

US EPA ARCHIVE DOCUMENT

**Implementing Verifiable School IPM Program in the Orleans Parish School System,
a Collaborative Effort**

City of New Orleans Mosquito, Rodent, and Termite Control Board

Completed – Awaiting Final Report

Project Period May 2012 – November 2014

Funding \$113,570 awarded - \$113,570 expended = \$0 (0%) remaining

Progress on Objectives

Reduce human exposure, particularly in children, to harmful pests by 60%

- Pest logs and posters of IPM principles placed throughout participating schools
- Workshops and seminars conducted for parents and community members

Reduce human and environmental exposure to pesticides by 40%

Pilot Schools

- Henry Schaumburg Elementary
 - Pest-proofed school - closed external openings, improved organization/decreased clutter, and improved sanitation
 - All IPM-related projects completed
- John McDonogh High
 - Before being closed for renovations, IPM improved the pest problems while limiting pesticide exposure to such a great degree that it was covered by NPR, and inspired a visit from EPA AA Jim Jones.
- Mildred Osborne Elementary
 - Excellent example proactive pest management. Sanitation efforts and overall good school condition kept pests to a minimum and resulted in little pesticide use.
- Federal City High
 - Add-on to original project. Developed and began implementing IPM Plan. Eliminated termites and began pest monitoring.
- For all schools
 - baseboard treatments eliminated
 - only targeted pesticide applications made
 - baits and insect growth regulators preferred and used whenever possible.
 - IPM coordinators became licensed pesticide applicators
 - pest pressure monitored and recorded

Adoption of verifiable school IPM program to be implemented in all Orleans Parish schools, bringing them into compliance with the Louisiana Department of Agriculture and Forestry school IPM laws

- Model IPM plan that meets state requirements drafted for Orleans Parish Schools
- Trainings conducted for school staff, teachers, students, administrators, and pest management professionals.
 - Workshops, seminars, and advanced trainings offered to local school officials, Division of Health and Hospital sanitarians, and pest control operators
 - On-site trainings with custodial and kitchen staff at demonstration schools
 - Two “Write Your IPM Plan” workshops conducted
- Growing number of schools requesting assistance and foundation for reaching all schools has been developed.
- Training will be developed and offered to IPM coordinators to become certified school employee applicators.

**The Midwest United States Consortium –
Expanding Verifiable Integrated Pest Management in Public Schools**

Improving Kids Environment, Inc.

Completed – Awaiting Final Report

Project Period	May 2012 – January 2015
Funding	\$249,936 awarded - \$249,936 expended = \$0 (0%) remaining
<i>Progress on Objectives</i>	
<i>Expand the existing IPM coalitions in Indiana and Ohio to include critical change agents. Hold train-the-trainer events to build capacity to provide technical assistance to schools on IPM practices.</i>	
<ul style="list-style-type: none"> • Expand the existing school IPM coalitions <ul style="list-style-type: none"> ○ OH Coalition created – blog added to the OSU website to facilitate discussion ○ OH and IN Coalitions continue to add members • Convene IN and OH School IPM Coalition meetings at least semi-annually <ul style="list-style-type: none"> ○ Completed – continue to also communicate regularly through newsletters and teleconferences 	
<i>Increase school facility managers' general knowledge of safer pest management practices through nationally developed and distributed education materials (Pest Presses) and coalition-sponsored free educational workshops open to all schools in both states, developed with the input of school IPM leaders and IPM experts.</i>	
<ul style="list-style-type: none"> • Built email list for superintendents and facility managers/maintenance supervisors for all IN school districts and all OH school district superintendents <ul style="list-style-type: none"> ○ Pest Presses distributed regularly ○ Videos and posters produced and distributed • Distributed North Central IPM Center's survey on pest management practices to IN Coalition schools • Held multiple trainings, presentations, and meetings throughout IN and OH 	
<i>Successfully pilot IPM in 10 demonstration schools in Indiana and Ohio, leading to the eventual adoption of full-scale, verifiable IPM practices that reduce pest complaints and pesticide use by 70-90% in those school districts within three years.</i>	
<ul style="list-style-type: none"> • Established full-scale verifiable school IPM in 10 demonstration schools • Continue to support 9 of the 10 schools (one withdrew but continues to practice IPM) 	
<i>Participate in the development of national pest management software, training modules, measurement instruments and standards, leading to nationally recognized measurement, verification and certification of IPM in the school environment.</i>	
<ul style="list-style-type: none"> • IN demonstration schools started or completed the IPM Cost Calculator • OH school began IPM Star Certification and IPM Cost Calculator and is developing a series of short school IPM films 	

A School IPM Consortium Reaching One Million Children

University of Florida

Snapshot – February 2015

Project Period	May 2012 – April 2015
Funding	\$244,372 awarded - \$224,226 expended = \$20,146 (9%) remaining
Progress on Objectives	
<i>Implement IPM in each consortium state, adding 194,601 children; 25,040 staff and 221 schools to existing programs</i>	
<ul style="list-style-type: none"> • Objective achieved <ul style="list-style-type: none"> ○ Continue to offer assistance and training to stakeholders and school personnel ○ Provided comprehensive IPM support to pilot schools ○ Distributed monthly Pest Presses and bed bug information ○ Updated the UFL National School IPM website ○ Invited to serve on Florida Dept of Education Green Ribbons selection panel – nothing charged to the grant for this work, but involvement in Healthy Schools initiative due to grant 	
<i>Provide maintenance training for schools, other agencies, and pest control associations actively supporting IPM implementation</i>	
<ul style="list-style-type: none"> • Fielding numerous request for pest control assistance • Held a large amount of training courses – including Foundations of General Household Pest Management, Foundations of Termite Management, School IPM, and IPM Certification 	
<i>Complete best management practices (BMPs) for schools where services are outsourced with applicability to in-house pest control</i>	
<ul style="list-style-type: none"> • Completed 	
<i>Share programs for continuing education credits (CEUs) and other program information with consortium states and other regional and national coalitions.</i>	
<ul style="list-style-type: none"> • Completed and continues beyond commitments of the grant project plan 	
<i>Florida survey complete for every school district except Miami and Palm Beach.</i>	
<ul style="list-style-type: none"> • District-level survey data and school inspection data are summarized and being analyzed, trends are emerging 	

Expanding IPM in Wisconsin: Using the CESA Model

Cooperative Educational Service Agency (CESA) 10

Completed - Project Summary of Final Report Below

Project Period	May 2012 – April 2014
Funding	\$49,205 awarded, \$49,205 expended = \$0 (0%) remaining
Progress on Objectives	
<p><i>Collect baseline behavioral data from 100% of current partner districts (84) regarding what they are presently doing regarding IPM, in the first six months of the project before any site activities begin and compare it with behavioral data collected in month 24 of the project.</i></p> <ul style="list-style-type: none"> Completed with 101 respondents (17 more districts than the goal). Information critical in determining the best strategy for IPM implementation. 	
<p><i>School districts not presently contracting with CESA 10 for environmental, health and safety services will contract with CESA 10 in order to obtain IPM services (increasing partnerships).</i></p> <ul style="list-style-type: none"> 26 new districts contracted with CESA 10, in part due to the IPM services offered. CESA 10 now has direct access to >25% of Wisconsin school districts. 	
<p><i>Reduce pesticide use in targeted school districts by implementing verifiable IPM.</i></p> <ul style="list-style-type: none"> CESA 10 consultants worked with contracted districts to facilitate chemical inventories, chemical removals, safety data sheet generation, training, hazard communication program development, as well as making their chemical inventories available online. This work continues beyond the conclusion of the grant. CESA10 education and communication efforts led many districts to remove chemicals they are not licensed to apply and/or no longer use. Maintenance/custodial and all staff trainings on IPM were held throughout the state for all contracted clients. >50% of contracted districts received training prior to the 2013/2014 school year. Additional IPM training by CESA 10 or online by SafeSchools Training, a CESA 10 partner, is always available. 	
<p><i>Reduce the amount of pesticides stored in schools and released into the environment.</i></p> <ul style="list-style-type: none"> Through education and adherence to the WI regulations, many pesticides were removed through WI Clean Sweep Programs, especially in districts without a certified applicator on staff. During the IPM kick-off everyone was introduced to an online directory of the least hazardous chemicals which is included as general information in their binder templates. Sample specifications and contracts for outsourcing application were also included. This was also updated and sent out in 2013 to all customers. 	
<p><i>Assist school districts in creating written policies and procedures regarding pesticide use that meet or exceed the requirements in state regulation 94.715 —Pest Management for Schools during year one.</i></p> <ul style="list-style-type: none"> From the survey they identified where opportunities for improvement existed (~ 50% of clients). Wisconsin Department of Public Instruction implemented an Indoor Environmental Quality program for WI districts in 2012. Within that program was a host of policies, including IPM. CESA 10 wrote 50+ plans and continues to assist contracted districts to ensure that plans meet the statute. The binder distributed during the IPM kickoff contained documents including templates of written policies and procedures. Going forward, IPM trained consultants continue the activity by offering sample policies and procedures in their quarterly on-site meetings with CESA 10 customer districts. 	
<p><i>Increase the number of contracted school districts (84) that have at least one person state trained in —Wisconsin Pesticide Applicator (Schools) by the end of the project period.</i></p> <ul style="list-style-type: none"> Assisted staff from 38 school districts (exceeded the goal of 32) in becoming certified pesticide applicators. financial support and education as to the importance of the certification. 	
<p><i>Increase the number of in-state school specific IPM training opportunities during the project period.</i></p> <ul style="list-style-type: none"> Kick-Off meetings held in January and August 2013. Distributed IPM information and presented at the WI Association of School Business Officials State Education - Convention (Jan, 2013), Facilities Conference (Feb. 2013), Spring Conference (May 2013), and Fall Conference (Oct. 2013) and Spring Conference (invited for Spring 2014). Getting IPM to be a REGULAR topic at these conferences (to the point where they invite IPM experts and topics as opposed to other topics that compete to present) is a major culture change and a significant outcome for the grant. Presented at Buildings and Grounds meetings March 2013 and Spring 2014 Buildings and Grounds meetings reaching 86 facilities/buildings and grounds staff from 67 districts, General Safety Training presented at the start of each school year now includes IPM as a topic (as requested by 106 contracted clients statewide—over 50% of districts requested and received in 2013/2014) 	

**The Pacific Northwest School IPM Consortium:
Expanding Verifiable Integrated Pest Management in Public Schools**

Washington State University

Snapshot – December 2014

Project Period	June 2012 –May 2015
Funding	\$250,000 awarded - \$229,648 expended = \$ 20,352 (8%) remaining
<i>Progress on Objectives</i>	
<i>Measure school IPM implementation in Washington and Oregon using an online survey tool.</i>	
<ul style="list-style-type: none"> WA - 132 districts (44% of total districts and 62% of students in the state) responded that 54% have a written IPM policy or plan and designated IPM coordinator. OR - 165 districts (84% of total districts) responded that 82% have a written IPM policy or plan, and 95% have a designated IPM coordinator. 	
<i>Form a regional PNW IPM Consortium of stakeholder organizations to coordinate implementation of proven approaches for school IPM adoption.</i>	
<ul style="list-style-type: none"> Expanded the Western Region School IPM Work Group to form the Pacific Northwest IPM Consortium and held four meetings. 	
<i>Provide education to PNW Consortium members and other change agents.</i>	
<ul style="list-style-type: none"> Change Agent Practicum was held in April 2013. Attendees learned about EPA's School IPM CoE and the Children's Environmental Health Program and took a virtual walkthrough to assess the indoor air quality in schools. Participants learned how IPM interacts with the school environment and directly impacts student health and achievement. Perspectives were shared from the viewpoints of pest management, risk management, operations and maintenance, education and outreach to school administrators and staff, and health and safety of students and staff. Each participant developed school IPM action items to complete. EPA Region 10 invited the OSU and WSU School IPM Programs to present on School IPM at their Director's Meeting (an annual meeting between EPA Region 10 pesticides staff and directors of pesticide programs from State Lead Agencies (SLAs) from Alaska, Idaho, Oregon, and Washington). Carrie Foss and Tim Stock presented the results of the online survey and gave an overview school IPM work in each of their states. They also presented on take-aways from the Consortium Strategic Planning, and participated in a discussion on how State Lead Agencies might support school IPM. 	
<i>Provide hands-on training for IPM implementers at the school district level.</i>	
<ul style="list-style-type: none"> Thus far 28 training opportunities have been offered in Washington and Oregon, including IPM coordinator trainings, rodent academy, working sessions, and training held at coalition events. 	
<i>Provide IPM information to teachers, support staff, department of education, parents and administrators.</i>	
<ul style="list-style-type: none"> 12 pest presses distributed to all Washington and Oregon school districts NPIC staff (via OSU Extension Services) developed a web-based app for school district staff to access on their smart phones. The app can also be accessed using computers. The app provides links to both the OSU and WSU school IPM websites (each housing the PNW Pest Presses and other IPM resources), as well as key national resources. The app can be accessed at http://ace.orst.edu/pnwsipm/ 	
<i>Verify IPM implementation status using the IPM STAR assessment program</i>	
<ul style="list-style-type: none"> Marysville School District: New to IPM Start – assessment conducted Bellevue School District: Recert – Assessment conducted and then awarded recertification Kelso School District: Assessment and evaluation, certification is pending Evergreen Public Schools: Assessment and evaluation, draft report returned to school Seattle Public Schools: Carrie Foss met with personnel to start certification process (WA's largest school district) Lake Washington School District: Assessed and certification pending Mukilteo School District – Evaluated for IPM Start Certification Tom Green trained Becky Maguire (WSU Urban IPM & Pesticide Safety Program) to conduct future IPM Star assessments 	
<i>Improve IPM recordkeeping and pest management evaluation in school districts.</i>	
<ul style="list-style-type: none"> Did prep work to test iPestManager in interested schools – Unfortunately, it will not be ready for testing during the project period. 	
<i>Diffuse the Pacific Northwest School IPM implementation model to other regions.</i>	
<ul style="list-style-type: none"> Consortium presented regularly to share ideas and diffuse information to stakeholders in other regions. 	

Expanding Verifiable Integrated Pest Management in Colorado and Utah Public Schools

Colorado State University

Snapshot – December 2014**Project Period** June 2012 –May 2015**Funding** \$248,000 awarded - \$211,869 expended = \$36,131 (15%) remaining***Progress on Objectives******Increase the probability of successful SIPM implementation through improved understanding of school culture, opportunities, human health and environmental concerns, and readiness for change.***

- School IPM information distributed regularly via newsletters, emails, and blog. Monthly newsletters are sent to school districts in CO, the School IPM websites in UT and CO have been updated, and the “healthy communities” blog has weekly posts. Pest Presses have been translated into Spanish and made available via the web. School IPM website developed in UT and updated in CO ; Number of people receiving monthly newsletter doubled in 3 months, requests for newsletter increased in response to survey and various presentations
- Data from 50 interviews with school district personnel and key stakeholders were analyzed to determine community readiness and the best strategy forward. The results were presented at the National Conference on Urban Entomology and the National Healthy Homes Conference.
- Surveys of pest management practices to determine IPM readiness were completed by 84% of CO districts in and 46% of UT districts
- Interviewed pest control operators in CO and UT - interview with retiring IPM coordinator from Denver Public Schools posted on YouTube
- CO Focus Group completed – decided best route forward was personal interviews with key stakeholders in participating schools

Demonstrate best IPM practices by conducting on-site assessments using established IPM measures; providing customized and targeted training in two school districts in each state; and collaborating with other states and regions in methodology and educational outreach

- On-site assessments conducted at 2 districts in UT and 3 districts in CO
- Multiple educational sessions held with school stakeholders. UT – the six pilot schools are visited monthly. CO - state school IPM meeting held in June 2014.
- School districts attended a turf management workshop in August 2014 in Boulder, CO.
- As of September 2014, Utah State University Extension is planning 17 SIPM workshops, in connection with the new state law
- Two, 1-day workshops in each state; training with facility managers and Environmental Risk Officers in Front Range school districts.
- Presentations made at the Green Schools Summit, CO Environmental Health Association, CO Alliance of Environmental Educators, and at Affordable Comfort Inc. National conferences and educational/poster sessions held at state-wide meetings.
- 8 day-long workshops held in Utah with school stakeholders

Evaluate decision-making tools to substantiate costs of IPM

- Salt Lake City School District is piloting [iPestManager](#) version 2.
- Goal: Update iPestManager software tracking and reporting tools and pilot test.
 - Programming work on iPestManager web-application is complete

The portion of the grant that went toward creating and testing iPest version 2 (to SLCSO) cannot be completed due to the depletion of funds and difficulty with program portability. The full budget that was to be used for both version 2 development, implementation, training, support, and testing was taken up completely by expensive programming fees (that were, unfortunately, the cheapest available) and a few minor setbacks in the programming process. While version 2 is ready, BETA testing won't occur until after the project period.

Increase diffusion of verifiable SIPM adoption and implementation and through collaboration with stakeholders (including landscape professionals, pest management professionals and public health workers), partners (school districts), state and multi-state meetings and a Region 8 coalition.

- Several CO Coalition meetings were held with different focuses. Several videos from the meetings, including a school pest inspection, are available at <http://ipm.agsci.colostate.edu>
- Conference calls are regularly held between Colorado and Utah partners and Region 8 EPA personnel.
- New tools are in development, including a website link to help coordinators with pest identification on sticky traps and a School Pests pocket guide.
- 19 YouTube videos on pest problems were posted.

Building on Success: Expanding Efforts to Implement Integrated Pest Management in Michigan and Indiana Schools

Michigan State University

Snapshot – November 2014

Project Period	January 2014 – December 2015
Funding	\$158,518 awarded - \$66,800 expended = \$91,718 (58%) remaining
<i>Progress on Objectives</i>	
<i>Build a Bi-state School IPM Coalition for Michigan and Indiana that will be supported by the following activities: develop a School IPM website and produce quarterly newsletters.</i>	
<ul style="list-style-type: none"> • Newsletters <ul style="list-style-type: none"> ○ Michigan School Officials (MSBO) association was contacted and will provide to its members: <ul style="list-style-type: none"> ○ A request to join a Coalition listserv to receive newsletters and other school IPM updates ○ The 1st Coalition School IPM newsletter ○ Indiana's Coalition is led by Improving Kid's Environment which is distributing a monthly School IPM e-newsletter from the IPM Institute and others to its 300+ member e-mail list. • Website – Michigan State University Pesticide Safety Education Program website was reformatted to (1) include a subscription listserv for applicators to announce upcoming programs/training/webinars and (2) distribute School IPM news. Continuous efforts will be made to make it more user-friendly. 	
<i>Modify and improve the education and verification components for the online certification process required of individuals in Michigan who participate in IPM activities in schools.</i>	
<ul style="list-style-type: none"> • The Michigan Department of Agriculture and Rural Development is developing a more appropriate and interactive online training experience about IPM for pesticide applicators who conduct pest management activities in schools, day care centers, public schools and health care facilities. • Outlined new training modules. 	
<i>Focus on underserved communities by choosing schools from large urban school districts to be used as demonstration schools. Cities that will be targeted will include, but not limited to, Detroit, MI and Indianapolis, IN.</i>	
<ul style="list-style-type: none"> • Michigan <ul style="list-style-type: none"> ○ The Michigan Department of Agriculture and Rural Development is providing a list of schools that are not in compliance with Michigan law (anyone who applies pesticides to schools must receive verifiable training in IPM) and shows a need for help with their IPM program. ○ Saugatuck Public Schools (40% of students receive subsidized lunches) has agreed to work with Michigan on IPM in their buildings. • Indiana <ul style="list-style-type: none"> ○ Improving Kids Environments is working with Indianapolis Public School District on their School IPM demonstration. An inspection of the exterior of Joyce Kilmer Academy was conducted and follow-up recommendations provided. 	
<i>Link any School IPM program materials developed to other Healthy School Programs, where appropriate.</i>	
<ul style="list-style-type: none"> • Improving Kids Environments held two Healthy Schools trainings in June 2014. Their materials and lessons learned will be applied to this grant. 	

iSchool Pest Manager Project – School IPM Enhancement Program

Texas A&M AgriLife Extension Service

Snapshot – November 2014

Project Period October 2013 – September 2015

Funding \$249,218 awarded - \$74,286 expended = \$174,932 (70%) remaining

Progress on Objectives

More efficiently and effectively deliver information and resources on School IPM to end-users

- Drafted a spreadsheet with the contacts and resources for each state, region and national effort. The next draft will incorporate each state's fact sheets, policy statements, inspection sheets, etc.
- Drilldown Phase 2 spreadsheet – coding of resources that will have school/childcare IPM documents organized and sorted for the mobile app/website
- Obtained the www.ischoolpestmanger.org domain.
- Will build a website and mobile app that will be housed on the Oregon State University servers. Website will have limited information, old information (dated 5-7 years in the past) will be rotated off. Oregon State University will maintain the website after the life of the grant.
- The new eXtension model website was accepted by the Extension Committee on Organization and Policy (ECOP) to serve 38 premium members and 20 basic members

Foster greater knowledge and awareness of School IPM

- Hosted an eXtension Urban IPM workday with ~50 participants in conjunction with the National Conference on Urban Entomology.
- Proposal for a School IPM session on technology, including iSchool Pest Manager, was accepted for the March 2015 International IPM Symposium.

Increase adoption of School IPM in US schools

- Posted a blog about [Sustaining a School IPM Program, What Do You Need to be Successful?](#)
- Received a Southern Region IPM Center Enhancement Grant to develop a low-cost IPM curriculum for public schools and municipalities. The project will provide the iSchool Pest Manager project a central host for course material and the ability for certain states to offer CEU credit.

Building Sustainable School IPM Inside and Out:

Developing and Implementing Standardized Training Materials and IPM Proficiency Exams for Certification

Arizona Board of Regents – The University of Arizona

Snapshot – January 2015

Project Period February 2014 – January 2016

Funding \$250,00 awarded - \$76,004 expended = \$173,995 (70%) remaining

Progress on Objectives

A development workshop tentatively planned for Dallas in March 2014 including the principal investigators, support staff, EPA staff, and others to finalize performance objectives, training curricula and certification/certificate mechanics.

- A 2-day strategy meeting ([supporting documents](#)) was held in September, 2014 in Dallas, TX.
- Submitted a request for time during the 8th International IPM Symposium, March 2015.

Detailed and comprehensive performance objectives for each key IPM role in K-12 schools

- Drafted and sent for review the Business Model.
- Performance objectives verified by stakeholders with feedback regarding learning objectives from their prospective area: 34 custodians, 25 landscape and grounds staff, 47 school nurses, 3 facility managers, 15 teachers.

Standardized curricula to train individuals in each key role to achieve the performance objectives, available online and through training workshops offered by proficient instructors.

- [Generic School IPM lesson plan template for facility managers](#) completed and out for review.
- Teachers module developed: All-hands introductory materials, custodians, landscape and grounds, school nurses, teachers, facility managers
- Proficiency tests developed for (1) All-hands introductory materials and (2) pest management professionals
- Performance objectives verified by stakeholders:
 - Due to poor initial response, a second request was sent to teachers for performance objectives verification. School administrators were sent a request to provide input on the learning objectives.
- Teaching modules developed for: administrators, food service, maintenance and nurses.

Sustainable program offering IPM certification and certificates for each key role.

- No update provided.

A train-the-trainer workshop to teach and qualify proficient trainers.

- Not planned yet

A Series of four pilot trainings to test, evaluate and refine the curricula and certification/certificate mechanics.

Pilot

- Teachers Modules
 - All-hands introductory materials 2 (Nebraska and Colorado)
 - Custodial 1 (Nebraska and Colorado)
- Proficiency tests
 - All-hands introductory materials 2 (Nebraska)
 - Custodial 1 (Nebraska)
- Feedback reports generated for 8 of the 9 groups

Active involvement of EPA regional and Center staff

- Stop School Pests poster presented at the Entomological Society of America Annual Meeting, November 2014.
- 8th International IPM Symposium March 2015 session submission has been accepted.
- Stakeholders involved in providing/distributing /training/tests