Schedule

Staff will provide an update of the planning process for Ragged Mountain. The first public planning meeting was held Monday, February 29, 2016 at Trinity Church off Fontaine Avenue; with the next public comment meeting scheduled for March 22, 2015.

City of Charlottesville Parks and Recreation 2015 Annual Report

Integrated Pest Management

What is a pest?

Pests are organisms including insects and undesirable plants that damage landscapes, structures, infrastructure, or that impact human or animal health.

CHARLOTTESVILLE parks & recreation

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Integrated Pest Management Program

Charlottesville Parks and Recreation Department

IPM Coordinator

John Mann, Landscape Manager/Horticulturist

IPM Program Manager

Patrick Hagan, Gardener II

IPM Committee

Brian Daly, Parks and Recreation Director

Doug Ehman, Parks Manager

Kristel Riddervold, Environmental Sustainability Manager

Lena Seville, Tree Commission Representative

Dave Hirschman, Parks & Recreation Advisory Board Rep.

What is Integrated Pest Management (IPM)?

The United States Environmental Protection Agency, or EPA, defines IPM as "The use of pest and environmental information in conjunction with available pest control technologies to prevent unacceptable levels of pest damage by the most economical means and with the least possible hazard to persons, property and the environment".

IPM is a program that is used worldwide. It is recognized by the UN's Food and Agricultural Organization and is championed by entomologists and ecologists as the appropriate method of discouraging pest populations and limiting pesticides and other control methods to a level that is economically justifiable while minimizing risk to human health and the environment.

The City of Charlottesville uses IPM policy to effectively manage pests, insects, weeds, pathogens, rodent and other vertebrates, while maintaining public safety and remaining environmentally sensitive. This sustainable approach combines a hierarchy of steps including cultural, physical, biological, and chemical controls to manage pests in a way that minimizes economic, health, and environmental risks.

What are biological, cultural, physical and chemical controls?

- **Cultural control** includes pruning, thinning, and fertilizing cultivated plants.
- **Physical or mechanical control** includes hand removal and the use of machines, traps, barriers, fences or nets to control a targeted pest.
- **Biological control** involves the use of natural enemies—parasites, predators, and pathogens to control a target pest.
- **Chemical control** involves the use of pesticides to prevent, repel, mitigate or destroy any pest.

Citywide Overview of Integrated Pest Management in Charlottesville

The intention of this report is to provide an overview of the City of Charlottesville's IPM program and provide insight into the decision-making process that occurs during the implementation of the program. It will disclose the current activities, explain the objectives, and highlight the future goals of the IPM program as it pertains to the city and its inhabitants.

Charlottesville is a city of stunning natural beauty. Integrating that natural beauty throughout the city-scape with green areas, gardens, and plant-accentuated parks makes Charlottesville unique. The IPM program is a tool for protecting the

environmental assets of the city while maintaining a high level of safety for the public and staff of the City of Charlottesville. The IPM approach has been utilized by the Department of Parks and Recreation in grounds management activities for over ten years. Participation in the Environmental Management System (EMS) led the Parks Division to adopt the tenants of an IPM program resulting in reductions in pesticide use, safer pesticide products, and greater environmental responsibility in pesticide applications. This and other environmental efforts led the Parks and Recreation Department to receive the highest State designation for Environmental Excellence.

The City of Charlottesville Parks and Recreation Department has an IPM Coordinator who is responsible for the implementation of the IPM plan and coordinates pest management-related communications between the Parks and Recreation Department, its service providers, staff and visitors.

The IPM Committee serves to review the program in safety-related issues as well as assist the coordinator in the resolution of pest-related issues.

The objectives of the IPM plan, it's coordinator, and the committee is the prevention of loss or damage to city owned assets by pests, the protection of environmental quality, and the elimination of significant threats caused by pests and their control, to the health and safety of staff and public.

Steps in the IPM Process

The city's IPM program is committed to a decision-making process that takes into account all factors before any action is taken. Pesticides are used as a last resort, or only when other controls are deemed ineffective. The IPM process includes scouting and assessment. Pests are located, identified, mapped and their density is recorded. Next, a threshold or tolerance level is established. Tolerance levels can vary widely for different pests and in certain instances can be very high. For example, wax scale growing on a holly shrub at Burnley-Moran School could be tolerated depending on its density and threat to the overall health of the plant.

Light pruning, a cultural control, may allow birds and other species of predators to gain access to the threat and keep the threshold to a minimum. On the other hand, poison ivy (an invasive and noxious vine) growing at the edge of a playground or on a railing used by school children and employees would have a lower tolerance.

What happens when the threshold is exceeded?

Cultural control
Pruning, mulching and aeration are all ways to make the environment less favorable for pest infestation.

Physical or mechanical control
Hand-pulling weeds, weed trimming, and using pest traps or barriers to reduce negative impacts are the next steps towards reducing the threshold.

Biological control
Improve environmental conditions to favorable levels, allowing for beneficial micro-organisms and natural predators to thrive.

Chemical control
When all other options have been exhausted, employee safety is at risk, or other options are not economically viable, chemical control is necessary.

Highlights of 2015

- IPM policy was fully adopted by City Council and implemented by the Parks Division on City maintained landscapes.
- Chemical applications were reduced significantly in 2015. That reduction occurred most notably in glyphosate usage. This is the active ingredient in Round-Up Herbicide.
- A pilot program was introduced using the Weed Dragon. This device is a propane torch which uses heat to quell the growth of weeds.
- A pilot program was initiated to prohibit the use of synthetic chemicals in the interior of McGuffey Park. The banks bordering the park are exclusive of this program.
- A policy of sign/flag notification was incorporated to inform the public of any pesticide application in parks, schools, or common areas.

- Environmental enhancement gardens, such as the pollinator garden on the John Warner Parkway, were established in an effort to raise public awareness to pollinators and sustainability in the ecosystem.
- Goats were utilized to control invasive plant species and minimize pesticide use in natural areas.
- A plan to address the threat of Emerald Ash Borer to city trees was initiated by the Urban Forester and Tree Commission.
- Native and disease-resistant plant species were chosen for landscape use to increase pest thresholds.

Interpretation of Pesticide Records

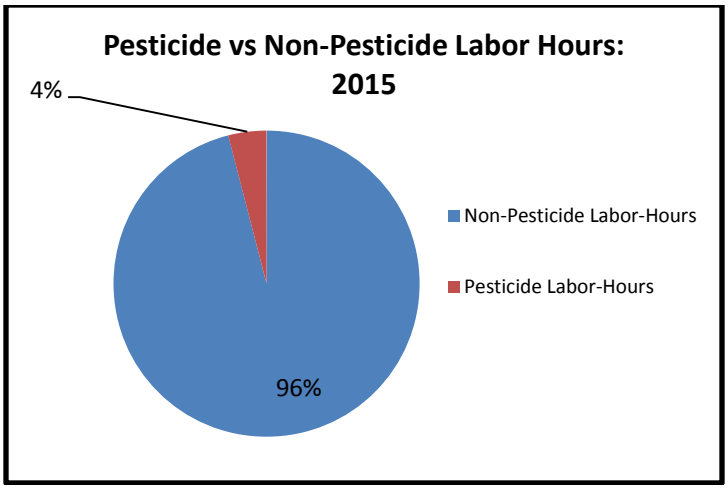
The data in this report provides an overview of the city's approach to pest issues. It highlights the strengths and also calls attention to areas of program implementation that need improvement.

Pesticide use can range from year to year. It is dependent on a variety of situations. Weather can affect growing conditions, making the environment favorable or prohibitive for pests. The removal of invasive plants to establish new plantings requires an increase in the use of pesticides. Maintaining these areas until they are established will also cause an increase in usage. Increasing mechanical and cultural controls can help to reduce the use of pesticides.

When comparing current data with data from previous years, city staff is able to assess and monitor the efficiency of the program. Areas requiring constant intervention year after year are recorded. City staff can administer changes involving the design or control methods of these areas to improve quality. This data can also help to guide and track program practices in a manner that is consistent with current and future city objectives.

The majority of staff hours related to landscape maintenance is spent on mechanical and cultural control. These methods are time-consuming but help to reduce pest populations.

Improvements to the implementation of the IPM program are constantly being updated. Revisions to the types of herbicides and the locations in which they will be used are currently being discussed. The impact of these revisions will be documented in future reports. This process will help city staff continue making choices that positively impact the citizens, employees, and environmental quality of the City of Charlottesville.



*Non-pesticide labor hours include cultural, mechanical, and biological controls such as mulching, weed removal and pruning for example. This graph does not include mowing hours or volunteer hours.

IPM in Horticulture

Charlottesville Parks and Recreation Horticulture Team is responsible for the maintenance of a large and varied amount of landscaped city space that includes over 14 acres of landscaped beds, 110 containers, over 148,000 linear feet of sidewalks, and over 900 young, actively managed trees. All of the landscaped areas are within the City's parks, public schools, Downtown Mall, cemetery shrubs, entry-way sign beds, greenways, and adjacent hardscapes. They perform total grounds maintenance on all young trees, shrubs, groundcovers, perennials, and management of annual floral beds.

IPM Practices in Landscape Beds and Right of Way

IPM techniques are applied to maintenance on all landscaped areas maintained by Parks within the city. Designs focus on proper plant selection to reduce maintenance.

Designing with native and drought-tolerant or disease-resistant plants can prevent future pest issues. Properly prepared soils and mulch during installation and throughout the maintenance stages will also help to prevent the introduction of pests.

Despite the prevention methods practiced through sound design, the issue of invasive weeds and vines is by far the most challenging pest problem in the city's landscaped areas.

Newly planted landscapes require more maintenance. The roots of these plants are not yet established and they are vulnerable to pests and drought. Their vegetation has not matured, leaving more bed area exposed, inviting weeds and other pests. These areas require frequent applications of mulch and regular supervision to maintain their integrity and ensure establishment.

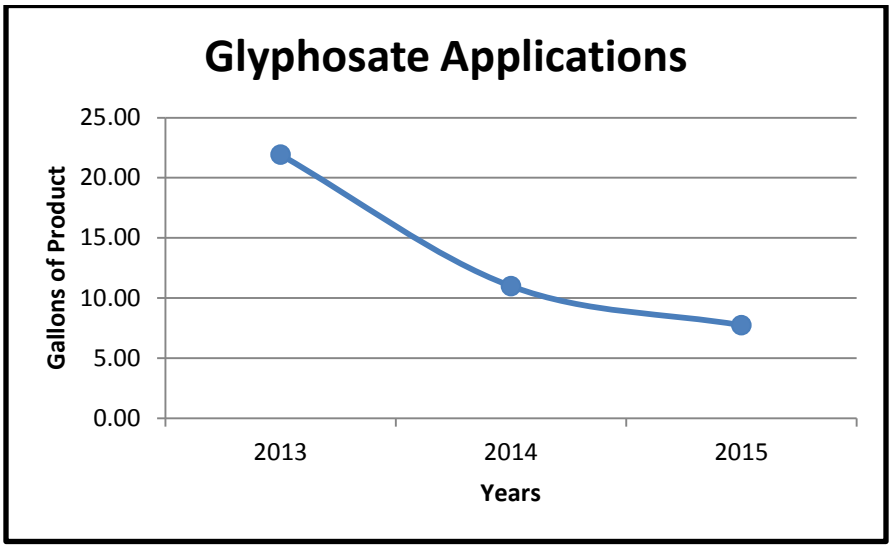
The city staff mechanically controls the majority of weeds by string trimming and hand-pulling methods in newly created landscape beds.

Applying a granular pre-emergent herbicide at the proper time in the growing season greatly reduces the onset of undesirable weeds. Timely applications of the proper pre-emergent greatly reduce weed seed proliferation; significantly reduce labor costs, and a dependence on glyphosate.

Glyphosate has traditionally been used to control weeds in areas that require chemical control. This is the active ingredient in the herbicide Round-Up. Recent health concerns over glyphosate and the toxicity of an adjuvant used in Round-Up have prompted a reduction in its use by the city.

Some circumstances require the use of synthetic chemical controls. These situations are often in high-traffic areas such as overpass ramps, underpasses and

busy street medians. There is an inherent safety risk to city staff and motorists in these locations.



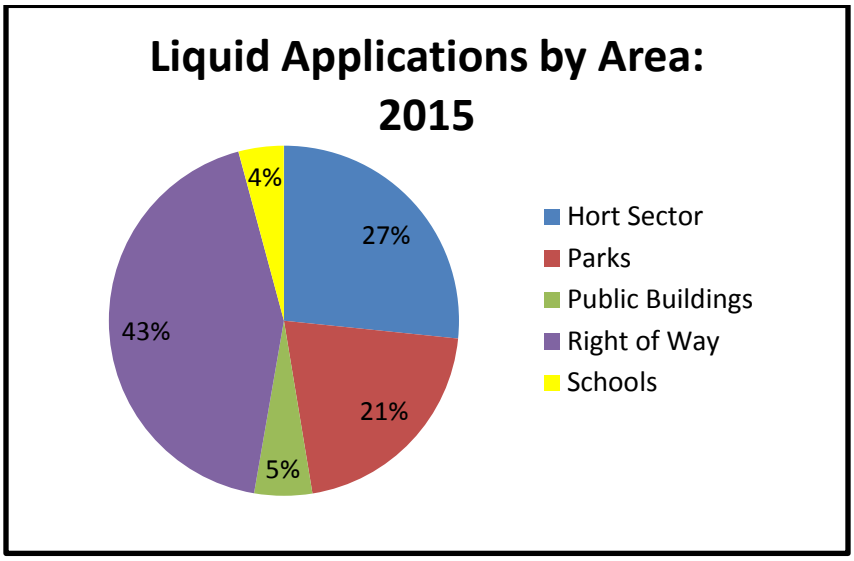
Natural (organic) herbicides are utilized in appropriate situations to control the spread of weeds. They are used on playground areas when needed, and only when children are not present. Unfortunately, these products are limited in their effectiveness. They burn-back top growth but do not kill the roots of the weed. These products require repeated applications throughout the growing season to achieve weed control. This repeated application increases quantities of product usage and their associated costs.

IPM in Parks and Schools

The city's parks vary in size and function. IPM methods applied to these parks are determined on an individual basis. Some parks, such as Lee and Jackson Parks are pass-through parks, and do not particularly serve the purpose of a play area. Other parks, such as Forest Hills or McGuffey Park, are more functional as areas for children and family recreation. These areas require a more sensitive approach to pest control. Increasing cultural and mechanical controls in these parks through proper pruning and mulch applications helps to reduce potential pest issues.

City schools are mulched once a year. This occurs in late summer when the children and most staff are on summer break. Chemical control is reserved to sidewalks, parking lots, and only the most problematic areas. All areas where chemical control occurs are marked with signs/flags following the IPM policy, to ensure immediate notification to pedestrians.

Data



*Note: Meadowcreek Golf Course is not included in this summary. Please see the appendix for specific locations relating to these areas

Looking forward

- Further reductions in landscape pesticide applications throughout the city.
- Initiate a move to organics only on school grounds throughout the city.
- Increase mulching in weed-prone areas
- Track the use and effectiveness, including safety procedures, of the Weed Dragon
- Move away from Round-Up, systemic pesticides, and other products that contain harmful adjuvants or threaten pollinators.
- Provide educational opportunities for the public, such as the pollinator and bog gardens, on the importance of maintaining a balance in the ecosystem.
- A reduction in pest-prone landscape, focusing on the most problematic areas, with a goal of sustainable landscape.
- Increased funding levels will be required to move towards natural (organic) pesticide program.

IPM in Turf

The City of Charlottesville maintains over 200 acres of turf that requires mowing and weed trimming. These areas include the city's parks, schools, right of way areas, athletic fields, cemeteries, and other common areas.

The level of care and control in these areas can vary depending on the usage of the area. A ball field that is rented for sport activities will require a different level of care than that of a street median.

Parks and Schools

In 2015, no pesticides were applied to non-athletic lawns of parks or schools. Broadleaf weeds, such as clover and dandelions, are tolerated in these areas.

Management of these turf areas is largely controlled through cultural means.

This includes:

- Mowing biweekly, depending on the growing conditions.
- Mowing to proper height of 3” to inhibit weed growth and encourage root development.
- Maintaining mower blades to ensure proper cut and reduce leaf tear.
- Leaving grass clippings after mowing to return nitrogen and other nutrients to the soil.
- Mulching leaves to increase organic matter and fertility of turf areas.

Athletic Fields

Athletic fields require a lower threshold for weeds. Broadleaf weeds, like clover and dandelion, present safety issues to players on ball fields. Undesirable weeds in dirt areas around bases can also cause safety concerns or inhibit proper play.

Methods of control in these areas include:

- More frequent mowing at lower grass-height levels.
- Using a sod cutter to remove weeds from dirt areas on athletic fields.
- Dragging dirt areas with grading and infield equipment to maintain consistency.
- Application of lime to maintain proper pH levels in the soil and discourage weed competition.
- Using a spring pre-emergent herbicide to control weeds on seven high-use athletic fields.
- Application of chemical controls (glyphosate) reserved to areas where mechanical control is ineffective, such as chain link fence lines or warning tracks.
- Collecting and analyzing soil samples to maintain soil quality.
- Following the Department of Environmental Quality approved nutrient management plans for all 26 athletic fields.

- Applying slow-release fertilizers containing 50% organics and micro-nutrients to athletic fields.
- Fields operated by other athletic organizations must follow the city IPM policy.

Right of Way

Right of way areas typically have a higher concentration of invasive weeds and involve complex safety considerations, such as sight-distance issues with motorists. Areas such as guardrails are required to be maintained pursuant to Virginia Department of Transportation regulation. One to two applications of glyphosate per year are used under guardrails in high-traffic locations to safely address weed growth in these areas.

Looking Forward

- Significantly decrease the use of the herbicide Round-Up.
- Use natural (organic) herbicides in areas previously controlled with Round-Up.
- Increase use of organic-based fertilizers on athletic fields.

IPM in Urban Forestry

The Urban Forester maintains over 6,900 trees throughout the city contributing to an overall city canopy coverage of 45%. This is one of the city's most extensive and valuable infrastructures. Trees help to reduce soil erosion and air pollution, reduce energy use, conserve water, and create wildlife and plant diversity. Trees reduce storm water runoff and the sedimentation of waterways. They are vital to the health and beauty of the city.

The Tree Commission acts as an advisory board to City Council and Parks staff in support of tree preservation and planting. For nine years in a row, Charlottesville has maintained the distinction of "Tree City USA".

Prevention

City trees are monitored closely, with newer trees receiving the most attention. First and second year trees are watered and monitored as much as once a week during the summer months. These trees are outfitted with Gator Bags, a water-holding reservoir that supplies drip irrigation.

Cultural controls such as mulching, pruning, and watering are effective tools in helping new and older trees resist pest attacks.

Introduced tree insect pests and diseases are easier to eradicate when detection occurs early. The potential for wide-scale ecologic and economic damage is reduced through proper scouting, early detection and pest-resistant species selection.

If pests are detected, their density is recorded and their location is mapped. Control is determined based on the density and threat of the pest. Some pests present a greater threat than others.

Treatment

Pesticides are used only when the health of high-value trees is threatened and alternatives are not available or are ineffective. To limit pesticide exposure to people and non-target organisms, soil or trunk injection is used.

Currently, specimen American elm trees are trunk-injected every three to five years with fungicide to control Dutch elm disease.

A greater risk threatens Ash trees in Central Virginia. The Emerald Ash Borer is present in Albemarle's neighboring counties. This pest is usually fatal without immediate treatment. Therefore, an action plan to combat the Emerald Ash Borer is necessary. Due to the quantity of native ash trees in the city, the plan must address a hierarchy of treatment to preserve the most valued trees.

Emerald Ash Borer

Emerald Ash Borer Monitoring Trap

Looking Forward

- Increase diversity in City tree plantings to prevent widespread canopy loss from insects or diseases.
- Utilize biological and physical controls to combat current Gypsy Moth infestations.
- Practice preventative tree canopy maintenance to improve tree vigor and build resistance to pests.
- Apply funding strategies for preventative tree care and Emerald Ash Borer pest control.

IPM in Natural Areas

The Parks and Recreation Department is responsible for the management of approximately 600 acres of natural lands. There are nearly 6 miles of paved trails, and 30 miles of nature trails that link neighborhoods to active and passive recreation opportunities in beautiful natural environments. Forestry resources on natural lands are estimated to contain over 60,000 trees that benefit our health and provide habitat for wildlife. In addition, the city oversees 1885 acres of natural lands at Ragged Mountain and Sugar Hollow. One of the greatest threats to these natural resources is the aggressive growth of invasive plant species.

Invasive Plant Management

Control of invasive species requires multiple control tactics and management approaches to obtain the best results for weed control. Mechanical cut back is used where appropriate to control seeding of invasive plants or to maintain a containment zone to minimize spread.

Parks and Recreation has employed goats to graze 8 acres of natural parkland at Pen Park. Goats graze on invasive weeds, shrubs, and vines. Goat droppings recycle organic matter back into the soil and goat hooves cultivate the ground improving water infiltration, aeration and sunlight exposure. Areas grazed require several years of monitoring and mowing to eliminate invasive species and prepare the site for native plant restoration.

The removal of exotic plants is the first step in restoring natural areas to better functioning ecosystems. Some of these invasive trees and shrubs are most effectively controlled with a combination of mechanical removal and herbicide treatment of the cut stump. In this manner re-growth is thwarted with minimal use of herbicides. These efforts are used on a limited basis for areas adjacent to trails or areas where mechanical removal is not feasible.

Volunteer Efforts

Volunteers have assisted with the control of invasive plants in our parks and trails. Invasive species such as Autumn Olive, Ailanthus, Multi-flora Rose, Wisteria, Porcelain Berry, and Bittersweet have been manually removed by volunteers. Volunteer hours totaling hundreds of hours maximize efforts and save in labor costs.

Looking Forward

- Continued use of goats for invasive grazing where appropriate.
- Increase volunteer efforts by enlisting volunteer groups to adopt Park areas.
- Develop a schedule and designate staff for trail maintenance activities, focusing on invasive control.
- Use educational activities to involve the public in the protection of natural areas.
- Provide habitat restoration and enhancement for native plant communities and wildlife.

IPM in Golf

Meadowcreek Golf Course is an 18-hole public golf facility operated as an enterprise division of Charlottesville Parks and Recreation. Located in Pen Park, it is 205 acres, including 40 acres of fairways and 160 acres of rough. Growing healthy turf is the best prevention for pest problems. Selecting disease-resistant turf varieties, an adherence to approved Nutrient Management Plans, and efficient irrigation planning helps to keep turf healthy. The golf facility presents unique IPM challenges because it is a revenue-generating course, and quality turf is required for competitive play. The Golf Division is in the development stage of implementing an IPM program to meet their specific needs. Golf pesticide programs are committed to pesticide reductions wherever possible through regular scouting and early intervention, particularly in disease suppression.

Meadowcreek Golf Course strives to achieve eventual chemical use reductions and implements cultural practices to avoid use all together whenever possible. But when chemical applications are necessary, then only the right application is applied at the right time and place. Most of the chemical applications are contracted and outsourced. To aide us in keeping a healthy turf canopy on the fairways and tees, a Bermudagrass nursery was developed to use as a resource whenever erosion or high traffic areas need to be restored.

In an effort to reduce air emissions and the potential for hydraulic and other fluid leaks or spills, Meadowcreek Golf Course continues to lease all of their mowing equipment and fleet of 60 golf cars every four years. This allows the golf course to take advantage of new equipment technologies to include those with electric mowers and low emissions.

Outreach to the public: Golf Course Superintendents Association of America (GCSAA) Case Study- Meadowcreek Golf Course and the environmental improvements that have been made as a result of the Department's EMS were featured and highlighted in the November 2007 edition of the publication.

Looking Forward

- Continue to review pesticide products to use the least toxic product whenever possible.
- Build turf health through effective use of micronutrients, organic soil conditioners and fertilizers.
- Follow best management practices to reduce fungicide use for turf disease suppression.

Appendix

Parks & Recreation Pesticide Application Database: Data Model

System	Location	Facility
Parks	Azalea Park Bailey Park Belmont Park Fifeville Park Foresthills Park Greenbriar Park Greenleaf Park Jackson Park Jordan Park Lee Park McGuffey Park McIntire Park East McIntire Park West Meade Park Meadowcreek Park Meadowcreek Stream Valley Northeast Park Pen Park Quarry Park Riverview Park Rives Park Schenks Greenway Starhill Park Tonsler Park Washington Park	Athletic Fields Curbs/Sidewalks Landscape Beds Natural Areas Playgrounds Stormwater Structures
Schools	Buford School Burnley Moran School CHSchool/PAC Clark School Greenbriar School Jackson Via School Johnson School School Admin Venable School Walker School	Athletic Fields Curbs/Sidewalks Landscape Beds Natural Areas Playgrounds Stormwater Structures
Public Buildings	Circuit Court City Hall City Hall Annex DT Transit Jefferson Center McGuffey Arts Parks Admin Pavillion PW Avon PW City Yard Smith	Curbs/Sidewalks Landscape Beds Natural Areas Stormwater Structures
Right of Way	250 Bypass 5th Street Avon Street Barracks Road Brown Blvd DT Mall Emmett Street Fontaine Ave Jefferson Park Ave Mcintire Road/Ridge Street Meadowcreek Parkway Other City Street Preston Ave UVA Corner	Curbs/Sidewalks Landscape Beds Natural Areas Stormwater Structures
Cemeteries	Maplewood Cemetery Oakwood Cemetery Pen Park Cemetery	Curbs/Sidewalks Landscape Beds Natural Areas
Hort Sector	250 Bypass Sector 5th & Belmont Sector Downtown Sector JPA & Main Sector Preston & McIntire Sector	Landscape Beds
Golf Course	Meadowcreek Course Meadowcreek Clubhouse	Curbs/Sidewalks Fairways Green Surrounds Greens Landscape Beds Natural Areas Roughs Stormwater Structures Tees

Horticulture Pesticide Applications by Product Name 2013-2015: Liquid Products					
Units	**Active Ingredient**	**Product Name**	**2013**	**2014**	**2015**
Gallons	2,4,D	Brushmaster	0.10		
	2,4,D Total		**0.10**		
	Azadirachtin	Azatrol		0.12	
	Azadirachtin Total			**0.12**	
	Clopyralid	Lontrel		0.00	
	Clopyralid Total			**0.00**	
	d-Limonene	Nature's Avenger		1.38	0.25
	d-Limonene Total			**1.38**	**0.25**
	Fluazifop-P-butyl	Ornamec	0.82	0.25	0.10
	Fluazifop-P-butyl Total		**0.82**	**0.25**	**0.10**
	Glyphosate	Aquamaster	0.21		
		Gly Star Plus	2.89	10.18	
		Honcho	9.84		
		QuickPro (Roundup)		0.47	7.69
		Ranger-Pro	8.96		
		Roundup Pro		0.33	0.04
	Glyphosate Total		**21.91**	**10.98**	**7.73**
	Horticultural Oil	Hort Oil	3.00		
	Horticultural Oil Total		**3.00**		
	Lithium salt of Bromacil	Brom 7.5	0.93		
	Lithium salt of Bromacil Total		**0.93**		
	Monosodium acid methanearsonate	Trimec Plus		0.02	
	Monosodium acid methanearsonate Total			**0.02**	
	Oryzalin	Oryzalin 4	5.18	7.12	11.45
		Prokoz Surflan AS	0.38		
		Surflan AS			4.71
	Oryzalin Total		**5.55**	**7.12**	**16.16**
	Prometon	Primatol 25E	1.80	2.31	2.16
	Prometon Total		**1.80**	**2.31**	**2.16**
	S-Kinoprene	Enstar	0.01		
	S-Kinoprene Total		**0.01**		
	Sodium Salt of bentazon	Basagran		0.89	
	Sodium Salt of bentazon Total			**0.89**	
	Triclopyr	Pathfinder	0.25	0.69	0.23
	Triclopyr Total		**0.25**	**0.69**	**0.23**
Gallons Total			**34.37**	**23.75**	**26.61**

Horticulture Pesticide Applications by Product Name 2013-2015: Granular Products					
Units	**Active Ingredient**	**Product Name**	**2013**	**2014**	**2015**
Pounds	Glyphosate	Roundup QuikPro		0.26	
	Glyphosate Total			**0.26**	
	Halosulfuron-methyl	Pro Sedge Selctive Herbicide2			0.08
		Pro-Sedge	0.07	0.06	
	Halosulfuron-methyl Total		**0.07**	**0.06**	**0.08**
	Imidacloprid	Merit	5.00		
		Zenith 0.5G		0.50	
	Imidacloprid Total		**5.00**	**0.50**	
	Oryzalin	XL 2G		10.00	
	Oryzalin Total			**10.00**	
	Trifluralin+Isoxaben	Snapshot	1050.00	550.00	445.00
	Trifluralin+Isoxaben Total		**1050.00**	**550.00**	**445.00**
Pounds Total			**1055.07**	**560.82**	**445.08**

Golf Course Pesticide Applications by Product Name 2013-2015: Liquid Products					
Units	**Active Ingredient**	**Product Name**	**2013**	**2014**	**2015**
Gallons	24d/mcpp/dicamba	triplet 3/ way herb.		17.63	
	24d/mcpp/dicamba Total			**17.63**	
	Azoxystrobin	Heritage TL	7.72	8.64	2.55
	Azoxystrobin Total		**7.72**	**8.64**	**2.55**
	Bifenthrin	Bifenthrin Golf & Nursery	1.16	0.87	1.16
	Bifenthrin Total		**1.16**	**0.87**	**1.16**
	chlorothalonil	Daconil WeatherStik	5.41	24.30	12.79
		Daconil ZN	7.73	7.69	3.84
	chlorothalonil Total		**13.15**	**31.98**	**16.63**
	dithiopyr	DITHIOPYR 40 WSB.	0.51	0.51	0.39
	dithiopyr Total		**0.51**	**0.51**	**0.39**
	Glyphosate	Honcho	0.02		
		QuickPro (Roundup)			0.29
		Roundup Pro		0.16	
	Glyphosate Total		**0.02**	**0.16**	**0.29**
	HERBICIDE	PYLEX		0.00	
	HERBICIDE Total			**0.00**	
	Iprodione	Chipco 26GT	38.67	7.73	3.87
	Iprodione Total		**38.67**	**7.73**	**3.87**
	Mancozeb	FORE 80 WP	5.06		
	Mancozeb Total		**5.06**		
	Metalaxyl-M	Subdue Maxx	3.23	3.24	1.30
	Metalaxyl-M Total		**3.23**	**3.24**	**1.30**
	Metconazole	TOURNEY		0.47	0.47
	Metconazole Total			**0.47**	**0.47**
	Propamocarb hydrochloride	Banol	9.42	6.88	5.11
	Propamocarb hydrochloride Total		**9.42**	**6.88**	**5.11**
	Propiconazole	Banner Maxx		1.65	
	Propiconazole Total			**1.65**	
	pyraclostrobin	Insignia SC	0.88	1.77	1.77
	pyraclostrobin Total		**0.88**	**1.77**	**1.77**
	pyraclostrobin,bascalid	Honor			2.81
	pyraclostrobin,bascalid Total				**2.81**
	WETTING AGENT	0ARS		7.64	7.64
		CONDUT 90		20.39	
		oars ps			12.78
	WETTING AGENT Total			**28.03**	**20.42**
Gallons Total			**79.83**	**109.57**	**56.76**

Golf Course Pesticide Applications by Product Name 2013-2015: Granular Products					
Units	**Active Ingredient**	**Product Name**	**2013**	**2014**	**2015**
Pounds	boscalid	Emerald	6.00	2.00	5.50
	boscalid Total		**6.00**	**2.00**	**5.50**
	chlorothalonil	Daconil 5% Granular			25.00
	chlorothalonil Total				**25.00**
	flutolanil	ProStar	48.00	1.00	42.00
	flutolanil Total		**48.00**	**1.00**	**42.00**
	Glyphosate	Roundup QuikPro			4.00
	Glyphosate Total				**4.00**
	Halosulfuron-methyl	Pro-Sedge	0.22	0.00	
	Halosulfuron-methyl Total		**0.22**	**0.00**	
	Prodiamine	Prodiamine 65WDG			36.00
	Prodiamine Total				**36.00**
	Vinclozolin	Curalan EG	10.00	20.00	9.38
	Vinclozolin Total		**10.00**	**20.00**	**9.38**
Pounds Total			**64.22**	**23.00**	**121.88**

Chemical Toxicity LD 50

"A common way to document chemical toxicity is by LD 50 values. This is the amount of chemical required to provide a "lethal dose" to 50% of the test population. LD 50 is measured in mg of chemical administered per kg of body weight. Therefore, an oral LD 50 of 500 means that 500 mg of chemical was needed to obtain lethality in a 1 kg subject (rabbit). The lower the LD 50 value, the less chemical that is required to reach lethality."1

"Herbicides often have higher LD 50 values than many commonly used or consumed products. Why are chemicals that are so effective on plant species not equally harmful to humans? The reason is two- fold. First, herbicides target highly specific biological or biochemical processes within plants, such as photosynthesis and production of branch-chain amino acids. Therefore, herbicides that target photosynthesis or branch-chain amino acid production have no place to bind in our bodies and have very little impact. Secondly, since these herbicides do not bind in our bodies, they are often excreted in urine within 24 hours of the dose. This flushing of herbicide does not allow concentrations to build up to toxic levels within the body."1

LD 50 levels are tested not only in oral but also in dermal or inhalation levels. This further rates the toxicity levels through other means of absorption. LD 50 levels classify chemical products in Toxicity Categories corresponding to product label signal words are listed below:

The greater the dose of a specific chemical (the amount absorbed), the greater the risk of injury. Dose is dependent on the absolute amount of the pesticide absorbed relative to the weight of the person. Therefore, small amounts of a pesticide might produce illness in a small child while the same dose of the same chemical in an adult might be relatively harmless.

Toxicity Categories			
Signal Word	**Toxicity Category**	**Oral LD50 (mg/kg)**	**Probable Adult Lethal Dose**
DANGER-POISON	highly toxic	0-50	a few drops to 1 tsp.
WARNING	moderately toxic	50-500	1-2 teaspoons
CAUTION	slightly toxic	500-5000	1 ounce - 1 pint (pound)
CAUTION	almost non-toxic	more than 5000	1 pint (pound)

Toxicity Categories	Oral LD 50	Dermal LD 50	Inhalation LC 50
I DANGER-POISON	0-50 mg/kg	0-200 mg/kg	0-.2 mg/liter
II WARNING	50-500 mg/kg	200-2000 mg/kg	.2-2 mg/liter
III CAUTION	500-5000 mg/kg	2000-20,000 mg/kg	2-20 mg/liter
IV CAUTION	more than 5000 mg/kg	more than 20,000 mg/kg	more than 20 mg/liter

Footnote:

1. Document PI-133, Pesticide Information Office, Florida Cooperative Extension Service, Institute of Food and Agricultural Sciences, University of Florida, Sept. 2006, revised February 2013

Common Consumer Chemicals	
Toxilogical Information	**LD50/Oral**
Nicotine	9 mg/kg
Caffeine	192 mg/kg
Bleach	192 mg/kg
Tylenol	338 mg/kg
Household Ammonia 10%	350 mg/kg
Codeine	427 mg/kg
Table Salt	3000 mg/kg
Aspirin	1,200 mg/kg
Baking Soda	4,200 mg/kg
Honey Bee Venom	2.8 mg/kg
Yellow Jacket Venom	3.5 mg/kg
Gasoline	50 mg/kg

LD 50: Parks and Recreation Department Chemicals

Parks Division	Toxilogical Information (Granular)	LD 50/Body Weight			
Product Name	**Active Ingredient**	**Oral**	**Dermal**	**Inhalation**	**Product Use**
Pro Sedge	Halosulfuron-methyl	1,287 mg/kg	>5,000 mg/kg		Selective Herbicide
Merit	Imidacloprid	2,591 mg/kg	>2,000 mg/kg		Preventative Insecticide
Zenith 0.5G	Imidacloprid	>4,820 mg/kg	>2,000 mg/kg		Preventative Insecticide
XL 2G	Oryzalin	>5,000 mg/kg	>2,000 mg/kg		Pre-emergent Herbicide
Snapshot	Trifluralin + Isoxaben	>2,500 mg/kg	>5,000 mg/kg		Pre-emergent Herbicide

Parks Division	Toxilogical Information	LD 50/Body Weight			
Product Name	**Active Ingredient**	**Oral**	**Dermal**	**Inhalation**	**Product Use**
Brushmaster	2,4,D	2,154 mg/kg	>2,000 mg/kg	>5.29 mg/L	Non-selective Herbicide
Azatrol	Azadirachtin	>5000 mg/kg	>2000 mg/kg	>5.4 mg/L	Organic Insecticide
Lontrel	Clopyralid	>5,000 mg/kg	>5,000 mg/kg	>5.12 mg/L	Selective Herbicide
Nature's Avenger	d-Limonene	>5,000 mg/kg	>5,000 mg/kg	>1,000 mg/L	Organic Herbicide
Ornamec	Fluazifop-P-butyl	>4,000 mg/kg	>2000 mg/kg	>5.2 mg/L	Selective Herbicide
Aquamaster	Glyphosate	>5,000 mg/kg	>5,000 mg/kg	N/A	Non-selective Herbicide
Gly Star Plus	Glyphosate	>5,000 mg/kg	>5,000 mg/kg	>2.5 mg/L	Non-selective Herbicide
Honcho	Glyphosate	>5,000 mg/kg	>5,000 mg/kg	N/A	Non-selective Herbicide
RoundUp Quickpro	Glyphosate	4,443 mg/kg	5,000 mg/kg	2.9 mg/L	Non-selective Herbicide
Ranger	Glyphosate	5,108 mg/kg	>5,000 mg/kg	2.9 mg/L	Non-selective Herbicide
RoundUp Pro	Glyphosate	5,108 mg/kg	>5,000 mg/kg	N/A	Non-selective Herbicide
Hort Oil	Horticultural Oil	>15,000 mg/kg	>5,000 mg/kg	N/A	Preventative Insecticide
Brom 7.5	Lithium Salt of Bromacil	4,700 mg/kg	10,626 mg/kg	N/A	Non-selective Herbicide
Trimec Plus	Monosodium acid methanearsonate	6,700 mg/kg	>2,400 mg/kg	3.3 mg/L	Broadleaf Herbicide
Oryzalin 4	Oryzalin	>5,000 mg/kg	>2,000 mg/kg	>3 mg/L	Pre-emergent Herbicide
Prokoz Surflan AS	Oryzalin	>5,000 mg/kg	N/A	>3 mg/L	Pre-emergent Herbicide
Surflan AS	Oryzalin	>5,000 mg/kg	N/A	>3 mg/L	Pre-emergent Herbicide
Primatol 25E	Prometon	2,100 mg/kg	2000-2500 mg/kg	2.5 mg/L	Non-selective Herbicide
Enstar	S-Kinoprene	3,129 mg/kg	>5,000 mg/kg	>2.05 mg/L	Insect Growth Regulator
Basagran	Sodium Salt of bentazon	1,000-2,000 mg/kg	>4,000 mg/kg	>4.8 mg/L	Selective Herbicide
Pathfinder	Triclopyr	4,183-4,464 mg/kg	>2,000 mg/kg	>4.7 mg/L	Non-selective Herbicide

Meadowcreek Golf	Toxilogical Information	LD 50/Body Weight			
Product Name	**Active Ingredient**	**Oral**	**Dermal**	**Inhalation**	**Product Use**
Triplet	24d/mcpp/dicamba	>500 mg/kg	>2,000 mg/kg	>3.57 mg/L	Selective Herbicide
Heritage TL	Azoxystrobin	1,714 mg/kg	>5,000 mg/kg	>6.4 mg/L	Fungicide
Bifenthrin Golf & Nursery	Bifenthrin	>500 mg/kg	>2,000 mg/kg	>10 mg/L	Insecticide
Daconil Weatherstik	Chlorothalonil	9,000 mg/kg	>2,000 mg/kg	>.704 mg/L	Fungicide
Daconil ZN	Chlorothalonil	3,750 mg/kg	>2,000 mg/kg	.25 mg/L	Fungicide
Dithiopyr 40 WSB	Dithiopyr	>5,000 mg/kg	>5,000 mg/kg	>5 mg/L	Crabgrass Herbicide
Honcho	Glyphosate	>5,000 mg/kg	>5,000 mg/kg	N/A	Non-selective Herbicide
RoundUp Quickpro	Glyphosate	4,443 mg/kg	5,000 mg/kg	N/A	Non-selective Herbicide
RoundUp Pro	Glyphosate	5,108 mg/kg	>5,000 mg/kg	N/A	Non-selective Herbicide
Pylex		>2,000 mg/kg	>4,000 mg/kg	>5.8 mg/L	Selective Herbicide
Chipco 26GT	Iprodione	>5,000 mg/kg	>2,000 mg/kg	2.03 mg/L	Fungicide
Fore 80 WP	Mancozeb	>5,000 mg/kg	>5,000 mg/kg	>5.14 mg/L	Fungicide
Subdue Maxx	Metalaxyl-M	2,965 mg/kg	>5,050 mg/kg	>2.8 mg/L	Fungicide
Tourney	Metconazole	>5,000 mg/kg	>2,000 mg/kg	>5.6 mg/L	Fungicide
Banol	Propamocarb Hydrochloride	2,000-2,900 g/kg	>3,000 mg/kg	>7.9 mg/L	Fungicide
Banner Maxx	Propiconazole	4,340 mg/kg	>2,020 mg/kg	>2.6 mg/L	Fungicide
Insignia SC	Pyraclostrobin	>50->500 mg/kg	>5,000 mg/kg	5.06 mg/L	Fungicide
Honor	Pyraclostrobin, bascalid	>500-<2,000 g/kg	>2,000 mg/kg	>5.2 mg/L	Fungicide
Oars	Wetting Agent	N/A	N/A	N/A	
Condut 90	Wetting Agent	N/A	N/A	N/A	
Oars ps	Wetting Agent	N/A	N/A	N/A	

Anticipated Future Actions

Future Goals of the IPM Program Include:

- Further reductions in landscape pesticide applications throughout the city.
- Initiate a move to organics only on school grounds.
- Increase mulching in weed-prone areas.
- Track the use and effectiveness of pilot programs such as the Weed Dragon.
- Move away from Round-Up, systemic pesticides, and other products that may contain harmful adjuvants or threaten pollinators.
- Provide educational opportunities for the public, such as the pollinator and bog gardens, on the importance of maintaining a balance in the ecosystem.
- A reduction in pest-prone landscape, focusing on the most problematic areas.
- Increase funding levels to help initiate a move towards a natural (organic) pesticide program.
- Increase diversity in city tree plantings to prevent widespread canopy loss from insects or diseases.
- Utilize biological and mechanical controls to combat current Gypsy Moth infestations.
- Practice preventative tree canopy maintenance to improve tree vigor and build resistance to pests.
- Apply funding strategies for preventative tree care and Emerald Ash Borer pest control.
- Continued use of goats for invasive grazing where appropriate.
- Increase volunteer efforts by enlisting volunteer groups to adopt park areas.

- Develop a schedule and designate staff for trail maintenance activities, focusing on invasive control.
- Use educational activities to involve the public in the protection of natural areas.
- Provide habitat restoration and enhancement for native plant communities and wildlife.
- Continue to review pesticide products to use the least toxic product whenever possible.
- Build turf health through effective use of micronutrients, organic soil conditioners and fertilizers.
- Follow best management practices for turf areas to reduce fungicide use for disease suppression.

Concluding Statement

The responsibility of the Department of Parks and Recreation for the City of Charlottesville is to be proactive in the preservation of resources for current and future generations.

The city's Integrated Pest Management program is constantly evolving. The implementation of the program is both anticipatory and reactive. Certain aspects of a season's growing conditions can be monitored and controlled while other aspects are dependent upon weather and other unforeseen circumstances.

It is the city's intention to remain as proactive as possible, rather than reactive to pest issues. This approach includes constant scouting and assessment of pests in currently maintained areas, the sustainable design of new areas, and the analysis of current products and procedures being utilized in the landscape industry. The ability to analyze and apply this information will help to navigate future decisions and actions.

Remaining conversant with this information and educating the public of this knowledge will help to gain trust and confidence. Public trust and confidence in employee decisions, actions and procedures is paramount to the future of the IPM program.

Project Planning and Budget Sheet

3/10/2016

	A	B	C	D	E	F	G	H	I	J	K	L
1	Project Name	Priority Level	Bidding Required	Projected Planning Start	Goal Date Plan Complete	Planning Progress	Projected Project Start	Projected Completion	Project Progress	Estimated Cost	Actual Cost	Funding Account
2	Azalea Park Concession Building Renovation	High	TBD	12/18/15	1/15/16	Complete	3/28/16	4/8/16				
4	Basketball Resurfacing - CHS, Rives, Azalea	Scheduled	Yes			Complete	5/2/16	5/27/16				
5	Belmont Park Bench Refurbishing/ Replacement	Low	TBD	2/5/16	4/1/16	0%						
6	Belmont Park Hand Dryers	Hold	No									
7	Belmont Park Restrooms Renovation	Hold	No				FY17					
10	Carver Rec Ctr Table and Chair Storage Lift	High	No	2/1/16	4/29/16	25%	TBD					
11	Crow Building Power Washing (Rear Pool and Activity Patio)	In Progress	No				10/26/15	4/22/16	75%			
13	Crow Center Activity Area Space Renovation	Hold	TBD	1/18/16	3/4/16	0%	FY17					
14	Crow Center Floor Abatement	Hold	Yes	2/15/16	3/18/16	0%	FY17					
17	Crow Center New Flooring	Hold	Yes				FY17					
19	Crow Center Pool Side Wall Repairs and Painting	Medium	TBD	12/18/15	1/8/16	0%	FY17					
20	Crow Center Sliding Door Replacement	High	In Process	10/12/15	1/5/16	75%	TBD			$60,000		
21	Crow Pool Pump Room Electrical	High	TBD	11/16/15	1/8/16	75%	4/4/16	4/15/16				
22	Crow Pool Pump Room Plumbing	High	Yes	10/2/15	11/20/15	75%	3/3/16	9/2/16	Started			
23	Crow Pool Reception/Info Area Renovation	Hold	TBD				FY17					
24	Crow Pool Shower Renovations	Medium	Yes			0%	FY17					
25	Forrest Hills Park "Tubed" Spray Feature Repair	High	No	3/2/16	3/8/16	Complete	In Progress	4/1/16				
26	Forrest Hills Resurfacing	Hold										
28	Greenleaf Park Fence Replacement	Medium	No	12/4/15	12/18/15	Complete	FY17			$3,955		
30	Greenleaf Park Water Fountain Replacement	Medium	No									
31	Jordan Park Basketball Court Surface	Medium	TBD	3/4/16	3/25/16	0%						
32	Jordan Park Bench Replacement	Medium										
34	Key Center Storm Water Issue (Transferred to Facilities)											
35	Lee Park Retaining Wall Repairs	High	Yes			RFQ	4/4/16	6/3/16				
36	Mall Brick Cleaning and Re-sanding (Custodial)	Medium	TBD			Complete	3/28/16	4/15/16		$18,000		
37	Mall Runnels Renovation	Hold										
38	Mall Tree Grate Cutting in Size	In Progress	No			Complete			75%			
39	Maplewood Cementry Wall Repairs	Medium	Yes	2/12/16	3/18/16	0%	4/1/16	7/1/16				
40	McIntire Park Bat Storage Room Renovation	Hold	No	10/19/15	12/4/15	50%	1/4/16		Started	$7,000		
41	McIntire Park Hand Dryers	Hold	No									
42	McIntire Park Railroad Bridge	High	Yes									
43	McIntire Park Restroom Renovations	Hold	No	11/9/15	12/11/15	50%	TBD			$25,000		
44	McIntire Park Skate Park	High	Yes			Complete	TBD					
45	McIntire Park Softball Light Replacement	High	Yes			Complete	TBD					
46	McIntire Park West Side Parking Lot	High	Yes			Complete	TBD	3/17/16	6/3/2016			
47	McIntire South Side Sewer Line	High	Yes		1/29/16	95%	TBD			$225,000		
51	Melboune Shop Storage Efficency Redesign Work	Medium	No	12/28/15	1/20/16	Complete	2/1/16	4/1/16				
54	Oakwood Cementry Row Markers	Fill In Work	No	12/21/15	1/6/16	25%	4/4/16	4/22/16				
55	Oakwood Cementry Wall Repairs	Medium	Yes	2/26/16	4/1/16	0%	4/15/16					
57	Parks Construction Yard Fencing	Fill In Work	No	1/4/16	2/5/16	Complete	In Progress	9/1/16				

Project Planning and Budget Sheet

3/10/2016

	A	B	C	D	E	F	G	H	I	J	K	L
1	Project Name	Priority Level	Bidding Required	Projected Planning Start	Goal Date Plan Complete	Planning Progress	Projected Project Start	Projected Completion	Project Progress	Estimated Cost	Actual Cost	Funding Account
58	Parks Greenhouse Control Repairs	High	No	1/25/16	2/5/16		In Progress	4/8/16				
59	Parks Office and Shop Generators	High	Out	11/30/15	1/29/16	RFQ	3/21/16	4/8/16		$8,000		
63	Parks Office Window Replacement	Medium	TBD			Complete	FY17					
64	Parks Security Upgrade	High				Complete	7/1/16			$35,000		
65	Parks Shop Bulk Material Storage	High	No				TBD					
66	Parks Shop Exterior Walls	Low	TBD	3/28/16	4/29/16	0%	TBD					
67	Pen Park Concession Bldg. Power Washing and Painting	High	Yes	3/28/16	4/15/16	0%	TBD					
68	Pen Park Rail Fence Coating	High	TBD	1/25/16	2/12/16	0%	5/2/16	5/6/16				
69	Pen Park Restroom Hand Dryers	Hold	No									
70	Pen Park Restrooms Renovation	Hold	TBD				FY17					
72	Pen Park Tennis Court Repairs	High	No			Complete	3/21/16	4/1/16				
74	Quarry Park Trail Bridge (Small Stream)	In Progress	No			Complete	12/29/15	4/1/16	50%			
75	Rives Park Boundary Fence	Medium	No	1/11/16	1/15/16	50%	4/25/16	4/29/16				
77	Smith - Pool Deck Tile Repairs	Scheduled	No			Complete	3/21/16	3/25/16				
78	Smith Exterior "Settled Concrete" Replacement	Medium	TBD									
79	Smith Fitness Area Ceiling Rust Remediation (FM)	Low										
80	Smith Fitness Entry Area Flooring Repairs	Medium	No									
81	Smith Natorium Lighting Work	In Progress	In Process						75%			
82	Smith Pool Concrete Ramp Outside Rear Entry	Hold	No	10/1/15		Complete	TBD					
86	Smith Pool Visual Air Flow Test	High	No	9/10/15	10/12/15	Complete	4/4/16	4/8/16				
89	Tonsler Park Fascia Repair	High	No	1/4/16	1/15/16	95%	3/21/16	3/25/16				
90	Tonsler Park Hand Dryers	Hold	No									
92	Tonsler Park Spray Pad	High	Yes	2/8/16	4/29/16							
93	Tonsler Park Stairs from Ridge Street	High	Yes	10/1/15	2/5/16	Complete	3/15/16	5/16/16		$100,000		
95	Washington Park Bogg Garden Wooden Walkway Repairs	Medium	No	2/1/16	4/1/16	0%		8/26/16				
96	Washington Park Bogg Stairs Replacement	Medium	TBD									
97	Washington Park Restroom Renovation	Hold	No									
99	YMCA Coordination Work	In Progress	No									

Project Planning and Budget Sheet

3/10/2016

	A	B	C	D	E	F	G	H	I	J	K	L
1	Project Name	Priority Level	Bidding Required	Projected Planning Start	Goal Date Plan Complete	Planning Progress	Projected Project Start	Projected Completion	Project Progress	Estimated Cost	Actual Cost	Funding Account
3	Azalea Park Restroom Heaters	**Completed**	No			Complete		11/11/15	Completed			
8	Belmont Park Shelter Power Washing and Painting	**Completed**	Completed				9/7/15	9/11/15	Completed	$4,900	$4,825	P-00651
9	Carver Rec Ctr Restroom Door Paint & 1st to 2nd flr. Railing	**Completed**	No			Complete			Completed			
12	Crow Center Activity Area Fence Replacement	**Completed**	No	11/9/15		Scheduled	11/9/15	11/20/15	Completed		$2,770	
15	Crow Center Locker Room Painting	**Completed**	No			Complete			Completed			
16	Crow Center Mansard Roof Painting	**Completed**	Completed						Completed	$10,000	$5,637	P-00828
18	Crow Center Pool Patio Fence Replacement	**Completed**	No			Complete			Completed		$3,630	
27	Greenleaf Park Buildings Painting	**Completed**	Yes						Completed			
29	Greenleaf Park Trail Bridge	**Completed**	No			Complete	11/30/15	12/23/15	Completed			
33	Key Center Entrance Railing	**Completed**	No			Complete	10/21/15	10/21/15	Completed			
48	Meade Park Entrance Fence Replacement	**Completed**	No						Completed			
49	Meade Park Post Base Repairs	**Completed**	No						Completed			
50	Meade Park Shelter Power Washing and Painting	**Completed**	No						Completed			
52	Melbourne Shop Paving	**Completed**	No						Completed			
53	Northeast Bridge Repairs and Painting	**Completed**	Completed						Completed			
56	Onesty Pool Beam Water Seal	**Completed**	No						Completed			
60	Parks Office and Shop Panel Upgrade	**Completed**	No	10/1/15		Complete	1/26/16	2/3/16	Completed	$11,000		
61	Parks Office Foundation Drainage	**Completed**	No	9/1/15	9/11/15	Complete	1/11/16	1/22/16	Completed			
62	Parks Office Men's LL Restroom Ventilation	**Completed**	No						Completed			
71	Pen Park Shop Exterior Lighting Replacement	**Completed**	No						Completed			
73	Power Washing CRHA Playgrounds	**Completed**	No						Completed			
76	Rives Park Restroom Heaters	**Completed**	No						Completed			
83	Smith Pool Fitness Area Interior Painting	**Completed**	Yes						Completed			
84	Smith Pool Railing at Pump Room	**Completed**	No						Completed			
85	Smith Pool Removable Handrail at Entrance Landing	**Completed**	No						Completed			
87	Tonsler Park Basketball Courts	**Completed**							Completed			
88	Tonsler Park Exterior Painting	**Completed**	Completed						Completed			
91	Tonsler Park Interior Painting	**Completed**	Completed						Completed			
94	Tonsler Park Trail Paving	**Completed**	No						Completed			
98	Washington Park Roll-up Door	**Completed**	No						Completed			