Stanislaus County Integrated Pest Management Policy

I. PREAMBLE

Stanislaus County (County) is committed to implementing an Integrated Pest Management (IPM) approach to guide the management of its facilities, landscaped areas, and rights-of-way. The IPM approach promotes the protection of the residents and visitors, as well as the local waterways, and utilizes a pest management strategy that promotes the long-term suppression of pest problems with minimum impact on non-target organisms and the environment as well as a reduction in use of pesticides. Least toxic pesticides are used only after an assessment indicates such a need, consistent with the provisions of this IPM Policy.

The adoption of this IPM Policy facilitates compliance with the Phase II Municipal Separate Storm Sewer System (MS4) National Pollutant Discharge Elimination System (NPDES) Permit and the Basin Plan Amendment (BPA) for the Control of Pyrethroid Pesticide Discharges (Resolution R5-2017-0057).

II. APPROACH

For the purposes of its IPM policy, the County adopts the following University of California Statewide Integrated Pest Management[1] (UC-IPM) definition:

IPM is an ecosystem-based strategy that focuses on long-term prevention of pests or their damage through a combination of techniques such as biological control, habitat manipulation, modification of cultural practices, and use of resistant varieties. Pesticides are used only after monitoring indicates they are needed according to established guidelines, and treatments are made with the goal of removing only the target organism. Pest control materials are selected and applied in a manner that minimizes risks to human health, beneficial and nontarget organisms, and the environment.

III. PURPOSE

It is the purpose and intent of this IPM Policy to:

a) Reduce reliance on and minimize the use of pesticides[2] as a part of County operations and on County property and rights-of-way that may adversely impact water quality; and

b) Outline how County departments are to perform pest management so that it is consistent with this IPM Policy.

IV. SCOPE

The IPM Policy governs County employees and contractors hired by County departments and persons acting under the authority of the County in the care and maintenance of County facilities, landscaped areas, and rights-of-way.

The term “pesticides” is a general term that includes herbicides, insecticides, fungicides, and rodenticides.

[1] https://www2.ipm.ucanr.edu/what-is-IPM/

[2] As defined in Section 12753 of Chapter 2 of Division 7 of the California Food and Agricultural Code.

V. POLICY

It is the policy of the County that:

1. Departments performing pest management will conform with the County's IPM Policy.
2. The County's IPM approach will include the following:
   a) Educate and train County staff in the IPM program, practices, and policy.
   b) Require County staff and pesticide application contractors to implement the IPM Policy on all County facilities, landscaped areas, and rights-of-way and to maintain records on and report the types and amounts of pesticides used, as well as IPM methods considered and used to prevent and control pests.
   c) Reduce to the maximum extent practicable the use of pesticides.
   d) Consider taking a "no-action" approach in addressing certain pest control issues.
   e) Review and consider available non-chemical options before using a chemical pesticide.
   f) Identify pests and least toxic methods to control pests.
   g) Identify, evaluate, and minimize or eliminate conditions that encourage pest problems.
   h) Conduct careful and efficient inspection, monitoring, and assessment of pest problems by designated personnel or contractor knowledgeable of IPM methods.
   i) Maintain records on IPM methods considered and used to prevent and control pests.
   j) Comply with all applicable local, State of California (State), and federal regulations, including pesticide use and reporting.
   k) Conduct decision-making based on the best available science and data.
   l) Refer residents and pest control operators to the County's stormwater program and the Stanislaus County Department of Agricultural Weights and Measures for information on less toxic methods of pest control.
   m) Provide public access to the County's IPM Policy.
3. IPM Policy General Requirements
   a) Eliminate the use of Category I pesticides.
   b) Minimize the use of Category II, III, and IV pesticides.
   c) Eliminate the use of pesticides that are classified by government agencies as known carcinogens, reproductive toxicants (teratogens, mutagens), endocrine disruptors, carbamates, organophosphates, or ground water contaminants.
   d) Use pesticides only when necessary and select a pesticide that is both effective and least toxic.
   e) Designate playgrounds on County property as pesticide-free.
   f) Develop pest-specific plans to prevent or reduce the incidence of pest problems.
   g) Require County staff and pesticide application contractors to comply with the Phase II Permit requirements to reduce the amount of pesticides and herbicides used during municipal operations and activities by implementing the County's Landscape Maintenance & Design Program.

VI. IMPLEMENTATION

This IPM Policy shall be implemented by County departments and through an IPM Coordinator. Several areas important to the implementation of the IPM Policy are outlined below, including a description of the IPM Coordinator role.

a. IPM Coordinator

The County Facilities Manager is designated as the County's IPM Coordinator and is responsible for coordinating with the departments involved in pest management to ensure that the IPM Policy is implemented. The IPM Coordinator is assisted by the County's Stormwater Program Manager.

The primary responsibilities include the following:

1. Education and Training:
   a) Communicate the goals and requirements of the IPM Policy to County departments.
   b) Request and maintain information regarding the County's IPM trainings offered or attended.
   c) Provide information to County staff performing pest management as needed to ensure that the requisite IPM practices are implemented.
2. IPM Applications and Guidelines:
   a) Ensure County staff and pesticide application contractors are authorized as Pesticide Applicators and are complying with the County's IPM Policy.
3. Product Selection and Product Use Approval:
   a) Work with County staff performing pest management to develop a form for exemption requests.
   b) Ensure that no products on the prohibited use product list are applied unless the County approves an exemption request.
4. Notification of Pesticide Applications:
   a) Use a standardized design for a pesticide application notification sign that includes the date of application, the name and type of product used, the signal word, and a contact telephone number where the public may call for information about the proposed application on all school sites as required by the Healthy Schools Act.
5. Pesticide Application Contracts:
   a) Ensure that contracted pesticide applicators are appropriately trained and certified, implement IPM, and follow the County's pesticide and herbicide standard operating procedures.
6. Record Keeping:
   a) Work with County staff performing pest management to develop forms summarizing pesticide use.
   b) Provide direction regarding the pesticide application recordkeeping and reporting of the methods and pesticides used/applied on the County's facilities, landscaped areas, and rights-of-way.
   c) Review the pesticide application records (Pesticide Use Reports (PURs)) and follow-up reports to ensure that the activities are consistent with the IPM Policy.
   d) Provide information to the County's Stormwater Program Manager for the stormwater Annual Report or other required reporting, as needed.

Education and Training

Education and training of appointed personnel is critical to the success of the IPM Program. Key staff and contractors involved in pest management or application will be educated in IPM policies and procedures. Education may include classroom training, on-site training, or informal meetings and will typically be held once a year. IPM topics discussed may include, but not be limited to, pest control action thresholds; pest management decisions; pest monitoring and identification; prevention; control; and effectiveness evaluations.

IPM Applications and Guidelines

Only persons specifically authorized by the IPM Coordinator as Pesticide Applicators will be permitted to bring or use pesticides on County property. Pesticide applicators must follow regulations and label precautions. Applicators will have training in IPM and must comply with the County's IPM Policy.

Product Selection and Product Use Approval

Except for pesticides granted an emergency exemption, the County will not use any products on the prohibited use product list below. If it is determined that an EPA registered pesticide must be used, then the least-toxic material will be chosen.

1. Prohibited Use Products: Pesticides used by the County shall not contain the following ingredients:
   a) Organophosphates, or organochlorines, or carbamates listed by the United States Environmental Protection Agency (Office of Pesticides Programs, Document 735-F-99-14, May 1999), or California Department of Pesticide Regulation Chemical Inquiries Database.
   b) Glyphosate or glyphosate containing products.
2. Banned Use Areas: Except in the case of an emergency, no pesticides will be applied on County playground properties.

Notification of Pesticide Applications

The County shall provide the public and its employees with notification of pesticide applications through the use of signs at all school sites as required by the Healthy Schools Act.

Pesticide Application Contracts

Where pesticide management and/or applications are provided by contractors, the County will contract with IPM-trained and/or IPM-certified pest control applicators. A clause will be included within the contract to ensure that pesticide applicators implement IPM and follow the County's pesticide and herbicide standard operating procedures.

As detailed in the County's pesticide and herbicide standard operating procedures, contractors are responsible for the filing of all required records and reports, including, but not limited to, Notice of Intent to Apply and PURs, as specified by all county, State, and federal agencies.

Record Keeping

The County shall maintain records of the IPM methods used and pesticide applications for a period consistent with the County's record retention policy. This information may also be reported within the County's stormwater Annual Reports or other required reporting. The information reported shall include the following:

1. All the information listed below will be documented on an official Pest Control recommendation form to be supplied by a Pest Control Adviser (PCA) annually prior to any pest control operation. The form will include:
   a) Name of the entity responsible.
   b) Specific site of the application.
   c) The target pest.
   d) The date the pesticide was used and re-entry period if applicable.
   e) Date of expiration of the PCA recommendation.
   f) Schedule, timing, and conditions.

g) The name and active ingredient of the pesticide to be applied and EPA registration number.
h) The pesticide signal word.

2. The IPM Coordinator or PCA will prepare a follow-up record to include:
   a) Prevention and other non-chemical methods of control used.
   b) Chemical methods used.
   c) The effectiveness of the pesticide or management action.
   d) If application was undertaken in a pest control emergency, provide explanation of circumstances of the emergency.

VII. RECOMMENDED PEST CONTROL PRODUCTS

The County recommends that the pesticides purchased for use on County facilities, landscaping, or rights-of-way follow the guidelines of the IPM Policy such that they are the most effective and present the lowest risk to the environment. Pesticide application should only be used when needed and in combination with other approaches to ensure effective, long-term control.

Our Water, Our World (OWOW), a program that partners with cities and counties to promote less-toxic, eco-friendly pest solutions and products, has developed lists of less-toxic pesticides that are organized by:

- Brand,
- Pest, and
- Active ingredients.

The products lists are intended to capture less-toxic products that are compatible with IPM policies and can be found on the "Active Ingredients" page of the OWOW website: https://ourwaterourworld.org/pesticide-ingredients/.

Those purchasing pesticides on behalf of the County should consult these lists prior to selecting a pesticide for purchase. Contracted pesticide applicators should also be encouraged to utilize the lists when purchasing materials for application on County property.

VIII. PRACTICES

Pest control chemicals are stored in a secure building on the property of the County's Contracted Licensed Pest Control Company.

CHEMICAL APPLICATION PRACTICES	
User Qualifications	■ Chemical application and advice on pest management problems will be made by the IPM Coordinator or a licensed pest control company, particularly in the creation of customized IPM problems, which may require detailed knowledge of the biology and ecology of a particular species. ■ If pesticides are required, County staff will determine, or coordinate with a licensed pest control company to determine, the best product and application in accordance with the approval requirements. ■ Only trained personnel can prepare and use all chemicals.
Species Considerations	■ Time the treatment to coincide with the presence of the pest. ■ Use a selective chemical that has the least effect on non-target species and treat only the area affected.

User Safety	■ Users must wear protective clothing appropriate to the pest chemical application used. ■ Ensure that anyone handling toxic chemicals never works alone and that the work area is well-ventilated. ■ Wear a respirator for outdoor spraying or dusting of organic phosphorus compounds. ■ Eating, drinking, and smoking must be prohibited when using or handling chemicals. ■ Users must be familiar with the chemicals they are likely to be using, the effects the chemicals may have on the body, and how the chemicals may enter the body. ■ Users must be aware of the signs and symptoms of acute poisoning related to chemicals they are using. They must stop work if they are feeling ill and seek medical advice.
Equipment	■ Equipment must be frequently checked and properly maintained, both for health and safety reasons and to minimize spray drift.
Weather/Time Restrictions	■ Spraying must not be carried out in unsuitable weather. Anyone operating sprayers must have access to a wind-speed meter, and only spray when the wind speed is negligible. ■ Spraying must not take place within 48 hours of a rain event. ■ Hours of work must be controlled so that building occupants are not exposed.

BASIC PLANT AND FUNGI CONTROL PRACTICES	
Maintenance	■ Keep the building grounds well-maintained. Clear plant debris, especially from fruit-bearing trees. ■ Maintenance personnel shall use mulch and other landscaping best practices, warding off weeds and other pests. ■ Keep vegetation trimmed at least 18 inches from the building.
Plantings	■ Maintain and plan landscape features to eliminate safe havens for pests. ■ Avoid monocultures by mixing plant species in planters and gardens.
Manual Controls	■ Landscaping shall be hand weeded and chemical control shall be kept to a minimum. This measure prevents human and environmental exposure to hazardous chemicals.
Chemical Controls	■ When chemical use is necessary, replace hazardous substances with least-toxic chemicals as defined by Our Water, Our World; 2020 San Francisco Reduced-Risk Pesticide List.

Inspection Schedule and Location	■ Responsible parties will inspect the site at regular intervals to monitor and apply pest controls operations.

BASIC ANIMAL PEST CONTROL PRACTICES	
Site/Building Cleanliness	■ Keep garbage containers clean, free of odors, and covered. Sanitation measures reduce habitat and food sources for pests. ■ Keep areas around garbage containers free of spillage or garbage to prevent the collection of trash or debris on the ground around or underneath the containers. ■ Keep grounds free of high weeds, trash, old equipment, and debris, as these conditions create ideal harborage for rodents.
Structural Integrity	■ Maintain the building exterior in good condition with no holes or openings larger than ¼ inch including, but not limited to, windows, doors, fans, vents, etc. to keep pests from entering the building. ■ Address any deficiencies in the building exterior with corrective measures, i.e., cementing, screening, caulking, installing stripping on door bases, etc. ■ Maintain door sweeps on all applicable doors to produce a good seal to the ground.
Inspection Schedule and Location	■ Visual inspections shall be performed monthly to identify problem areas.

SPECIFIC ANIMAL CONTROL STRATEGIES	
Ants	■ Always keep food items in sealed containers or store them in the refrigerator or freezer. Clean surfaces and storage areas to remove crumbs and stains. Keep sinks and worktops clean and dry. ■ Prune branches close to the building or anything that might create a bridge for the ants to cross. ■ In areas where ants are present, wipe the areas down with soapy water to prevent the formation of major scent trails. If there already is an established trail, wipe backwards from the food source to the entrance of the trail. ■ Treat only areas that have active pest infestations. Temporary blockades can be made using chili powder, cinnamon, boric acid, or sticky substances such as petroleum jelly. ■ Baits are best put in the path of an ant trail and then removed after the ant activity stops. ■ Identify the ant species for most relevant measures.

Aphids	■ Prune out infested leaves. ■ Knock off aphids by spraying with a strong stream of water. ■ Wait for hot weather; most aphids are gone by mid-June. ■ Release ladybugs on heavily infested plants. ■ Spray with insecticidal oil or soap (Safer soap).
Bed Bugs	■ Call professional pest management to inspect and treat for the presence of bed bugs indicted by the initial inspection.
Caterpillars	■ Obtain a correct identification of the caterpillar to prescribe the most appropriate form of control. ■ Bacterial insecticides derived from natural ingredients are available to control caterpillars.
Cockroaches	■ There are five main species of cockroaches and effective control depends on identifying them correctly. ■ All food handling areas should be cleaned frequently. ■ IPM measures for controlling cockroaches include effective hygiene and exclusion practices, sticky traps lined with pheromones, boric acid, and insect growth regulators.
Dust Mites	■ Fabrics, bedding, and carpets attract and generate dust and dust mites. To keep dust mites at bay, keep building well-ventilated and dry.
Scales (hard and soft)	■ Provide plant with proper irrigation. ■ Encourage natural enemies (ladybugs, lacewings).

SPECIFIC ANIMAL CONTROL STRATEGIES CONTINUED

Flies	■ Collection of waste and residues should be carried out at least twice a week. ■ Keep refuse areas clean to avoid providing flies with breeding grounds. ■ Ensure bin lids fit tightly and the bins are cleaned regularly. ■ Use fine mesh window and door screens as a barrier against entry by any flying insect. ■ Ultra-violet (UV) fly killing equipment is very effective so long as it is situated correctly. In food preparation areas, UV equipment should only be used once all possible precautions have been taken to keep flying insects out. Position the UV equipment close to an entry point, at right angles to the nearest competing light source such as a window. In many catering establishments, poorly situated UV equipment poses a greater food hygiene hazard than lacking pest repellants altogether. This is because when placed next to the food preparation area, they draw flies to the food, which they are likely to contaminate before being killed. ■ Natural chemical treatments include pyrethrum extracted from the Chrysanthemum cineraria folium plant that can be used in kitchens and restaurants.
Mosquitoes	■ Find and eliminate their habitat. ■ Do not allow flowerpots, buckets, plastic sheeting, or other open containers outside to collect water. ■ Drain unused pools or fountains so that the water cannot become stagnant. ■ Drain or fill depressions, mud flats, and other areas that might hold water. ■ Repair leaking taps and air-conditioning units so that puddles cannot form and ensure that septic tanks and sewage systems are properly maintained and in good working order. ■ Avoid over-irrigating lawns and gardens, and keep weeds and grass well-clipped. ■ To prevent mosquitoes from coming indoors, fit fine-mesh screens to porches, doors, and windows.
Fabric/Clothing Moths	■ Fabrics should be washed and then put in bags and placed in a freezer. When taken out to thaw, shake the fabrics vigorously to remove dead larvae. ■ Clean the areas where fabrics have been stored with vinegar and water. ■ Store fabrics in cedar chests or closets. Place cedar chips or blocks or lavender sachets in drawers. ■ For acute moth problems, reusable traps can be baited with a controlled-release pheromone system to lure moths into the trap and disrupt their mating cycle. ■ Avoid mothballs and insect foggers.
Pantry Moths	■ Vacuum affected areas. ■ Scrub all surfaces with hot water and detergent, especially in corners and around the edges of removable shelves. White vinegar also works. ■ Food items and containers should be thoroughly cleaned with a detergent and water solution and wiped down with a vinegar rinse before being put back. Use air-tight containers made of hard plastic, glass, or metal and not plastic bags. ■ Kill any moths with a fly swatter or moth traps.

	■ Peppermint gum, bay leaves, peppercorns, and cloves may also help deter pantry moths.

SPECIFIC ANIMAL CONTROL STRATEGIES CONTINUED	
Rodents	■ Rodent control should start with a survey to determine the source of the problem and the conditions that encourage the infestation. ■ Remove food sources. ■ Eliminate places of refuge. ■ Openings in building foundations and walls should be closed or screened with wire mesh that has holes not more than 1.25 cm (0.5 in) wide. Where pipes enter masonry, force heavy hardware cloth or steel wool into the opening, then fill it with concrete. ■ Continuous surveillance is necessary and places where rodents have been gnawing to gain entry to a building should be sealed with metal flashing. ■ Doors are particularly vulnerable to rodent entry so ensure that external doors and windows close tightly with no gaps at the bottom. ■ Materials stored in the open, in sheds or in building should be stacked at least 30 cm (1 ft.) above the ground. ■ Stringent waste disposal practices should be observed – secure all waste in closed containers and not just plastic bags. ■ Wash bins regularly. Make sure composting bins are designed to prevent rodents from entering. ■ Bait should be sticky to ensure that the mouse triggers the trap mechanism even if it only lightly touches the bait. Mice prefer peanut butter or chocolate. Bacon, oatmeal, or apples can also be used as bait. ■ An alternative to snap traps is a battery-operated trap that generates a high voltage once the rat or mouse is inside.
Slugs and Snails	■ There are various non-chemical solutions to eliminate slugs and snails, including putting salt or sharp shingle around vulnerable plants, drowning them in beer, or simply throwing them over a fence. Elemental copper bands also repel snails and slugs. Remove daytime hiding places (weeds, debris, etc.).
Wasps and Hornets	■ A simple trap can be made by putting beer or a solution of jam or honey and water in an open jar around the grounds. If this does not work, there are branded traps available containing specially formulated attractant baits.

IX. DEFINITIONS FOR USE WITH THIS POLICY

1. "Basin Plan Amendment" or "BPA" means the regulatory requirements for the Control of Pyrethroid Pesticide Discharges that was adopted by the Central Valley Water Board on June 8, 2017, with the adoption of Resolution R5-2017-0057. The BPA established measurable pyrethroid concentration goals and an implementation program for the control of pyrethroid pesticides that are or could potentially impact aquatic life in the Sacramento and San Joaquin River watersheds.
2. "Contractor" means a person, firm, or corporation or other entity, including a governmental entity that enters into a contract with the County for pest management services.
3. "Integrated Pest Management" or "IPM" means an ecosystem-based strategy that focuses on long-term prevention of pests or their damage through a combination of techniques such as biological control, habitat manipulation, modification of cultural practices, and use of resistant varieties. Pesticides are used only after monitoring indicates they are needed according to established guidelines, and treatments are made with the goal of removing only the target organism. Pest control materials are selected and applied in a manner that minimizes risks to human health, beneficial and nontarget organisms, and the environment.[3]
4. "IPM Coordinator" means the designated agent or employee experienced in IPM field and office work and is responsible for IPM program coordination for the County.
5. "IPM Policy"" means this Integrated Pest Management Policy.
6. "Pest" means any pest as defined in Section 12754.5 of Chapter 2 of Division 7 of the California Food and Agricultural Code. Pest includes any of the following that is or is liable to become, dangerous or detrimental to the public health or the agricultural or nonagricultural environment of the State:
   a) Any insect, predatory animal, rodent, nematode or weed;
   b) Any form of terrestrial, aquatic, or aerial plant or animal, virus, fungus, bacteria or other microorganism (except viruses, fungi, bacteria or other microorganisms on or in living man or other living animals);
   c) Anything that the Secretary of the California Department of Food and Agriculture or the Director of Pesticide Regulation for the California Department of Food and Agriculture by regulation declares to be a pest.
7. "Pest Control Adviser" or "PCA" means any person possessing a current pest control adviser license issued by the California Department of Pesticide Regulation. The PCA license is required for making pest control recommendations in the landscape setting.
8. "Pest Control Operator" or "PCO" means any person possessing a current pest control operator license issued by the California Department of Pesticide Regulation. The PCO license is required when performing structural pest control.
9. "Pest-Specific Plan" means a written plan addressing the management and control of a particular pest. Components of Pest-Specific Plans should include pest biology, impacts, pest thresholds, recommended treatments, monitoring frequency, cultural practices, and site modifications to prevent or reduce the incidence of pest problems.
10. "Pesticide" means pesticide as defined in Section 12753 of Chapter 2 of Division 7 of the California Food and Agricultural Code. Pesticide includes any of the following:
    a) Any substance or combination of substances which is intended to be used for defoliating plants, regulating plant growth, or for preventing, destroying, repelling or mitigating any

[3] https://www2.ipm.ucanr.edu/what-is-IPM/

pest which may infest or be detrimental to vegetation, man, animals or households or be present in any agricultural or nonagricultural environment whatsoever;

b) Any spray adjuvant.

11. "Pesticide Applicator"' means any person or company hired by a County Department who applies pesticides, as defined in this section, to property owned, leased or managed by the County.
12. "Phase II Permit" means the State Water Resources Control Board's Phase II Municipal Separate Storm Sewer System (MS4) National Pollutant Discharge Elimination System (NPDES) General Permit No. CAS000004, Order No. 2013-0001, adopted February 5, 2013, and subsequent reissuances of this Order.
13. "Signal Word" means the toxicity category word on the pesticide label: Danger, Warning, Caution or None Required. See Toxicity Category I; II, III, IV product.
14. "Pesticide Use Report Form" or "PUR" means a document that records pesticide use or other treatment practices within and associated with County owned, managed, or leased structures.
15. "Toxicity Category I; II, III, IV product" means any pesticide, as defined in 40 Code of Federal Regulations Section 156.10, meeting the appropriate toxicity categories and bearing on the front label panel the signal word Danger, Warning, Caution or None Required.