



An Update on Integrated Pest Management in New York City

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In May 2005, Local Law 37 (introduced by the New York City Council as Intro 329) was signed into law. Local Law 37 (LL37) sets forth a number of requirements related to the use of pesticides on New York City-owned or leased properties with the overall goal of reducing the City's use of hazardous pesticides and promoting the use of safer and more effective pest control practices; an approach, known as Integrated Pest Management (IPM). One of LL37's requirements is that City Agencies through the DOHMH submit an IPM Plan in January of each year to the Mayor and New York City Council. This report, for calendar year 2011, is being submitted to fulfill this requirement and to describe compliance with LL37 and the evolving pest control practices of several agencies.

BACKGROUND

Local law 37 required that the City of New York discontinue the use of pesticides with active ingredients that EPA and the State of California consider to be potential carcinogens or reproductive hazards. Certain pesticides are exempted from prohibition due to their low potential for exposure or harm or because of public health necessity. A waiver procedure was established that allows the Health Department to grant further individual exemptions from the prohibitions under certain conditions. Posting notices to building occupants twenty-four hours prior to pesticide applications is required as well as new, more detailed record keeping and reporting provisions. The passage of LL37 launched city agencies on a critical review of pest management and pesticide use on city-owned and leased properties. Since LL37 was instituted, there have been a number of major reforms to citywide pest control practices and the local law has encouraged agencies to make pesticide use reduction an ongoing pursuit. The Health Department's Bureau of Environmental Surveillance and Policy (BESP) was charged with the implementation of LL37 and continues to provide technical assistance to agencies in complying with this law.

In the past year, agencies have continued to identify new pest management practices that are less chemical-dependent and more preventive in their approach. As one indication of

this effort, between 2007 and 2010 the amount of pyrethroids and pyrethrins applied by volume has declined by 64%.

New York City agencies address a wide variety of pest control issues in a large number of settings – residential units, institutional settings, parks, schools, offices, highway medians, hospitals, and vacant lots. Agencies continue to build pest management strategies around IPM which focuses primarily on preventing pest infestation through improved sanitation and structural integrity. IPM seeks to use structural and behavioral modification to deny pests the necessities- food, water, means of entry and harborage – that they need to survive. At the same time, “pest-proofing” upgrades the overall structural conditions of housing and workplaces. When physical improvements alone are not enough to address an infestation, IPM also encompasses the judicious use of least hazardous pesticides – such as newer gels and baits, and old standbys like boric acid deployed in new ways. The Health Department will continue to encourage agencies to use pesticides to control infestation only as a last resort and to critically examine all other options prior to engaging in their use.

IPM COORDINATION AND PESTICIDE USE MONITORING

Inter-Agency Pest Management Committee

Local Law 37 established the Pest Management Committee (PMC) as a forum for agencies to share pest management information and strategies and to plan future reductions in pesticide use. The PMC is convened by the Health Department and is made up of representatives from more than 15 municipal agencies and public authorities. This group serves as the city’s pesticide and pest management advisory committee, and meets twice annually. This year, the PMC continued its focus on increasing electronic reporting of pesticide use data, the challenges agencies are facing on the prevention and control of bed bugs, and contracting for pest management services. The PMC will continue to assess ways to reduce pesticide exposures and to better communicate with employees and the general public about safe and effective pest control.

Agency Pesticide Use Reporting

Local Law 54 (LL54) of 2007 requires agencies to report their pesticide use to the Health Department to enable it to issue a summary report to the City Council by May of each year for pesticides used in the previous calendar year. The New York City Pesticide Use Reporting System (NYCPURS), created by the Health Department with major enhancements completed in August 2008, has been used by agencies to facilitate this process. Data continues to be imported into NYCPURS from other electronic use systems and agencies are able to generate additional managerial reports in order to better streamline their resources and track pesticide use activities through this system.

In May 2011, the Department issued, in accordance with LL54 of 2007, the fourth public report quantifying municipal agency pesticide use. In 2006, when we began collecting

data, just three agencies reported in an electronic format that enabled data to be summarized. In 2011 all reporting agencies submitted electronic data. The Department will continue to provide guidance to agencies and their contractors for electronic submission of pesticide use data.

LL37 Waiver Review Committee

The Waiver Review Committee is tasked with evaluating City agency requests for exemptions from pesticide prohibitions. The committee consists of individuals from across the Health Department, including licensed exterminators, health educators, environmental epidemiologists, risk assessors, and entomologists. Each person is trained in IPM principles and practices and on the requirements of LL37.

In 2011, nine new waivers were granted as well as a blanket waiver for baits and gels containing the prohibited active ingredients fipronil and hydramethylnon for the coming year. These gel insecticide baits are non-volatile and are more targeted than broad application pesticides, they contain some of the same active ingredients and work in a similar manner to already exempted containerized insect baits, and in the right circumstances they can be used in a manner that limits the likelihood of human exposure, consistent with the principles of IPM. A list of waivers issued in 2011 is available on our website (<http://nyc.gov/health/ll37>).

IMPROVED RAT MANAGEMENT

DOHMH Bronx and Manhattan Rat Initiatives

In December 2007, a pilot program for the assessment and remediation of neighborhood rat activity was launched in the Bronx by the Health Department's Bureau of Pest Control Services (PCS). Using a rapid inspection approach, called "rat indexing", the Department proactively inspects every property in a neighborhood rather than waiting for complaints to initiate its activity. In January 2010 the program was expanded into Manhattan. In 2011, the Health Department completed a fifth round of indexing inspections in the Bronx and the second round of indexing inspections in Manhattan with approximately 60,000 initial inspections. Failure rates for active rat signs continued to decline in most neighborhoods indexed.

The successful indexing program is now expanding on a limited basis into Queens and Brooklyn. The Health Department has also been evaluating additional targeted rat management strategies that augment indexing by identifying and addressing neighborhood-specific causes of recalcitrant infestation problems, such as improper garbage management or severely infested sewers or parks. In 2012, the Department will continue to use data to track, evaluate, and refine its rat management efforts.

In 2011 the Health Department continued to evaluate the use of a new stainless steel mesh ("Xcluder" geo mesh) to **prevent rat burrowing in tree pits**. Twelve Manhattan street

trees were included in a study to evaluate efficacy in excluding rats and reducing the need for the use of rodenticides. All twelve trees enrolled in the study continued to be rat free 6 months after installation of the mesh.

Training, Education and Information Dissemination

The Health Department through its **Building Superintendent's Academy** offered free training on Rodent Management in East Harlem and the South Bronx. Training will continue through May 2012. Rodent prevention training is also provided to day cares, neighborhood associations, community gardens and Business Improvement Districts.

The Annual DOHMH 3-day **Rat Academy** met twice in 2011 with 54 attendees representing City Agencies such as Department of Parks and Recreation (DPR), New York City Housing Authority (NYCHA), Department of Citywide Administration Services (DCAS), Department of Homeless Shelter (DHS), Environmental Protection Agency (EPA), New York State Department Environmental Conservation, in addition to private pest professional companies and guests from universities and large corporations (e.g., University of Nebraska, Target Corporation, The Scott's Company and The City of Cambridge, MA.).

In 2011, over 25 training events were conducted with over 400 total participants, mostly representing homeowners, multi-family buildings, neighborhood organizations, urban gardeners and city agencies. Over 250 rodent-resistant trash cans were distributed to training participants as incentives for attending the training.

The Rat Information Portal (RIP) (<http://nyc.gov/rats>) continues to provide access to detailed information on rat management for tenants, property owners, pest management professionals, community organizations and policymakers. The map and property look-up tool on the portal (<http://gis.nyc.gov/doh/rip/>) was updated in November 2011 to make it easier for consumers to look up recent work on individual properties and to design and export neighborhood maps.

Inter-agency Rat Management Collaborations

Department of Parks and Recreation (DPR) and the Health Department are working together to remediate rat conditions in NYC parks. In 2011, the agencies evaluated risks to non-target park wildlife (hawks and owls) from the use of rodenticide baits. They followed up with trials of rat mitigation techniques that focused on non-chemical controls. This included the installation of additional steel rat-resistant trash cans and solar-powered "Big Belly" trash cans in two Manhattan parks with rat problems and to institute rat control programs that use rat snap traps in tamper-resistant stations instead of rodenticide bait. The "Big Belly" solar trash cans were tested in Manhattan's Thomas Paine Park with a successful reduction in rats. Rat activity was tracked before, during and after the installation of these cans using a 3-way population measurement index: (a) evening rat counts; (b) number of rat visitations to target litter baskets; and (c) the number of active rodent burrows. Measurements were compared for July-October of 2010 and for the same period post-Big Belly installment

(April of 2011). The post treatment index measurement indicated an 81.5% reduction in rat activity—a considerable reduction considering only one-third of the park received a Big Belly can. Snap traps were used in Riverside Park and Central Park to reduce rats in areas where hawks were nesting.

Central Park Conservancy's use of snap traps had a significant impact on their rodent populations so that the use of rodenticides was not necessary in the last nine months of 2011. They have established an aggressive approach through their IPM program for controlling rats which focuses mainly on prevention. This is accomplished through their waste management and sanitation practices; establishment of policies and procedures; inspecting, monitoring and establishing tolerance thresholds; pest-proofing measures; and, modification of environmental conditions conducive to targeted pest problems. Detailed records are kept of all activities and are used to assess the program and to comply with regulatory requirements.

Metropolitan Transportation Authority (MTA) is working with the Health Department to evaluate and address factors that contribute to the presence of rats within a subway station. These included the use of exclusion techniques for subway platform garbage holding rooms to assist in keeping MTA's platforms rat free.

BED BUG PREVENTION AND CONTROL

In response to the resurgence of bed bugs, the city continues to expand its efforts to address this issue. With funding from the New York City Council, in 2011 **the Health Department** was able to advance the city's efforts in the following ways:

- Developed the **NYC Bed Bug Web Portal**, www.nyc.gov/bedbugs which was launched in March 2011. The portal provides easily accessible sources of information about bed bugs to the public and links to other useful sites. A variety of guidance documents were completed to enable residents, businesses and institutions to anticipate, discover and rapidly and safely respond to the presence of bed bugs. More information is expected to be added to the portal in the coming year.
- Completed **comprehensive trainings** on detecting bed bug infestations and their prevention and control for **Department of Housing Preservation and Development (HPD)** inspectors, pest management professionals and facility managers of the **New York City Housing Authority (NYCHA)** and key personnel from other agencies.
- Continued to distribute fact sheets and brochures on identifying and responding to bed bugs. To date over 200,000 have been circulated. A detailed guide, "Preventing and Getting Rid of Bed Bugs Safely", completed in 2009, has become the corner stone of the City's bed bug outreach efforts and is now available in English, Spanish, Chinese, Russian, Korean, Haitian Creole and Italian. Several municipalities throughout the country continue to adopt and use this guide in their outreach and education efforts.

Department of Housing Preservation and Development (HPD)

HPD's Canine Inspection Team has been established as part of the City's ongoing comprehensive effort to combat bed bug infestations in multifamily residential properties. HPD acquired two bed bug sniffing dogs to join their Division of Code Enforcement that will be working with a team of four inspectors. The two male beagles, Mickey and Nemo, and their handlers received extensive training. The dogs were trained on finding live bed bugs and their viable eggs and the inspectors on identifying all stages of bedbugs, search techniques, working with canines and canine care. Each dog has been assigned to a team of two inspectors, with alternating routes.

Where inspections are carried out by these dogs the inspector must visually confirm the dog's finding by observing a live bed bug or bed bug nymph in order to issue a violation. A visual inspection will still be carried out by the inspector even if the dog does not signal that it detects a bed bug.

HPD collaborated with the Health Department to launch a comprehensive new enhanced enforcement model for **responding to bed bug complaints in residential properties**. The model clarifies building owners' responsibilities to remediate bed bugs and inspect areas around apartments and common area found to have bed bugs.

HPD through its outreach and education program continues to offer an **e-Learning class** about bed bugs, which can be taken at any time on any computer with internet access. The interactive class discusses what bedbugs are, explores myths about bedbugs and provides some information about identifying and eradicating bedbugs.

Department of Homeless Services (DHS)

In 2008 **DHS, the Health Department and Cornell University's Cooperative Extension Program** collaborated on the creation of guidelines for the prevention and management of bed bugs in congregate living environments. These guidelines are available online from the Cornell University's Cooperative Extension Program website, http://www.nysipm.cornell.edu/publications/bb_guidelines/. DHS has also implemented protocols to help prevent the spread of bed bugs in its shelters and homes. Shelter operators and their maintenance staff continue to receive training on the appropriate response to bed bugs. Reports of bed bugs may result in isolation of clothing and its separate laundering, thorough inspections, client notification and education, and repeated visits by pest management professionals. The agency continues to circulate among their shelters information on bed bugs.

EXPANDING IPM IN PARKS LANDSCAPE MANAGEMENT

The Central Park Conservancy has developed IPM protocols with the goals of reducing negative environmental and safety impact, and creating sustainable methods to maintain and enhance the Park environment. IPM practices are reflected in:

- Turf grass management: seeding of lawns with varieties and cultivars chosen to tolerate heavy use and resist disease and cultural and use management practices to improve soil conditions.
- Non-chemical weed control: timely hand weeding and mulching of ornamental landscapes.
- Selection of safer pesticides when needed: replacing synthetic chemical fungicides, herbicides and grub control chemicals with less toxic alternatives.
- Frequent in-house laboratory testing and analysis of soil and disease conditions.
- Ongoing training and education of staff and volunteers in best management practices.

The pesticide use data has also born out these changes. The CPC required 62% fewer applications of the common herbicide glyphosate in 2010 as compared to 2007 and since 2007 has moved away from synthetic fungicides towards the biologically-derived strobilurin class of fungicides.

In 2007 the **Department of Parks and Recreation** began a series of field trials to test alternative methods of weed control which included methods of both pre- and post-emergent control. Products tested have included organic-based sprays, various heat treatments, the use of various mulches and weed-suppressive perennial plants. Results of these trials showed that while there is no alternative product comparable to existing conventional chemicals for weed control - especially pre-emergents - a comprehensive approach including a combination of methods can go a long way in weed management. The agency will continue its evaluation of alternative weed management strategies – especially the use of certain mulches and the development of its comprehensive IPM weed management manual.

EXPANDING PUBLIC ACCESS TO DATA ON PESTS AND PESTICIDES

The Health Department’s NYC Environmental Public Health Tracking and Sustainability Portal (www.nyc.gov/health/trackingportal) allows the public to explore neighborhood-level data on a variety of environmental and health topics including pests and pesticide use in NYC. The portal can be used to create reports, tables, charts and maps of the prevalence of cockroaches or bed bugs in the home, mice or rats inside or outside the home, personal use of pesticides and the frequency with which a pest control professional visit the home. The use of “best practice” pesticides by state-certified applicators, in addition to the use of other pesticide products is also summarized. The data is presented by neighborhood, allowing users to compare conditions in their neighborhood to surrounding ones, the borough, and the city as a whole and can be used to assess neighborhood environmental public health issues and to aid in prioritizing resources.