

School Facility Managers Realize Sustainable Pest Control Benefits

School facility managers across the United States have found that Integrated Pest Management (IPM) is a sustainable, proactive and effective way to deal with pests. IPM saves them time, effort, and money—all while creating healthier learning environments for students.



IPM HELPS SALT LAKE CITY SCHOOL DISTRICT REDUCE PESTICIDE USE BY 99 PERCENT.

Before it implemented IPM, the Salt Lake City school district approached pest management by applying pesticides monthly in its 36 school facilities. With Mervin Brewer, assistant custodial supervisor, leading the IPM effort, the district has handled several pest issues. After 2009, with in-house pest monitoring and improved pest and pesticide reporting, there have been fewer than 50 targeted pesticide applications in the entire district, which is a 99 percent reduction in pesticide use. Once the district adopted IPM and conducted in-house pest monitoring and pest-related maintenance activities, expenditures dropped tremendously. Since July 2008, the school district has saved over \$160,000 with its IPM program.



Salt Lake City reduced rodent problems by sealing entry points such as pipes and cracks/holes in walls.

Photo: Mervin Brewer, SLCS, UT



MANATEE COUNTY SCHOOL DISTRICT REDUCED PESTICIDE COSTS BY 50 PERCENT.

Florida's Manatee County uses IPM for its 60 school facilities, grounds and athletic fields, providing 49,000 students with healthy learning environments. By implementing IPM, the district reduced pesticide use by 80 percent and reduced pesticide expenditures by 50 percent. The facilities team inspects and monitors for pests and pest-conducive conditions. Teachers have learned to store their food in plastic containers with tight-fitting lids. This has reduced the amount of food in the classroom, resulting in fewer ants and cockroaches. The facilities team treats fire ant mounds during the summer when students are not in school. Before the fire ant control initiative, some 400-500 students in the district would need medical treatment for fire ant stings annually. This approach has resulted in fewer stings and reduced student exposure to the pesticides used for fire ant control.



Red imported fire ant mounds: MCS, D proactively treats fire ant mounds during the summer when students are not in school. This approach has resulted in fewer fire ant stings.

Photo: Imported Fire Ant Station, USDA APHIS PPQ, Bugwood.org



PENNSYLVANIA'S UPPER MERION AREA SCHOOL DISTRICT EMBRACES IPM AS SUSTAINABLE APPROACH TO PEST CONTROL.

With over 15 percent of the school district's 4,000 students diagnosed as asthmatic, reducing asthma triggers is of paramount importance to the Upper Merion School District. Fred Remelius, facility manager, regularly reminds staff that

both mice and cockroaches are significant asthma triggers that can be reduced with IPM. Even with an effective IPM program in place, mice in older facilities are one of the more challenging pest issues. Ultimately, the district's maintenance staff followed mouse trails to find entry points, seal the holes, and close all other gaps in the building, significantly reducing mouse problems.



Boxelder bugs clinging to the outside of a classroom window were vacuumed off without the application of pesticides.

Photo: Fred Remelius, UMSD, PA



MAINE'S GEORGE STEVENS ACADEMY SAVES \$10,000 ANNUALLY BY REDUCING UNNECESSARY PESTICIDE AND FERTILIZER USE.

Prior to adopting IPM, the school contracted for its field maintenance, fertilizer and pesticide applications. Buzz Moore, grounds manager, questioned why the contracted company was repeatedly adding lime to the athletic fields. He

soon learned the company had never tested the soil to assess nutrient and pH levels. Soil samples that Mr. Moore ordered showed the school fields did not need the lime applications. The school had also been paying \$2,500 per pesticide application to control Japanese beetle grubs. After the grounds staff received IPM training and obtained their state pesticide applicator licenses, the academy was immediately able to reduce the number of pesticide and fertilizer applications. The grounds team now regularly tests the soil and monitors for insect pests. The proactive IPM strategy saved the school \$11,000 in the first year and over \$10,000 each subsequent year.



George Stevens Academy saves thousands of dollars on ineffective pesticide and fertilizer applications.

Photo: Buzz Moore, GSA, ME



COLORADO'S JEFFERSON COUNTY PUBLIC SCHOOLS SEE IMMEDIATE REDUCTIONS IN PESTS AND PESTICIDE USE WITH IPM.

This district of 155 schools has achieved tremendous pest management success since implementing IPM. Under the leadership of facility manager Thomas Riggle, the district saw a 90 percent

reduction in pesticide applications and eliminated indoor pesticide spraying one year into its IPM program. Installing door sweeps has drastically reduced pests entering buildings. With IPM, the district has spent 50 percent less on pesticides and pest control.

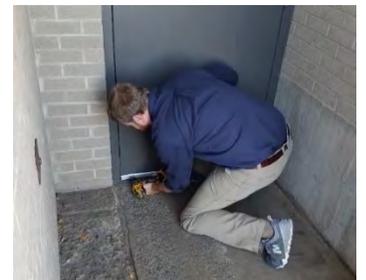


Photo: Thomas Riggle, JCPS, CO



MAINE'S CAPE ELIZABETH SCHOOL DISTRICT REDUCED PEST MANAGEMENT COSTS WITH IPM. According to Greg Marles, director of facilities and transportation, the biggest challenge in implementing IPM was the initial cost. The district attributes its successful implementation to *School Dude*, the IPM tracking system. The system tracks pest inspection and monitoring data, including locations and dates of pest evidence, as well as pesticide application data. This information has reduced all pest management costs. With IPM, the entire district of 1,800 students is on a maintenance plan that keeps it ahead of pest issues.



Cape Elizabeth SD sealed all spaces between building foundation and steps to block entry into school buildings.

Photo: Greg Marles, CESD, ME



FLORIDA'S MANATEE COUNTY SCHOOLS SOLVE CHALLENGING BIRD PROBLEMS WITH IPM. Under the guidance of Dan Lisenko, IPM coordinator and grounds manager, the district's 60 facilities have implemented IPM in their buildings and on their playing fields. The county faced many bird-related issues, including sanitation and safety. To tackle the problem, the district invested \$300,000 over two years to initiate a bird management program. The cost was spread over 60 schools. After the initial investment, program costs were dramatically reduced to less than \$60,000 in the next two years. Mr. Lisenko has shared his bird control tips with other school districts, helping them address pressing issues quickly while putting into place a long-term, IPM-based plan.



Manatee County solved the problem of birds nesting atop field lights by building osprey nesting platforms a safe distance away from the lights and adding nesting deterrents above the lights.

Photo: Dan Lisenko, MCSD, FL



KILLEEN INDEPENDENT SCHOOL DISTRICT USES IPM TO GIVE STUDENTS HEALTHIER LEARNING ENVIRONMENTS. Located in Texas, the district serves 43,000 students with 6,200 employees. The facilities manager led the transition to IPM by starting a new cleaning process and adopting the *School Dude* recordkeeping platform. When the district found that the *Breakfast in the Classroom* program was increasing pest problems, it replaced classroom carpet with tile, which is easier to clean. The change led to fewer pests and less pesticide use. Outdoors, roosting swallows created filth, especially under the sports bleachers and stadium. Cleaning and retrofitting of netting under these locations was required to deter thousands of birds. Ever resourceful, the district enlisted the support of local social services to resolve a student's unique bed bug challenge.



Cleaning and installing netting under the Killeen ISD stadium to deter thousands of roosting swallows.

Photo: Paul Duerre, KISD, TX



MAINE’S OXFORD HILLS SCHOOL DISTRICT BOASTS 16 YEARS UNDER THE IPM UMBRELLA. Since 2003, the district has had an IPM program for its 11 schools and 3,400 students. Nelson Baillargeon, facilities director and IPM coordinator, and his team focus on preventative maintenance such as sealing holes where pests find their way into buildings. They recognized the importance of installing and maintaining door sweeps to exclude rodents and cockroaches. When challenged by recurring pests, like ants, hornets and yellow jackets, everyone, including teachers, helps look for these pests’ food sources and points of entry. The IPM team follows up to resolve any immediate threats and eliminate the pest-conducive conditions to provide a sustainable solution.



Facilities staff placed caution tape and a sign around the area: “Caution Ahead: Bees at Work.”

Photo: Nelson Baillargeon, OHSD, ME



PATERSON PUBLIC SCHOOL DISTRICT BENEFITS FROM COMPLIANCE WITH NEW JERSEY IPM LAW.

The New Jersey district started implementing IPM in 1989 to address pest-related challenges in its 54 schools. According to Steven Morlino, executive director of facilities management, the district increased communication about pest issues and eliminated baseboard pesticide treatments. They focused on improving sanitation, maintenance, pest exclusion and pest monitoring. IPM staff inspect and monitor every building every other week, report findings and take IPM-based actions. To comply with the state’s IPM law, teachers are not allowed to bring in over-the-counter pesticides. IPM training helped staff solve a challenging and persistent raccoon problem by discovering and securing the propped doors that were providing entry.



A Paterson school door propped open with a garbage can entice pests, like raccoons, to enter the school and make themselves at home. This practice is rectified through IPM education.

Photos: Steven Morlino, PPSD, NJ; Raccoon - Mark Hardin, HCPSS, MD



ROSS VALLEY SCHOOL DISTRICT USES IPM TO TARGET PEST PROBLEMS.

Located in Marin County, California, the K-8 district comprises five schools with 2,200 children. In keeping with California’s Healthy Schools Act, the district has adopted IPM as its way of dealing with pests. For rats and mice, staff follow their trails and apply targeted management tactics. Gophers, whose holes in playing fields can injure students, are their most significant outdoor pest. A private wildlife control team monitors for gophers and traps them as needed. Educating teachers and staff to reduce clutter is a preventative measure used to decrease incidence of black widow spiders, which seek out cluttered spaces.



Gopher holes in playing fields can directly result in sports injuries. The district hired a private wildlife control team to conduct every-other-week monitoring and trapping. *Photo: Gopher, like many that inhabit the California hills surrounding Ross Valley School District; WA State F & W.*

MONROE COUNTY COMMUNITY SCHOOL CORPORATION REALIZES LONG-



TERM SUCCESS WITH IPM. This Indiana school district quickly realized a 90 percent reduction in pesticide use, pest complaints and pest control costs after it began its IPM program. Dean Waldenzak, environmental/energy specialist, said they began by sealing school buildings to exclude pests, which also reduced energy consumption. MCCSC also developed regular pest inspection and monitoring protocols for high-pest areas such as kitchens. A major bed bug problem led them to develop the [MCCSC IPM Plan for Bed Bugs](#) to deal with bed bugs hitchhiking into their schools. It includes procedures and advice on targeted interventions for even rare and extreme bed bug cases.



An effective kitchen IPM inspection requires getting down on hands and knees to peer under appliances.

Photo: Dean Waldenzak, MCCSD, IN



HOWARD COUNTY PUBLIC SCHOOL SYSTEM PROTECTS STUDENTS FROM PESTS AND REDUCES PESTICIDE USE THROUGH TOTAL TEAM EDUCATION AND ENGAGEMENT. HCPSS in Maryland faces challenges each year, from pest pressures to utilizing the limited amount of available funds to make its schools safe, healthy

and clean learning environments for its 57,967 students. With use of IPM, HCPSS can keep its 77 schools free from pests and pesticide residues. At HCPSS, training and total team engagement is essential. The custodial and kitchen staff are all trained, and staff and students are encouraged to be involved in reporting pests and sanitation issues. The kitchen staff plays a significant role in IPM programs by maintaining a high level of sanitation and keeping kitchens free of pest harborages, water and food sources – all the way to the dumpsters. Using the *School Dude* program, they report pest problems and maintenance issues.



Fence posts that formerly contained a wasp nest near a playing field, are now sealed.

Photo: Mark Hardin, HCPSS, MD

HCPSS's IPM specialist, Marci Hardin, has been involved in providing IPM in sensitive environments for over 20 years. She often needs to provide special IPM instruction on how to contend with vertebrate pests, such as racoons, birds and foxes. Ms. Hardin remarks that wildlife is part of the environment surrounding their schools; therefore, the schools are part of their environment. Understanding pest biology and behavior is essential to determining when control is necessary. Stinging insects such as wasps and yellow jackets are problematic in the school setting and will build nests in holes and voids, even behind the letters on school buildings, in sign post holes, chain-link fence posts, and along moldings. Exclusion, including sealing, is essential.

Marcia Anderson is with the Environmental Protection Agency's Center for Integrated Pest Management. She holds a Ph.D. in Environmental Management, along with degrees in biology, environmental design, landscape architecture, and education. Dr. Anderson is a New Jersey licensed tree expert and was formerly a professor of geology and Earth and environmental studies for 15 years at three New Jersey universities.