Integrated Pest Management (IPM) Program

Parks, Recreation & Open Space

City of Lafayette, Colorado

Land Assets

City of Lafayette Parks, Recreation & Open Space department provides a balanced network of formalized landscapes, play structures, outdoor recreation opportunities, open lands, natural areas, wildlife corridors, habitat areas, view corridors, and green ways that preserves the city's natural, aesthetic, and community character. These amenities provide connections between neighborhoods, the natural environment, and numerous community assets. The department also provides stewardship of a large amount of city-owned streetscapes and two city managed cemeteries for its citizens.

Additionally, the department is proud to be a CAPRA Accredited agency. See Appendix A or Read more online about this great achievement.

Responsibilities

As the department responsible for managing these community lands, our department oversees the maintenance and enhancements of:

- 19 parks - 5 large parks, 14 smaller parks
- Park shelter services - Park shelter rentals
- 20+ miles of trails
- 323 acres of solely owned open space and 967 acres of jointly owned open space
- Thomas Open Space Organic Farm - Organic Farming
- Championship 18-hole golf course - Indian Peaks Golf Course
- City Streetscapes
- City Facility Landscapes
- Two cemeteries – Lafayette Historic Cemetery and Coal Creek Memorial
- Two community gardens – Wilson Gardens and Kerr Community Gardens
- City-wide mosquito control services
- Bob Burger Recreation Center
- Senior Services

IPM Mission Statement

The Integrated Pest Management (IPM) mission of the Lafayette Parks, Recreation, & Open Space department is to utilize the least hazardous pest management options available to prevent negative impacts on people, other living organisms, and the environment. To accomplish this, the steps of this IPM program should be implemented in a progressive and sustainable fashion to assess the pest potential. We then use the multi-faceted strategies contained within the program to minimize the economic, health and environmental risks to our community and natural habitat.

IPM Definition

Integrated Pest Management (IPM) is a decision-based process that utilizes the least hazardous pest management options available to reduce or to prevent negative impacts on people, other living organisms, and the environment. It should be noted that the underlying motivation of IPM is proper risk assessment.

Pest Definition

Pests are defined as any noxious weed, problem insect, plant disease, rodent, nematode or microorganism which is detrimental to the environment or the stated management plan for our public lands.

5 Basic Strategies for IPM Success

1) Educate selected staff professionals for pest management decisions
2) Monitor and reduce conditions that favor pest infestations
3) Assess tolerable economic or esthetic thresholds for pest control
4) Utilize the most effective, environmentally-friendly control options
5) Evaluate the success of control options and adjust as needed

Summary Pest Management Statement

The City of Lafayette Parks, Recreation & Open Space department endeavors to use a coordinated approach to pest control by taking into account all pestilential, environmental, agronomical and best management practices (BMP's) currently available to provide its citizens the most safely-assessed economical means for protecting Lafayette public land assets.

The goals of our IPM strategies are to help prevent unacceptable levels of pest damage on Lafayette public lands through the proper assessment of risks to people, property, other living organisms and the environment, while balancing costs, benefits, public health considerations and environmental idiosyncrasies. We endeavor to apply a more holistic approach to pest-management decision-making by taking advantage of cutting-edge and current scientific discoveries that are researched and tested as appropriate pest management options.

In this endeavor we aspire to reduce the dependency upon synthetic controls as a first response to combating the presence of undesirable pests. This aspiration challenges us

to work hard at preventing future pest problems through the practice of sound agronomic means. It further challenges us to consider a "hands-off" approach by establishing tolerable thresholds for pest populations and by implementing rigorous pest monitoring protocols.

Should prevention measures of alternative pest control methods become unavoidable, we would endeavor to first use all mechanical and hand-labor resources available at our disposal to manage a pest outbreak. Consideration of all cultural and BMP controls would be our next steps if the pest outbreak presents no immediate property or economic risk to our public land assets. If afforded the time to implement cultural controls and/or BMP's to reduce or eliminate the pest problem, we aspire to professionally and proactively use all means available to us. We aspire to actively introduce biological agents that help support good ecological health and supplement the control of destructive pests.

And finally, we aspire as good stewards of our land, the environment and every living creature therein to responsibly implement the above steps and measures as a first priority before applying organic or synthetic controls for pest out-breaks.

On a case by case basis where organic or synthetic controls are needed, applications will be evaluated and conducted by licensed, trained professional staff. Methods employed will conform to all recognized industry standards which are regulated and endorsed by State and Federal regulatory agencies, and university research institutions. Furthermore we will adhere to all product labels, which are enforceable, legal documents regulated by the EPA.

Assigned staff professionals will actively participate in and maintain the Colorado Public Pesticide Applicators License while continuing education requirements for public safety, laws, pest information and IPM methods. As a last resort to controlling destructive pest outbreaks, we aspire to advocate for intelligent problem solving that does not necessarily eliminate all the risks of organic and synthetic controls, but intelligently assesses those risks for the good of our citizens and our living land environment.

Pesticide Safety

The City of Lafayette Parks, Recreation & Open Space department has an impeccable safety record with respect to the use of both organic and synthetic pesticides, both internally and with the State Department of Agriculture. This is made possible in part by our endeavor to reduce the use of pesticides, but also our resolve to appropriately train our employees and carefully assess every pesticide application through label directives and safety

procedures during use. The following provides some of the main actions we take to promote safety with our employees and the public.

- Careful product selection – staff evaluates potential products for the least toxicological characteristics to effectively control the targeted pest.
- Assessment of Environmental Conditions – Proper evaluation of weather conditions to avoid chemical trespass and to assess the presence of land patrons, pollinators and other living beneficial organisms.
- Notification of the public – Application information is posted at all public entry points. Those registered with the State on the Pesticide Sensitivity Registry are contacted prior the application.
- Personal Protection Equipment – All pesticide applicators will be provided the appropriate personal protective equipment to perform pesticide applications in a safe and responsible manner.

Summary of Progressive Steps in our IPM Decision-Making

1.) Pest Prevention Measures

2.) Pest Avoidance and Threshold Tolerance

3.) Mechanical Means and Hand Labor

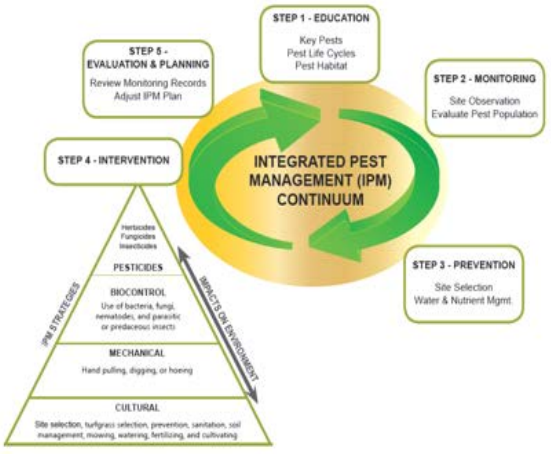
4.) Cultural and Best Management Practices (BMP) Controls

5.) Biological Controls

6.) Organic Controls

7.) Synthetic Controls

Summary Statement: *These steps are listed in priority of order. Pesticides are not the first line of defense and should be utilized as a last resort after other control measures have not been effective.*



**Credit given to Thia Walker – CSU Extension

Pest Prevention Measures – Step #1

Step #1: Take Prevention Measures – *This step anticipates pest issues and minimizes land disturbances while searching for early pest conditions that may lend itself to a future pest outbreak. Prevention steps utilize such things as pure seed mixes, good soil preparation, diversity of landscapes, etc. Successful IPM programs begin right here with building a good foundation for prevention of future pest outbreaks by creating healthy growing environments. The motto is: do it right in the first place so that it ends up right in the long term.*

In an effort to build a good foundation for preventing future pest outbreaks, a number of ecological and agronomical practices must be followed.

Components of Prevention Measures:

1) Soil Testing and Augmentation
2) Site Analysis and Conditions
3) Plant Species Assessment and Plant Diversity
4) Seed Mix and Test Plot Data
5) Professional Design and Installation
6) Stewardship Sustainability and Management Plans

Pest Avoidance and Threshold Tolerance – Step #2

Step #2: Avoidance and Thresholds – *This step assesses and monitors pest populations and sometimes drives the decision to take a wait-and-see approach; or to take no action at all because the pest populations are tolerable and not spreading or causing significant loss. Depending on the management plan for the subject area and the resources available to the land manager, this approach should be considered first before expending any effort or resources.*

Principles for Assessment:

1.) Evaluate the priority and importance of the area for the public.
2.) Determine if the damage by pests is exceeding the economic threshold and/or the esthetic threshold. More tolerance may be shown if the damage by pests is impacting the esthetic quality only.
3.) Weigh the risk of implementing other pest controls against a wait-and-see or do-nothing approach.
4.) Forecast any changes in weather or conditions that may favorably augment the pest population without applying additional controls.
5.) Observe other valuable natural resources in the area that may be impacted by the implementation of pest controls and weigh those values against the application of pest controls.

Mechanical Means and Hand Labor – Step #3

Step #3: Mechanical Means and Hand Labor – *This step is where you roll up your sleeves! Good ol' fashion efforts that include such things as hand pulling and removal, mowing/trimming, or clipping weed seed-heads or removing pests manually. While this step is generally very labor intensive, it is obviously considered to be a low risk to the environment and to people and pollinators.*

Our citizen volunteers, Boulder County Youth Corp and Park Junior Rangers provide monumental assistance in this area and should be encouraged.

Considerations for Implementation in Pest Control:

1.) Hand-pulling of weeds and physical removal of pests in site specific areas.
2.) Mowing and trimming of weeds in more general areas of concern.
3.) Naturalize areas by propagating native plant species to control weeds.
4.) Clipping weed seed heads before they bloom or spread.

Cultural Controls – Step #4

Step #4: Implement Good Cultural Controls – *This step is highly diversified, but can be very effective in mitigating pest concerns because it puts into place practices that help reduce pest establishment, reproduction, dispersal and survival. It can include such things as: decisive irrigation management; proper nutrition programs; establishing and maintaining preferred plant communities and diversity of plant selections; and propagation or over-seeding of newer plant varieties. Even such things as mulching, prescribed burns, topdressing, aeration, and traffic controls can all help control pest out-breaks. As an example, some diseases are easily defeated by best management practices or modifications to BMP's by the land manager. Shutting off irrigation, modifying nutrition programs, aerating the area to open up the soil for oxygen exchange, or simply regulating*

mechanical stresses or traffic can all make a difference when facing a pest infestation. Monitoring conditions in the field is critical for controlling undesirable pests while knowing what conditions the pests prefer and doing what you can to alter those favorable conditions to avoid pest outbreak.

Considerations in Implementation for Pest Control

1.) Mulching
2.) Aeration
3.) Irrigation management
4.) Mechanical stress
5.) Nutritional programs
6.) Weed barriers
7.) Over seeding
8.) Top dressing
9.) Prescribed Burns
10.) Traffic controls

Biological Controls – Step #5

Step #5: Biological Controls – *Bio-controls are now firmly established as a viable supplement to pest control. This may include the release of beneficial or parasitic insects, beneficial microbes or even plant specific diseases to noxious weeds (like introducing rust disease on Canadian Thistle). These can be released into the environment or inoculated into the soil to help combat undesirable pests.*

The City of Lafayette land managers have been involved in the introduction of bio-controls for over two decades. The City began on the golf course with the introduction of bio-controls. As part of our IPM program we supplemented the protection of golf greens and tees from fungal diseases since 1992 using beneficial microbes. We've released beneficial insects on the golf course as well as in our parks and open spaces. Examples are parasitic wasps, ladybugs, leafy spurge beetles, musk thistle weevils, thistle stem gall flies and even

praying mantis! For aquatic controls we use barley bales, grass carp (diploid white amur), dyes, and microbes before considering aquaticides.

Parks, Open Space & Golf is also a current subscriber to the State of Colorado Bio-Control Service through the department of agriculture.

Organic Controls – Step #6

Closely associated with a good biological control program is the proper use of organic fertilizers and soil amendments, which help build a good foundation for healthy plants that can aid in resisting pest damage.

Step #6: Organic Controls– *This step considers what organic pesticides exist to combat pests taking into account the life-cycles of pests and their interaction with the environment. One should not assume that organic pesticides are less toxic just because they are labeled "organic" or "natural." Good land managers should look for effective organic controls that may help reduce and/or prevent negative impacts on people, pollinators and the environment. But folks, READ THE LABEL WARNINGS on organic pesticides just like you would for synthetic pesticides. The public should be aware that organic-approved pesticides often carry similar label warnings and are not necessarily safer for people and pollinators than comparable synthetic pesticides. A thorough risk assessment should be done in advance of using any organic pesticide.*

Parks, Recreation & Open Space is currently field testing a recently EPA-approved, organic herbicide called Suppress (approved Sept 24, 2014). Once fully evaluated, staff should be able to determine its effectiveness and its role in our IPM programs. Staff has

also used soap-based insecticides and garlic-based repellents as other examples of our efforts to be integrated in our pest management.

Synthetic Controls – Step #7

Only after land managers have worked through the first 6 steps do we consider Step #7.

Step #7: Synthetic Controls – *Synthetic pesticides are a last resort, but can be effective tools in the IPM toolbox when Steps #1-6 have not proven to be effective or the pest outbreak is severe. The risk of using pesticides can be significantly minimized by their proper and safe use. If people, pollinators and the environment are not improperly exposed, then risk from their toxicity is significantly controlled.*

All staff are required to read the label, which is a legal document and mandated by State and Federal laws. The label will guide the applicator in preventing unwarranted exposure or improper use. All pesticides should be administered and applied by trained professionals who hold a current State license from the Department of Agriculture. Further, applicators must possess the correct license categories for the application under consideration. It is imperative that all the safety protocols be followed without neglect.

Some examples of risk assessment are as follows: carefully selecting the least hazardous pesticide to bring effective control to the targeted pest; carefully assessing the proper timing of our applications to minimize exposure; posting our application sites for the public at all entries according to State Statute; and contacting adjoining neighbors who may be on the State's Pesticide Sensitivity Registry. We apply when people and pollinators are not active or least active in the area, and we target apply only the infested area.

It should be noted that pesticides which have an adverse effect on pollinators are already restricted by label for application during times of blooming or the presence of pollinators.

The application of pesticides is to be done as a last resort tool for combating pests. We advocate for smart problem-solving that does not necessarily eliminate all the risks, but intelligently assesses those risks for the good of people, pollinators and our environment.

Appendix A

CAPRA Accreditation
Lafayette Accredited Parks, Recreation & Open Space Department

The Parks, Recreation & Open Space and the Recreation and Facility Maintenance Departments joined the ranks of the elite park and recreation agencies and departments across the country by earning accreditation through the Commission for Accreditation of Park and Recreation Agencies (CAPRA) and the National Recreation and Park Association (NRPA). This distinguished accomplishment was awarded during the 2013 NRPA Congress and Exposition.

CAPRA accreditation is the only national accreditation for park and recreation agencies, and is a measure of an agency's overall quality of operation, management and service to the community. This mark of distinction indicates that an agency has met rigorous standards related to the management and administration of lands, facilities, resources, programs, safety and services.

As part of the accreditation process, Lafayette had to demonstrate compliance with 144 recognized standards and document all policies and procedures. Often the process helps identify efficiencies and heighten areas of accountability, all of which translate into higher quality service and operation to benefit the community.

The process for accreditation involves self-assessments, a formal application, a site visit by a team of trained visitors that results in a written report, and a hearing with the commission to grant accreditation. Once accredited, the agency must uphold the standards and is reviewed again in five years.

Popular parks such as Waneka Lake Park and the Great Bark Dog Park, Indian Peaks Golf Course, and the impressive Open Space program offering miles of trails and acres of wildlife habitat all benefit from the accreditation standards. All department staff are held to high standards and are proud of the opportunities they help provide to the Lafayette community.

The Commission is comprised of representatives from NRPA, the American Academy for Park and Recreation Administration, the National Association of County Park and Recreation Officials, the International City/County Management Association, the American Association for Physical Activity and Recreation, the Armed Forces Recreation Society and the Council of State Executive Directors.