

THE HEALTHY BUILDINGS PILOT PROGRAM

IPM Focus on Multi-Unit Housing

A Pest Management Alliance Grant Project

Funded by the California Department of Pesticide Regulation

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Final Project Report

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EXECUTIVE SUMMARY AND RECOMMENDATIONS FOR FUTURE PROJECTS

The Bay Area Stormwater Management Agencies Association (BASMAA), a consortium of permitted municipal stormwater protection agencies in the nine San Francisco Bay Area counties, has a long history of effective promotion of integrated pest management (IPM), including the well-established Our Water Our World point-of-sale education program in local garden centers and hardware stores. Persistent challenges for stormwater permittees include reducing perimeter spraying with pyrethroids or fipronil to kill ants, as water quality studies show pesticides in the receiving waters of storm drainage systems; effecting behavior change among managers and residents of multi-unit residential buildings; and effective message delivery to individuals and companies that hire pest management companies.

Participating cities adopted the name “Healthy Buildings Pilot Program” for the project, as it was designed to address those stormwater pollution prevention challenges by combining *water quality messages* associated with outdoor use of pesticides with *public health messages* associated with indoor use of pesticides. Combining messages and targeting building owners, managers, residents, and pest management professionals (PMPs) led us to the elements of the project, which include

- Outreach to multi-unit building managers and residents about IPM and this pilot project
- Provision of IPM services to diverse pilot sites in least three municipalities for one year, with pre-and post-project surveys intended to demonstrate program effectiveness and point out areas for future improvement
- Additional outreach to neighborhood clinics and health centers, focusing on the causal relationship between pest infestations and asthma
- Outreach to property developers and architects based on San Francisco’s *Pest Prevention By Design Guidelines* (<https://sfenvironment.org/download/pest-prevention-by-design-guidelines>)
- Development of a continuing education training module for PMPs focused on IPM in multi-unit housing, for approval by the California Structural Pest Control Board
- Efforts to improve awareness of IPM certification programs for PMPs

The ambitious scope of the pilot project was made possible by the generosity of participating cities, University of California Cooperative Extension, and the Department of Pesticide Regulation—all of whom donated many staff hours to project planning, execution, and analysis. BASMAA is deeply grateful to these agencies and their staff members for their enthusiasm and dedication to this collaborative effort. Equally important, representatives of Pestec, the project’s IPM provider, were full partners in every aspect of the project. We all benefited from Pestec’s willingness to share their expertise and experience, and their commitment to the project and its goals.

Pestec’s and municipal staff’s work with participating buildings was the heart of the program. All or portions of 11 buildings in five cities participated, bringing a total of 101 residential units into the program. See Table 1 for a breakdown of ownership, management, and resident types.

In spite of a stream of foreseeable and unforeseeable problems along the way, building managers and tenants reported that IPM approaches effectively eliminated or vastly reduced pest sightings in most units in most buildings.

While managers and residents were receptive to the training workshops and materials we provided, exit interviews with owners and managers made clear that Pestec staff's friendly persistence and familiar presence over the course of the project were major factors in convincing residents to hold up their end of the bargain—implementing good housekeeping practices and informing building management if pests were found. See the building-by-building summary in Appendix 11 for details.

Recommendations for follow-on projects

The pilot project was a learning experience for all involved. As challenges arose, our understanding of the complex set of target audiences grew. We gained insight into how we might have planned and implemented the project to be more effective in reaching buildings with more severe pest management problems than the buildings that participated in the pilot.

New project objective: Develop and implement IPM approaches that will be successful in the most challenging settings. This will require a significant commitment to the project by participating municipalities and staff.

Focus on buildings with severe pest problems

- Thoroughly brief code enforcement and building inspection departments at the outset of the program, and agree on a local strategy for dealing with code violations and tenant complaints
- Develop a local strategy, based on state laws and local ordinances, for resolving bed bug problems when found
- Funding: Consider expanding the program by incorporating a city match for DPR funding. Budget realistically for 1) potential provision of pest exclusion repairs early in the program, and 2) accommodation of more buildings, as pest complaints diminish after a few months; as well as 3) city-sponsored (free to building owners and residents) cleanup days offered to all buildings early in the program
- Project proponents may need to make clear to budget decision-makers that this program is an important element of stormwater pollution prevention

Improve program participation (building identification and recruitment)

- At the outset of the program, increase educational effort for building owners, i.e., spend more time and effort recruiting buildings.
- Include training on *Pest Prevention by Design Guidelines*, incorporating materials developed by the City and County of San Francisco (see section 3c, below)
- Educate building owners about their responsibility under California law and local ordinances (this may fall to code enforcement or housing department staff in large municipalities)
- Involve owners and managers of pilot project buildings in promoting an expanded project

Anticipate challenges that work against a collaborative relationship between residents and building owners or management

- Language issues

- Fear of deportation following “exposure” to city government
- Illegal crowding related to the high cost of housing in the Bay Area

PILOT PROJECT OBJECTIVES

1. Project administration and management

The strength and dedication of the project team was consistent throughout the project. The team deserves all credit for the program’s success. Members of the team:

- Nita Davidson, DPR Grant Manager
- Geoff Brosseau, Principal Investigator
- Janet Cox, Project Manager for BASMAA
- Amanda Booth, City of San Pablo
- Michelle Daher, City of East Palo Alto
- Maree Doden, City of Palo Alto
- Samantha Engelage, City of Palo Alto
- Sraddha Mehta, San Francisco Department of the Environment
- Chris Geiger, San Francisco Department of the Environment
- Amber Schat, City of San José
- Andrew M. Sutherland, University of California Cooperative Extension Urban IPM Advisor
- William Quarles, Bio-Integral Resource Center
- Tara Cahn, Tara Cahn Architect
- Luis Agurto, Jr., Pestec
- Mikail Price, Pestec
- Lauren Wohl-Sanchez, Lauren Wohl Designs

Results

With submission of this report, we have met all reporting deliverable requirements. The project came in on budget largely because reduced pest infestations in participating buildings freed up resources.

We’re grateful to Andrew Sutherland for allowing us to use a web portal administered by the University of California Division of Agriculture and Natural Resources. We used the portal to store meeting notes and memorialize communication among members of the project team, and to post documents and resources. Access to the portal is available through Nita Davidson at the Department of Pesticide Regulation, at her discretion. Key messages and resources, including appendices to this report, are available on the project webpage on the BASMAA site.

Lessons learned

Perhaps because of the size of the project team or because many key participants were volunteering their time, BASMAA’s Project Manager and the Principal Investigator spent more time than was initially budgeted coordinating the various tasks and finalizing deliverables. In a subsequent project we would try both to budget more accurately and to plan to reduce the need for so much coordination, so that more resources will be available for delivery of pest management services.

Appendix 1: Pest Management Alliance application

Appendix 2: Quarterly and annual project reports

Appendix 3: Presentation to Pest Management Advisory Committee, November 10, 2016

2. Pilot the project in at least three municipalities

- After consultation with BASMAA member agencies, five Bay Area cities agreed to participate. City staff identified candidate buildings and their landlords, and sent recruitment letters on city letterhead. Letters attached hard copy applications and surveys, and (alternatively) linked to an online Google form. We budgeted to provide services to a total of 150 units in up to 15 buildings.
- Recruiting buildings to participate in the program, however, was much more difficult than we expected. Project team members thought a year of free pest management services would be a tremendous draw. This alone was not sufficient to attract enough participation. We identified several factors that prevented building owners from joining, including:
 - City staff were building owners' primary points of contact for the program; invitations to apply and participate went out on city letterhead. Project team members felt this was necessary in order to convey official approval of the program, but it likely signaled to owners that the program was regulatory (as well as advisory and free). A fact sheet about the program was included in the mailing.
 - In most cases, buildings proposed by owners were not heavily infested with pests. The exception was the buildings in East Palo Alto, which were flagged by the city, and whose owners understood that successful implementation of the program might help with ongoing issues with the city.
 - It may be the case, unfortunately for residents, that some owners of buildings with severe pest problems are simply not interested in resolving—or bringing attention to—those problems.

Results

The program included 101 units in 11 buildings in 5 municipalities. See Table 1.

Lessons learned

The approach most cities took to identifying candidate buildings—using a letter from the city to solicit known building owners with a letter from the city—was adequate, considering the budget and timeframe of the pilot project. Expanded projects post-pilot, however, will benefit from more labor-intensive recruitment strategies that stress landlords' legal responsibility to tenants and possibly involve building inspector and code enforcement departments.

The project team considered, and rejected, the idea of binding participating owners with memoranda of understanding with their respective municipalities. In most cases this was the correct decision. We surmise, however, that for landlords whose hearts aren't likely to be in the program, or in future projects where code enforcement is involved, MOUs might help secure cooperation from owners (such as inducing them to cancel ongoing scheduled spray contracts with providers of conventional pest management, for the duration of the IPM project).

Table 1: Participating buildings

City	Building	Type	Year built	Ownership	Management	No. units	Language(s)
East Palo Alto	EPA-1	Rent control	n/a	Private	Off-site	2	Spanish
East Palo Alto	EPA-2	Rent control	n/a	Private	Off-site	17	Spanish
Palo Alto	PA-1	Low income/ mkt rate	1953	Private	Off-site (by owner)	13	English/ Vietnamese
San Francisco	SF-1	Low income/ affordable	1909	Non-profit	Off-site	24	Chinese
San Francisco	SF-2	Low income/ affordable	n/a	Non-profit	Off-site	14	Chinese
San José	SJ-1	Market rate rental	1963	Private	Resident manager (first half of program)	4	Spanish, Vietnamese
San José	SJ-2	Market rate rental	1964	Private	On-site mgmt. office	4	Spanish
San José	SJ-3	Low income/ affordable/ market rate rental	1964	Private	On-site mgmt. office	5	Spanish
San Pablo	SP-1	Market rate rental	1968	Private	Off-site (by owner)	6	Spanish/ English
San Pablo	SP-2	Market rate rental	1968	Private	Off-site (by owner)	6	Spanish/ English
San Pablo	SP-3	Market rate rental	1968	Private	Off-site (by owner)	6	Spanish/ English
Total units						101	

Appendix 4: Sample recruitment letter and application and pre-project survey

Appendix 5: Program fact sheet

Note that one of the deliverables for this objective, the list of participating buildings, is on the password-protected UC ANR website but not included on the public website.

3. Reduce use of pyrethroids and fipronil by promoting IPM in multi-unit buildings

3a. Outreach to managers and residents

Project team members met to develop messages for building residents (our target audience), which we referred to consistently as we developed outreach materials.

After some deliberation by the project team, we decided to offer an introductory workshop, with food provided by the municipality, at each building site. We prepared the following materials for each event:

- Scripted slide presentation introducing the program, basic IPM approaches to managing common pests, and the importance of good collaboration between residents and management. Presentations were tailored to each city's participating buildings and prepared in English and Spanish. San Francisco used the English version with a City staff member translating and taking questions in Chinese.
- Sets of nine pest identification and prevention cards ("Pest cards"), tailored to the program, in English, Spanish, and Chinese
- "IPM Toolkits"—buckets containing cleaning materials, caulk, and other items (one kit for each building, to be borrowed by residents)
- A vacuum cleaner with HEPA filter for each building, to be borrowed by residents
- Cleaning cloths for each attending resident

Results

Events were well received and relatively well attended with the exception of San Pablo, where the owner-managers came but no residents were present. Luis Agurto, Jr. of Pestec took questions in Spanish when appropriate, and that worked well. In San Francisco, a bilingual San Francisco staff person translated into Mandarin for the many residents who joined us. The general atmosphere at these events was cordial and predictive of the good relations throughout the program term among city liaisons, Pestec, residents, and managers.

Lessons learned

Residents were mainly concerned about cockroaches. They were interested in hearing about and discussing family health issues associated with cockroaches in the home.

Serving food and having small gifts for residents in attendance may make the program seem less regulatory—which is probably helpful for residents, but perhaps not optimal for all owners and managers. In East Palo Alto, residents were eager to complain about the owners (who were present) and their unresponsiveness to complaints and willingness to let the buildings decay. City staff were paying close attention.

Appendix 6: Messages for target audiences

Appendix 7: Informational pest cards for building residents

Appendix 8: Contents of IPM toolkits distributed to building managers

Appendix 9: IPM Workshop slide presentation in English and Spanish

3b. Provision of IPM services to participating buildings for one year

Kickoff events were followed by Pestec’s initial inspection visits to each building. Subsequently Pestec technicians visited buildings on a regular, noticed schedule.

Pestec technicians produced two automated reports for each building: a photographic record of pest-conducive conditions (“Fieldwire” reports), and a detailed, automated recording of conditions, prescribed treatments, and pest management products used (“PestPac” reports). Both of these reports are formatted and generated by proprietary subscription services. The PestPac report, which includes more detailed information, is long and challenging to understand by the unfamiliar reader, so we went to some lengths to translate it for building managers.

As part of their regular service under the program, Pestec developed a detailed summary report, “Initial Findings and IPM Treatment Plan” for each building. These reports include an introduction to the Healthy Homes Program, a detailed report of pest sightings at the initial visit, a description of the prospective roles of building management, residents, municipal staff, and Pestec over the course of the pilot, a summary of Pestec’s plans to treat pests on the premises (including pest management products), and the service schedule for that building.

Pestec provided a binder (log book) for each building, which included the IPM plan, the automated reports, and additional materials including reporting forms for tenant use; program materials; and a cheat sheet designed to aid in reading the PestPac reports.

It was important to ensure that building owners and managers received and understood the reports, were aware of pest exclusion repairs that needed to be done, and were committed to maintaining communication with residents so that Pestec management could alert Pestec if pests were cited on the premises. We tried several strategies to encourage cooperation:

- Pest Cards provided to residents stressed the importance of reporting pest sightings to management (who would then call Pestec)—promptly and instead of trying to deal with pests on their own, for the duration of the program
- We worked together with cities and Pestec to design an alternative form that city staff could use to translate the PestPac reports for managers. Municipal partners translated the form into Spanish and Portuguese, the languages requested by cities that wanted to use the form.

The program rep from the City of San José worked with numerous city departments, building management, and Pestec to plan and fund a “Fall Cleanup Day” at two buildings that are part of a larger complex of multi-unit buildings. The City provided Dumpsters and bulky-item pickup, and Pestec and residents provided muscle. This was a very successful event. Residents of nearby buildings asked if they could contribute to the collection, and we were happy to accommodate them.

Results

As the pilot progressed, two facts became clear. First, pest sightings became rare in buildings where owners and managers provided the best cooperation with Pestec. In these buildings, Pestec reduced their schedule of visits to quarterly from monthly. Second, in buildings where owners and managers were slow to execute recommended pest exclusion repairs, pest sightings continued. Because fewer visits to buildings in the first category saved project money, the project team decided to pay Pestec to provide pest exclusion repair services at buildings in the

second group. As a result, by the end of the pilot, pest sightings were essentially eliminated in almost all units.

In spite of the program's general success, many problems emerged in different buildings—all of which are informative for future projects.

- In one building the manager did not have keys to units, and never obtained keys during the pilot. This meant that Pestec had to make repeated visits to notify residents of scheduled visits and provide service, or try to find times to show up when residents would be at home.
- One participating building changed hands partway through the pilot year. Residents were given 90 days to move. Thanks to efforts of municipal staff, the new owners decided to stay in the program and discussed their remodeling plans with Pestec soon after taking possession. The owners, and new tenants, speak Vietnamese—which was not one of our languages for translation at the beginning of the pilot. Subsequently, we added Vietnamese translations to our deliverables.
- In the course of the sale, termites were found. Termites and treatment for termites were not a part of the program agreement with Pestec. The City provided the owner with termite IPM treatment information and notice that using conventional pest treatments to deal with termites might mean that results from that building would be excluded from the project. This turned out not to be an issue for the program, as the new owner has to date not addressed the termite problem.
- Hoarders in two buildings forbade access to their units to management and to Pestec. In these cases, Pestec worked to seal off the hoarders' units from contiguous units. This was successful in keeping pests from migrating to neighbors' homes, but severe pest problems in the hoarders' units remained.
- In one case the building owner failed to cancel a previous contract with a conventional pest control company, and spraying was going on inside the building, with bug bombs (total release foggers) placed in units, when Pestec and the municipal rep arrived for a regular program visit. *Spraying and using foggers inside without giving tenants notice is illegal.* The owner subsequently denied that this had happened.
- In the same complex, building residents complained to management about sanitation in the Dumpster area and other pest-conducive conditions, but management did not act to remediate identified problems. Residents refused to allow the owner into units and threatened violence when the owner accompanied the Pestec technician.
- Owners of the complex offered payment to a Pestec technician in exchange for a favorable report at the end of the program.

Lessons learned

A key lesson from this project is that it is most difficult to get buildings with the worst pest problems to sign up for a voluntary program with significant “free stuff”...for obvious reasons including owners' reluctance to spend money on maintenance, possible apathy about problems afflicting tenants, and fear that a city-sponsored program will “out” them to building inspectors or code enforcement. In fact, the building with the most severe problems in the pilot was urged by local Code Enforcement to participate, as the City was already trying to deal with recognized issues. For the most bang for the project investment buck, participating cities in future programs

may want to select buildings with known, severe pest problems, and involve code enforcement in developing incentives for participation.

It may be most effective for future programs to budget for some baseline set of relatively simple pest exclusion repairs at the outset of the program. This will promote good relations among the city, building owners and managers, and the pest control company, and that in turn will reduce future costs and allow more buildings into a program.

In our efforts to provide clarity and consistency and to facilitate good collaboration and coordination between building owners and managers and Pestec, we developed a lot of documentation that was not used consistently. In fact it was the people skills of Pestec technicians (and consistent assignment of technicians to buildings for the duration of the program) that made the program work for building staff and residents.

The Fall Cleanup Day and bulk pickup day organized and facilitated by San José staff was very successful, both in demonstrating to residents the City's and Pestec's eagerness to help and in allowing Pestec to find and address pest problems (e.g., moving a refrigerator to find and eliminate a cockroach nest and caulking spots they had not seen before). It would have been helpful to have held such events in other cities, and at the beginning of the program rather than at the end.

Appendix 10: Example IPM plan prepared by Pestec

Appendix 11: Building reports and evaluation summaries

Appendix 12: Example log book

Appendix 13: Representative PestPac reports

Appendix 14: PestPac explainer

Appendix 15: Representative Fieldwire reports

Appendix 16: Alternative tenant report template

3c. Outreach to architects and developers

In 2012 the City and County of San Francisco published *Pest Prevention by Design Guidelines* (PPBD), a comprehensive reference on designing and retrofitting buildings to exclude pests. The two-year, national consultative process of developing the Guidelines was funded by the U. S. Centers for Disease Control with participation from grant manager Nita Davidson of DPR. The intended audiences for PPBD are architects, engineers, builders, and the green building community.

San Francisco, a key member of our project team, has continued to support PPBD and related outreach, with programs and presentations designed for local developers and the non-profit organizations that have assumed management responsibilities for management and maintenance of the City's public housing stock.

In addition, Tara Cahn, a local architect who was also on the PPBD development panel, presented on PPBD to the Non-Profit Housing Association of Northern California's Emerging Leaders Peer Network, a membership group, in Oakland. The diverse audience included developers and architects.

Results

As noted above, over the past few years San Francisco has transferred ownership and management of all of its public housing stock to non-profit property management companies. (See <http://www.politico.com/magazine/story/2017/07/20/how-san-francisco-turned-its-tenements-into-treasures-215391>) Because the City and County retains ownership of the land, it can put certain conditions on management, including incorporation of PPBD principles in renovation and retrofit plans, and pest management using IPM practices. San Francisco Department of the Environment staff continue to educate building owners and management on the importance of building design for pest exclusion.

Lessons learned

While San Francisco has maintained significant control over the entities that are now responsible for their low-income housing stock, all cities could surely benefit from bringing local owners and developers together for education based on PPBD. This could be incorporated into program recruitment outreach.

Appendix 17: Pest Prevention by Design Guidelines

Appendix 18: San Francisco outreach materials

Appendix 19: Tara Cahn's presentation to the Non-Profit Housing Association of Northern California's Emerging Leaders Peer Network

3d. Outreach to local health centers and their clients

Michelle Daher, project team rep from East Palo Alto, asked Luisa Buada, CEO of the Ravenswood Family Health Center, to join the project team for a discussion of health problems related to pests and pesticide use that her clients bring to the clinic. The subsequent conversation with others on the team was helpful and enlightening. The team subsequently prepared an outreach piece focused on health problems caused by cockroaches, and IPM approaches to cockroach management.

Characteristics of the audience:

- 3rd-grade reading level (40 percent of Ravenswood Family Health Center clients are functionally illiterate in their primary language)
- High asthma rate and lack of understanding about causes
- Cockroach problems are often so severe that parents spray beds where children sleep
- Patients lack insurance
- Clientele includes
 - Undocumented people and people who live in severely overcrowded homes where pest problems can proliferate
 - Homeless people
 - Landscape workers (need messages about separating work clothes from other laundry)
 - Landlords (opportunity for messages about trash area cleanliness)

Results

We printed as many cockroach fliers as the program budget would allow, in English, Spanish, Chinese, Vietnamese, and Tongan, and provided them to our municipal partners for distribution in health clinics and community centers.

Lessons learned

Health centers are good venues for key messages about indoor IPM.

Materials need to be nonthreatening with content conveyed by images rather than words to the greatest extent possible.

Cockroaches are the pest to concentrate on. (Head lice and scabies are other common pest problems with these audiences.)

In a future program, it would make sense to focus early on health centers, as people with asthma and parents of small children are eager for information from their health care providers.

It is more effective to provide educational materials to physicians and nurse practitioners to distribute, rather than making them available in waiting areas.

If budget had permitted, we would have produced simple, image-dominated posters for exam rooms and waiting areas.

Appendix 20: Outreach piece for health clinics, featuring IPM strategies for managing cockroaches

4. Develop a training module for continuing education credits for pest management professionals, focus on IPM strategies for multi-unit housing

This portion of the project was led by Andrew Sutherland, UC IPM Program, and Nita Davidson of DPR. Collaborators included Pestec staff, William Quarles of BIRC, Tara Cahn, and Geoff Brosseau and Janet Cox, principal investigator and project manager, respectively.

Results

The course has been approved by the Structural Pest Control Board, completing the deliverable specified in BASMAA's contract with DPR.

At this writing, Andrew Sutherland is completing a Powerpoint presentation and script that will be adapted for an online one-hour course to be housed on the UC IPM website (as well as other entities' sites, at their option). In the meantime, Pestec has developed a Prezi that Luis Agurto has presented successfully to the Pesticide Applicators' Professional Association.

Lessons learned

This portion of the project probably would have been completed faster if we had budgeted more for it! We were fortunate that both Andrew Sutherland and Nita Davidson justified work on this as part of their professional workplans.

Many pest control companies that offer IPM services also offer conventional (spray schedule) services—so customers need to insist on IPM. The course needs to provide a strong business case for providing IPM services, and suggest marketing approaches companies can use to help customers distinguish the long-term benefits of IPM over conventional methods.

One challenge for an online course will be that different municipalities may have local ordinances that affect both multi-unit building owners' responsibilities re: pest management, and pest management professionals' (PMPs') reporting requirements. It would be helpful to develop a course appendix that summarized these, in addition to state laws enacted in the past few years.

The team architect, Tara Cahn, raised issues about the appropriateness of pest control companies performing structural repairs for the purpose of excluding pests. We resolved the question based on Pestec's experience and consideration of licensing guidelines for PMPs, with the following:

- The course will distinguish between repair and renovation services that can be provided by licensed PMPs and those that can't; and include information to educate PMPs about additional training and licenses that may be helpful to them.
- The course will present the key laws and regulations that allow or prevent PMPs from providing these services.
- During discussion of the business aspects of IPM services, we will describe conditions that make a building, or a client, a good fit for IPM.

Appendix 21: CE module presentation

Appendix 22: Prezi developed by Pestec

5. Increase Demand for IPM services among those who hire pest management services

This portion of our project included two activities: (1) clarifying web listings of IPM-certified PMPs, and (2) preparing outreach materials for people hiring pest management services.

Results

The Bio-Integral Resource Center (BIRC), which maintains and supports the California-based EcoWise Certified Program, reorganized and updated its list of certified companies and PMPs. The revised list is posted on the BIRC web site (www.birc.org) and EcoWise Certified site (www.ecowisecertified.org). Certified companies are now listed on the front page, and certified practitioners, with names and contact information for the companies they work for, are on a secondary page. We believe this gives people looking for IPM services excellent tools to find them.

EcoWise Certified is one of three IPM-certification programs. Green Shield Certified, based in Madison, Wisconsin, certifies only three companies in California. In contrast, GreenPro, a program established by the National Pest Management Association of Fairfax, Virginia, certifies more companies in California than EcoWise, but has less stringent requirements.

The Our Water Our World program has recently updated and redesigned its set of IPM fact sheets, which are available in hardware stores and nurseries in many California cities. The project team decided that an updated "Buy IPM" fact sheet was needed, so the project provided one.

Appendix 23: OWOW Buy IPM fact sheet