GUIDE TO IMPLEMENTATION

OF THE

INTEGRATED PEST MANAGEMENT PROGRAM

AND

PEST MANAGEMENT PLAN

ESTABLISHING AN INTEGRATED PEST MANAGEMENT PROGRAM FOR SCHOOLS

An efficient Integrated Pest Management (IPM) Program can be integrated with the District's existing pest management plan and other management activities. District management activities such as preventive maintenance, custodial practices, landscaping, occupant education, and staff training are all part of an IPM program. The following steps are required to develop and implement an IPM decision network:

- Develop an IPM policy statement. This first step in making the transition from a conventional pesticide program to an IPM Program goes beyond simply stating a commitment to support and implement an IPM approach. It acts as a guide for the pest manager to use in developing a specific IPM Program. (A model policy statement is contained in Appendix A.)

- Designate pest management roles for occupants, pest management personnel, and key decision-makers. Ensure good communications among them and educate or train the people involved in their respective roles.

- Set pest management objectives for each work site. Pest management objectives may differ for each site. The type of pest management sought should be outlined.

- Inspect work sites, and identify and monitor pest populations for potential problems.

- Set action thresholds. These are the levels of pest populations or site environmental conditions that require remedial action.

- Apply IPM strategies to control pests. These include repairing structures, improving sanitation, employing pest-resistant plant varieties, establishing watering and mowing practices, and applying pesticides judiciously.

- Evaluate results to determine if pest management objectives are reached, and keep written records of all aspects of the program.

DESIGNATING PEST MANAGEMENT ROLES

Integrated Pest Management is a team approach to managing pests. Each member of the team has roles and responsibilities.

Students and Staff – The Occupants

The most important responsibility of students and staff is sanitation. Much of the prevention and reduction of pest infestation at the school site depends on whether or not students and staff clean up food leftovers, food in lockers and desks, gum under desks, paper clutter, etc. In addition, because people at the work site may observe the presence of pests, they should report in writing any evidence of pest activity.

Parents

Parents' first school pest management responsibility is to learn about IPM practices and follow them at home so that pests are not carried to school in notebooks, lunch boxes, clothing, or the child's hair. Second, parents should be aware of the pest management practices in their children's schools. Schools should welcome questions by parents and encourage the parents to seek information. Parents may participate on IPM advisory committees with school staff.

Pest Manager

In an IPM program, the pest manager is the person who observes and evaluates the site, or directs others to do so, and decides what needs to be done to achieve the site pest management objectives. The pest manager could be the school principal, the custodian, a designated staff member, or an individual under contract to the district.

Administrators

Persons who authorize the pest management program and control the funds allocated for pest management are the district administrators. The members of the Board of Trustees, Superintendent, Assistant Superintendent, Purchasing Agent, or Contracting Officer for the school district may all play roles in pest management decision-making. For decision-makers, concerns about costs, liability, time expended, method effectiveness, safety, and occupant satisfaction may be primary concerns. Decision-makers provide the necessary level of financial commitment for any IPM Program to succeed.

A great deal of understanding, cooperation, and commitment from everyone in the system – students and parents, school staff, managers, administrators, and the public – is needed in order for an IPM Program to succeed.

SETTING PEST MANAGEMENT OBJECTIVES

Pest management objectives will differ from work site to work site, and these differences must be considered before setting action threshold levels. For example, an objective for a stadium athletic field would be to maintain healthy turf as well as a high quality playing surface. With structures, the main objective might be controlling damage caused by pests. Each work site should outline specific objectives in the pest management plan.

Examples of pest management objectives include:

- Manage pests that may occur on school sites to prevent interference with the learning environment of the students.
- Preserve the integrity of the school buildings and structures.
- Provide safe playing or athletic surfaces.
- Reduce hazards that may cause injuries to students, staff, and other building occupants.

INSPECTING, IDENTIFYING, AND MONITORING

An IPM Program consists of a cycle of inspecting, monitoring, evaluating, and choosing the least invasive method of control. Routine inspection and accurate identification of pests are important steps in IPM to ensure that control methods are effective. Once the pest has been identified and the source of its activity pinpointed, habitat modification – primarily exclusion, repair, and sanitation efforts – may greatly reduce the pest population without the application of pesticides. Monitoring includes inspecting areas for evidence of pests, entry points, food, water, and harborage sites, and estimating pest population levels. The information gathered through monitoring is evaluated to determine whether the action threshold has been exceeded and what can be done in the way of prevention.

SETTING ACTION THRESHOLDS

An action threshold is the level at which action is initiated. It is determined by deciding, based on the sensitivities of the work site occupants, how many pests can be tolerated. The action threshold is set by the pest manager and the occupants, and should reflect the pest management objective for the site. The presence of some pests does not,

in itself, necessarily require action. When pest populations exceed pre-established action thresholds, action should be taken. The action taken must be based on the evaluation of information obtained through inspecting, identifying, and monitoring.

APPLYING IPM STRATEGIES

Preventive measures reduce the need for pesticide applications and include structural repair and sanitation, and employing physical and mechanical controls such as screens and traps.

INDOOR SITES

Typical pests

Mice, rats, cockroaches, ants, spiders, wasps, flies, hornets, yellow jackets, microorganisms, termites, carpenter ants, and other wood-destroying insects

Entryways

Doorways, overhead doors, windows, holes in exterior walls, openings around pipes, electrical fixtures, or ducts

- Keep doors shut when not in use.
- Place weather stripping on doors.
- Caulk and seal openings in walls.
- Install or repair screens.
- Keep vegetation, shrubs, and wood mulch at least one foot away from structures.

Classrooms and Offices

Classrooms, laboratories, administrative offices, auditoriums, gymnasiums, and hallways

- Allow food and beverages only in designated areas.
- If indoor plants are present, keep them healthy.
- Keep areas as dry as possible, by removing standing water and water damaged or wet materials.
- In science labs, store animal food in tightly sealed containers and regularly clean cages.
- Routinely clean lockers and desks.
- Vacuum carpeted areas.
- Develop and implement head lice control policies and procedures.

Food Preparation and Serving Areas

Main kitchen, staff lounge, home economics kitchen, snack area, vending machines, and food storage rooms

- Store food and waste in containers that are inaccessible to pests. Containers must have tight lids and be made of plastic, glass, or metal. Waste must be removed at the end of each day.
- Place screens on vents, windows, and floor drains to prevent pests from using ducts and vents as pathways.
- Create inhospitable living conditions for pests by reducing availability of food and water.
- Improve cleaning practices, including promptly cleaning food preparation equipment after use and removing grease accumulation from vents, ovens, and stoves. Use caulks or paints to seal cracks and crevices.
- Capture rodents by using mechanical or glue traps. Trapping systems must be checked daily and killed or trapped rodents disposed of within 24 hours.

Rooms and Areas with Extensive Plumbing
Bathrooms, locker rooms, home economics classrooms, science laboratories, and swimming pools

- Promptly repair leaks and correct other plumbing problems to deny pests access to water.
- Routinely clean floor drains, strainers, and grates. Seal pipe chases.
- Keep areas dry. Avoid conditions that allow formation of condensation. Areas that never dry out are conducive to molds and fungi. Increasing ventilation may be necessary.
- Store paper products or cardboard boxes away from moist areas and direct contact with the floor or the wall.

Maintenance Areas
Boiler rooms, mechanical rooms, custodial store rooms, and pipe chases

- After use, clean mops and mop buckets: dry mop buckets and hang mops vertically on rack above floor drain.
- Allow eating only in designated eating areas.
- Keep areas as clean and dry as possible.

OUTDOOR SITES

Typical Pests
Mice and rats. Turf pests – broadleaf and grassy weeds, insects such as beetle grubs or sod webworms, diseases such as brown patch, and vertebrates such as moles. Ornamental plant pests – plant diseases and insects such as thrips, aphids, Japanese beetles, and bag worms.

Playgrounds, Parking Lots, Athletic Fields, Loading Docks, and Refuse Dumpsters

- Regularly clean trash containers and gutters and remove all waste, especially food and paper debris.
- Secure lids on trash containers.
- Repair cracks in pavement and asphalt. Provide adequate drainage away from structures and on the grounds.

Turf
Lawns, athletic fields, and playgrounds

- Maintain healthy turf by selecting a mixture of turf types (certified seed, sod, or plugs) best adapted for the area. Check university or Cooperative Extension service for recommendations on turf types, management practices, or other information.
- Raise mowing height for turf to enhance its competition with weeds; adjust cutting height for mower, depending on the grass type; sharpen mower blades; and vary mowing patterns to help reduce soil compaction.
- Water turf infrequently but sufficiently during early morning hours to let turf dry out before nightfall; let soil dry slightly between watering.
- Provide good drainage and periodically inspect turf for evidence of pests or diseases.
- Allow grass clippings to remain in the turf (use a mulching mower or mow often) or compost with other organic material.
- Test the soil to determine pH and fertilizer requirements.
- Use a dethatcher to remove thatch. Do this in early fall or early spring when the lawns can recover and when overseeding operations are likely to be more successful.

- Time fertilizer application appropriately, because excessive fertilizer can cause additional problems, including weed and disease outbreaks. Apply lime if necessary. Use aeration to place soil on top of thatch so microbes from soil can decompose thatch.
- Seed over existing turf in fall or early spring.

Ornamental Shrubs and Trees

- Apply fertilizer and nutrients to annuals and perennials during active growth and to shrubs and trees during dormant season or early in the growing season.
- If using a fertilizer, use the correct one at the suitable time, water properly, and reduce compaction.
- Prune branches to improve plants and prevent access by pests to structures.
- Use pheromone traps as a timesaving technique for determining the presence and activity periods of certain pest species.
- Select replacement plant material from the many disease resistant types developed by plant breeders.
- Remove susceptible plants if a plant disease recurs and requires too many resources, such as time or money.
- Check with your local State Cooperative Extension Service or university for information on plant types appropriate for your area.

APPLYING PESTICIDES JUDICIOUSLY

Many different kinds of pesticides are currently available for use against agricultural and structure pests. An appropriate application uses the least toxic and most effective technique and material. Due to their potentially toxic nature, these materials must be applied by qualified applicators in a manner to ensure maximum efficiency, with minimal hazard. Pesticides must be applied only when occupants are not present in areas where they may be exposed to materials applied.

Although EPA registers pesticides for use, the fact that a particular product is registered does not mean that it is "safe" under all conditions of use. All pesticides used in the United States must be EPA registered, and the registration number must be listed on the label.

The following general recommendations should minimize exposure to people and other non-target species when the application of pesticides is being considered:

- Read and follow all label instructions.
- Choose a pesticide that is labeled for the specific site, intended for the pest you are trying to control, and a target specific as possible, rather than broad spectrum.
- Use a spot treatment method of application when pesticide treatments are required. Treat only the obviously infested plants in an area. This procedure helps conserve predators and parasites needed to reduce future pest populations and increases the time between pest outbreaks.
- Limit the use of sprays, foggers, or volatile formulations. Instead, use bait and crack and crevice application when possible. Look for crack and crevice label instructions on how to apply the pesticide. These treatments maximize the exposure of the pest to the pesticide while minimizing pesticide exposure for the occupants.
- Place all rodenticides in tamper-resistant bait boxes.
- Apply pesticides only when occupants are not present or in areas where they will not be exposed to the material applied until after the material is no longer active. Note any re-entry time limits listed on the label and be aware that some residues can remain long after application.
- Use proper protective clothing and equipment when applying pesticides. Check the Material Safety Data Sheet for the product to determine what protective clothing may be required.

- Ventilate areas after pesticide application.
- Notify students, staff, and interested parents of upcoming pesticide applications if done during school session
    - Regular pest maintenance will be done during non-school session.
- Keep copies of current pesticide labels, consumer information sheets, and Material Safety Data Sheets easily accessible at the work site where the pesticides will be or have been applied.

EVALUATING RESULTS AND RECORD KEEPING

Successful practice of IPM relies on accurate record keeping. Record keeping allows the pest manager to evaluate the results of the IPM Program to determine if pest management objectives have been met. Accurate records of inspecting, identifying, and monitoring activities documents changes in the site environment (reduced availability of food, water, or shelter), physical changes (exclusion and repairs), pest population changes (increased or decreased numbers, older or younger pests), and changes in the amount of damage or loss.

A complete and accurate pest management log must be maintained for each work site. Pesticide use records must be maintained to meet requirements of state and local regulatory agencies.

The logbook must contain the following items:

- A copy of the Pest Management Plan and service schedule for the work site.
- A copy of the current EPA registered label and current MSDS for each pesticide used at the work site.
- Pest surveillance data sheets, which record the type and number of pests or other indicators of pest population levels. Examples include date, number, location, and species observed.
- A site diagram noting the location of pest activity, including the location of all traps, trapping devices, and bait stations on or around the site.

EVALUATING THE COSTS

Indications from IPM Programs in school systems suggest that long-term costs of IPM are less than a conventional pest control program that relies solely on the use of pesticides. Although the long-term labor costs for IPM may be higher than those for conventional pesticide treatments, the labor costs may be offset by reduced expenditures for materials, repair of damage done by pests, and contracted services.

Potential Added Costs

Initiating an IPM Program may require repair and maintenance activities to prevent pest entry and to eliminate sources of shelter, food, and moisture. Examples of these one-time expenses that may result in future savings include:

- Improving waste management by moving trash containers away from structures to reduce the opportunity for pest invasion.
- Installing physical barriers such as air curtains over outside entrances.
- Stepping up structural maintenance to correct such situations as leaky pipes.
- Training staff in IPM.
- Re-landscaping the area adjacent to structures to discourage pests.

In the long term, these repair and maintenance activities will reduce overall costs of the pest control operation as well as other maintenance and operations costs.

"In-house" or Contracted Services

IPM Programs can be successfully implemented by district employees or by contracting with a pest control company. A combination of in-house and contracted functions may be mixed and matched to the needs and capabilities of the district. Both approaches have advantages and disadvantages. The district must decide what is best for it given unique circumstances.

Whether an in-house or contracted method is chosen, pest management personnel must be trained to:

- Understand the principles of IPM.
- Identify pests and associate problems or damage.
- Monitor infestation levels and keep records.
- Know cultural or alternative methods.
- Know recommended methods of judicious pesticide application.
- Know the hazards of pesticides and the safety precautions to be taken.

"In-house" Services

The most important task for an in-house program is training staff to function within an IPM context. This training program is available through Keenan & Associates. Additional information and training may be available through the local university or State Cooperative Extension Service.

Contracted Services

When choosing a pest control company, state regulatory agencies can provide information on pesticide applicator certification. A pest control firm may be certified to apply pesticides to control structural pests and not be certified to apply pesticides to control agricultural pests. The pest management firm should demonstrate a knowledge of and willingness to implement an IPM.

The pest management services contract must include IPM specifications. Contracts should be written to provide expected, measurable results. Pest management objectives specific to each work site should be included in the contract.

APPENDIX A

DUNSMUIR JOINT UNION HIGH SCHOOL DISTRICT

INTEGRATED PEST MANAGEMENT PROGRAM

School District Integrated Pest Management Plan

This template meets the Healthy Schools Act requirement for an integrated pest management (IPM) plan.
An IPM plan is required if a school district uses pesticides[1].

Contacts

School District Name	Address
Dunsmuir Joint Union High School District	5805 High School Way Dunsmuir, CA 96025

District IPM Coordinator	IPM Coordinator's Phone Number	Email Address
Jeff Ogden/Kim Vardanega	(530) 235-4835	jogden@sisnet.ssku.k12.ca.us kim@sisnet.ssku.k12.ca.us

IPM statement

It is the goal of Dunsmuir Joint Union High School District to implement IPM by focusing on long-term prevention or suppression of pests through accurate pest identification, by frequent monitoring for pest presence, by applying appropriate action levels, and by making the habitat less conducive to pests using sanitation and mechanical and physical controls. Pesticides that are effective will be used in a manner that minimizes risks to people, property, and the environment, and only after other options have been shown ineffective.

Our pest management objectives are to: *(Example: Focus on long-term pest prevention)*

Maintain a clean environment through an aggressive maintenance and custodial schedule.
Annual notice is sent out in the parents/legal guardian/student handbook as to what types of pesticides will be used if necessary.
Annual inspection for pests with pesticide use as necessary in a safe and appropriate manner.
All notifications will be posted and distributed.

IPM team

In addition to the IPM Coordinator, other individuals who are involved in purchasing, making IPM decisions, applying pesticides, and complying with the Healthy Schools Act requirements, include:

Name and/or Title	Role in IPM program
Ray Kellar, Superintendent	Superintendent
Sharon Baltar	Custodian
Kim Vardanega	Adm. Asst. /CBO

Pest management contracting

X Pest management services are contracted to a licensed pest control business.

Pest Control Business names(s):

Woods Perst Control

Maintenance Service Contract

X Prior to entering into a contract, the school district has confirmed that the pest control business understands the training requirement and other requirements of the Healthy Schools Act.

Pest identification, monitoring and inspection

Pest Identification is done by: Maintenance Coordinator and/or Superintendent

Monitoring and inspecting for pests and conditions that lead to pest problems are done regularly by Jeff Ogden Maintenance Coordinator and results are communicated to the Superintendent.

Specific information about monitoring and inspecting for pests, such as locations, times, or techniques include:

Sticky monitoring boards are placed in the kitchen, student store, faculty room, and auditorium and are checked weekly by custodial staff.
Periodic visual inspections of entire building including gym, classrooms, out buildings, and locker rooms.

Pests and non-chemical management practices

This school district has identified the following pests and routinely uses the following non-chemical practices to prevent pests from reaching the action level:

Pest	Remove food	Fix leaks	Seal cracks	Install barriers	Physical removal	Traps	Manage irrigation	Other
Cockroaches	X	X	X	❑	X	X	❑	
Ants	X	X	X	X	X	X	X	
Wasps	❑	❑	X	X	❑	❑	❑	
Mice	X	❑	X	X	X	X	❑	
	❑	❑	❑	❑	❑	❑	❑	

Chemical pest management practices

If non-chemical methods are ineffective, the school district will consider pesticides only after careful monitoring indicates that they are needed according to pre-established action levels and will use pesticides that pose the least possible hazard and are effective in a manner that minimizes risks to people, property and the environment.

This school district expects the following pesticides (pesticide products and active ingredients) to be applied during the year. (This list includes pesticides that will be applied by school district staff or licensed pest control businesses.):

Staff use: Ortho Bifenthrin -0.05%
Professional use: TBD that is applicable to need and meets all safety standards.

Healthy Schools Act

X This school district complies with the notification, posting, recordkeeping, and all other requirements of the Healthy Schools Act. (Education Code Sections 17608 - 17613, 48980.3; Food & Agricultural Code Sections 13180 - 13188)

Training

Every year school district employees who make pesticide applications receive the following training prior to pesticide use:

X Pesticide specific safety training (Title 3 California Code of Regulations 6724)

X School IPM training course approved by the Department of Pesticide Regulation (Education Code Section 16714; Food & Agricultural Code Section 13186.5).

Submittal of pesticide use reports

X Reports of all pesticides applied by school district staff during the calendar year, except pesticides exempt[1] from HSA recordkeeping, are submitted to the Department of Pesticide Regulation at least annually, by January 30 of the following year, using the form provided at www.cdpr.ca.gov/schoolipm. (Education Code Section 16711)

Notification

This school district has made this IPM plan publicly available by the following methods (check at least one):

X This IPM plan can be found online at the following web address: www.dunsmuirhigh.k12.ca.us

X This IPM plan is sent out to all parents, guardians and staff annually.

Review

X This IPM plan will be reviewed (and revised, if needed) at least annually to ensure that the information provided is still true and correct.

Date of next review: July 2017

I acknowledge that I have reviewed this school district's IPM Plan and it is true and correct.

Signature: on file in office Date: 6/21/16

[1] These pesticides are exempt from all Healthy Schools Act requirements, except the training requirement: 1) products used in self-contained baits or traps, 2) gels or pastes used as crack and crevice treatments, 3) antimicrobials, and 4) pesticides exempt from U.S. EPA registration. (Education Code Section 17610.5)

DISTRICT PEST MANAGEMENT POLICY STATEMENT

Structural and landscape pests can pose significant problems to people, property, and the environment. Pesticides can also pose risks to people, property, and the environment. It is therefore the practice of the Dunsmuir Joint Union High School District to incorporate Integrated Pest Management (IPM) procedures for control of structural and landscape pests.

PESTS

Pests are populations of animals, plants, insects, or microorganisms that interfere with the use of District work sites for human purposes. Strategies for managing pest populations will be influenced by the pest species and whether that species poses a threat to people, property, or the environment.

PEST MANAGEMENT

Pest management plans will be developed for each work site and will include proposed pest management measures.

Pests will be managed to:

- Reduce any potential human health hazard or to protect against a significant threat to public safety.
- Prevent loss of or damage to District property.
- Prevent pests from spreading into the community or to plant and animal populations beyond District property.
- Enhance the quality of life for students, staff, and the public.

INTEGRATED PEST MANAGEMENT PROCEDURES

IPM procedures will determine when to control pests and whether to use mechanical, physical, chemical, cultural, or biological means. IPM practitioners depend on current, comprehensive information on the pest and its environment, and the least invasive pest control methods. Applying IPM principles prevents unacceptable levels of pest activity and damage by the most economical means and with the least possible hazard to people, property, and the environment.

The choice of using a pesticide will be based on a review of all other available actions and a determination that the alternative options are not feasible. Selected non-chemical pest management methods will be implemented whenever possible to provide the desired control. It is the practice of this District to utilize IPM principles to manage pest populations. The full range of alternatives, including no action, will be considered.

When it is determined that a pesticide must be used to meet pest management goals, the least hazardous pesticide will be used. The application of pesticides is subject to the Federal Insecticide, Fungicide, and Rodenticide Act (7 United States Code et seg.), District policies and procedures, Environmental Protection Agency regulations in 40 Code of Federal Regulations, Cal-OSHA regulations, and local government regulations.

EDUCATION

Staff, students, pest managers, and the public will be educated about potential school pest problems and the IPM policies and procedures to be used to achieve the desired pest management objectives.

RECORD KEEPING

Records of pesticide use shall be maintained in accordance with the requirements of the District and of federal, state, and local regulatory agencies. In addition, pest surveillance data sheets that record the number of pests or other indicators of pest populations will be maintained to verify the need for pest management.

NOTIFICATION

The District is responsible to notify the work site staff, students, and parents/guardians of students of upcoming pesticide applications. Notices will be posted in designated areas at work sites and sent home to parents who wish to be informed in advance of pesticide applications.

PESTICIDE APPLICATORS

Pesticide applicators must be educated and trained in the principles and practices of IPM and the use of pesticides approved by the District. Applicators must follow federal, state, and local agency regulations and pesticide label precautions when applying pesticides. Applicators must be State of California licensed as structural and agricultural pesticide applicators and must comply with the District's IPM policy and Integrated Pest Management Plans.