

AUGUST 2021

CITY OF PATTERSON

---

# Pyrethroid Management Plan



*Prepared by:*

PUBLIC WORKS DEPARTMENT – STORMWATER MANAGEMENT PROGRAM

*This Pyrethroid Management Plan Framework was developed by Larry Walker Associates, Inc.  
in collaboration with the following agencies:*

- *City of Ceres*
- *City of Escalon*
- *City of Grass Valley*
- *City of Lathrop*
- *City of Lincoln*
- *City of Lodi*
- *City of Manteca*
- *City of Newman*
- *City of Patterson*
- *City of Ripon*
- *City of Riverbank*
- *City of Roseville*
- *City of Stockton*
- *City of Tracy*
- *City of Turlock*
- *City of West Sacramento*
- *City of Yuba City*
- *County of San Joaquin*
- *El Dorado County*
- *Stanislaus County*
- *Mountain House*

# Table of Contents

---

<b>1</b>	<b>Introduction</b> .....	<b>1</b>
1.1	Management Plan Approach.....	3
<b>2</b>	<b>Education and Outreach Activities</b> .....	<b>4</b>
2.1	Residential Outreach.....	5
2.2	Point-of-Purchase Outreach .....	5-7
2.3	Outreach to Pest Control and Landscape Professionals.....	8-9
2.4	Outreach for Landscape and Irrigation Practices.....	10-11
<b>3</b>	<b>Pesticide Pollution Prevention Activities</b> .....	<b>12</b>
3.1	Practices to Reduce Pesticide Use .....	13
3.2	Implementation of Integrated Pest Management Policies and Practices .....	14-15
3.3	Participation in Pesticide Regulatory Processes .....	16
<b>4</b>	<b>Progress Reports and Adaptive Management</b> .....	<b>17</b>
4.1	Reporting Requirements .....	17
4.2	Report Approach and Content .....	18
4.3	Adaptive Management .....	19

## List of Tables

---

Not at this time.

## Table of Figures

---

None at this time.

## List of Appendices (Attached)

---

- Appendix “A” City of Patterson Integrated Pest Management Policy
- Appendix “B” City of Patterson Integrated Management Plan (Internal Use Only)
- Appendix “C” Pyrethroids Management Plan Timeline

# 1 Introduction

---

On June 8, 2017, the Central Valley Regional Water Quality Control Board (Regional Water Board) adopted Resolution R5-2017-0057, the Basin Plan Amendment (BPA) for the Control of Pyrethroid Pesticide Discharges.<sup>1</sup> The BPA was subsequently approved by the State Water Resources Control Board on July 10, 2018 and the Office of Administrative Law (OAL) on February 19, 2019. The United States Environmental Protection Agency (USEPA) approved the Pyrethroid Total Maximum Daily Loads (TMDLs) for the nine urban creeks in Sacramento and Roseville on April 22, 2019. With these approvals, the TMDLs and BPA became fully approved and effective.

The BPA established a Pyrethroids Control Program that includes a variety of actions including, but not limited to:

- Monitoring requirements to assess baseline conditions, as well as continued trend monitoring.
- A conditional prohibition for pyrethroid discharges in exceedance of numeric triggers for Sacramento and San Joaquin River Basin water bodies with the aquatic life beneficial uses.
  - If the numeric triggers are exceeded, the conditional prohibition requires the development and submittal of a Pyrethroid Management Plan (Management Plan) to reduce pyrethroid levels in discharges to the maximum extent practicable.

All municipal stormwater cities (Phase I and Phase II) are subject to the conditional prohibition, and all municipal stormwater cities not subject to the TMDL are required to provide baseline monitoring to the Regional Water Board. However, municipalities regulated pursuant to the Phase II Municipal Separate Storm Sewer System (MS4) permit Phase II Permit<sup>2</sup> may, as an alternative, acknowledge that the existing data are representative of their discharge and forego baseline monitoring and develop a Management Plan.<sup>3</sup>

As such, this Management Plan is being developed on behalf of the City of Patterson, as a Phase II stormwater city.

---

<sup>1</sup> Resolution R5-2017-0057, approved by OAL on February 19, 2019. Available at: [https://www.waterboards.ca.gov/rwqcb5/water\\_issues/tmdl/central\\_valley\\_projects/central\\_valley\\_pesticides/pyrethroid\\_tmdl\\_bpa/](https://www.waterboards.ca.gov/rwqcb5/water_issues/tmdl/central_valley_projects/central_valley_pesticides/pyrethroid_tmdl_bpa/)

<sup>2</sup> Order WQ 2013-0001-DWQ as Amended by Order WQ 2015-0133-EXEC, Order WQ 2016-0069-EXEC, WQ Order 2017-XXXX-DWQ, Order WQ 2018-0001-EXEC, and Order WQ 2018-0007-EXEC (or subsequent renewals).

<sup>3</sup> Letter from Regional Water Board to All MS4 Dischargers in the Sacramento and San Joaquin River Basins, *Pyrethroid Control Program Baseline Monitoring Requirements for Municipal Stormwater Dischargers in the Sacramento and San Joaquin River Basins*, July 30, 2019.

BLANK PAGE

## 1.1 MANAGEMENT PLAN APPROACH

This Management Plan has been developed by the City of Patterson to meet the requirements of the BPA—specifically, the conditional prohibition. The City of Patterson acknowledges that the existing data, such as the data used to characterize municipal separate storm sewer system (MS4) concentrations in the BPA Staff Report, are representative of the stormwater discharges and, as such, is forgoing the baseline monitoring and submitting this Management Plan.

As part of the Phase II Permit requirements, the City of Patterson currently implements a Stanislaus County Program and stormwater program with several components that address pesticide management and reduction. These components include, but are not limited to, public education and outreach; inventory, assessment, and stormwater pollution prevention plan (SWPPP) development for City of Patterson-owned and operated facilities; best management practices (BMPs) for operations and maintenance activities; and a landscape design and maintenance program. The Management Plan builds on these efforts so that it leverages the currently implemented activities, while comprehensively addressing the requirements of the BPA.

The Management Plan includes a set of management practices that, taken as a whole, may reasonably be expected to effectively reduce pyrethroid levels in the municipal stormwater discharges. The management practices identified in Section 6c of the BPA were considered for inclusion within the Management Plan. If a particular management practice or activity will not be implemented, justification is provided for the omission.

The Management Plan is organized as follows:

- Section 2 – Education and Outreach Activities
- Section 3 – Pesticide Pollution Prevention Activities
- Section 4 – Progress Reports and Adaptive Management

## 2 Education and Outreach Activities

---

The BPA includes a range of education and outreach activities for the general public that encourage management practices that minimize pesticide runoff. Through the stormwater management program, the City of Patterson implements several activities that address pesticide management via education and outreach. Consistent with the BPA, the City of Patterson will build on the existing stormwater program activities to implement the following education and outreach activities:

- Residential Outreach
- Point-of-Purchase Outreach
- Outreach to Pest Control and Landscape Professionals
- Outreach for Landscape and Irrigation Practices

## 2.1 RESIDENTIAL OUTREACH

The BPA requires the following residential outreach activity:

*Undertake targeted outreach programs to encourage communities within a discharger's jurisdiction to reduce their reliance on pesticides that threaten water quality, focusing efforts on those most likely to use pesticides that threaten water quality, potentially by working with DPR, County Agricultural Commissioners, and the University of California Statewide Integrated Pest Management Program, or other entities as appropriate.*

The City of Patterson will develop and implement targeted outreach programs that convey messages to the residents specific to the proper use and application of pesticides in an urban context, as well as encouraging the use of less toxic options to help reduce reliance on pesticides that threaten water quality. The residential outreach activities that are implemented and/or will be developed and implemented by the City of Patterson will include the following:

- Outreach Materials – *BMP fact sheets, brochures, flyers, handouts, etc. that are provided by the City of Patterson regarding residential use of pesticides.*
- E-Newsletters – The City of Patterson sends an e-newsletter to the residents that addresses stormwater-related topics, including proper pesticide use and disposal, as well as encouraging the use of less toxic pest control products and methods.
- Website – The City of Patterson provides pesticide-specific outreach on its website [www.ci.patterson.ca.us](http://www.ci.patterson.ca.us). The website includes links to pesticide-related information and options for less toxic methods of pest control, as well as links to the following:
  - *City newsletters, Radio Ads, and/or fact sheets.*
  - Our Water – Our World (OWOW): <http://ourwaterourworld.org>
  - Stanislaus County Agricultural Commissioner: <http://www.stanag.org/pest-management.shtm>
  - San Joaquin Valley Stormwater Quality Partnership: <http://sjvswqp.org/>
  - University of California Statewide Integrated Pest Management Program (UC IPM): <http://ipm.ucanr.edu/PMG/menu.homegarden.html>
- Coordinated Outreach – The City of Patterson will coordinate with departments/divisions and the San Joaquin Valley Stormwater Quality Partnership to develop and provide outreach to all residents and businesses.
  - *e.g., mixed media advertising/outreach campaigns, educational activities, sporting events, countywide events).*
- Household Hazardous Waste – The City of Patterson encourages public participation in pesticide reduction efforts by coordinating with the Stanislaus County Department of Environmental Resources Household Hazardous Waste (HHW) program to encourage proper pesticide disposal.
  - *Household Hazardous Mobile Events (Spring & Summer)*

- *Encourage the Community to utilize the Stanislaus County Household Hazardous Waste Facility open all year (website, brochures/fliers available at City Hall, and Social Media). Stanislaus County Department of Environmental Resources Website: [Household Hazardous Waste Program - Environmental Resources - Stanislaus County \(stancounty.com\)](http://stancounty.com)*
- Our Water – Our World – The City of Patterson will consider contracting out with Our Water – Our World (OWOW) and provides outreach at local store(s). Such outreach includes store mentoring and training for store employees, which allows the store and its employees to better educate the public. IPM Advocates also host in-store public outreach events to talk directly with potential customers about options and recommendations for less toxic methods of pest control. The IPM Advocate also is responsible for filling and maintaining in-store racks with OWOW outreach materials and literature.
- Community Events – The City of Patterson provides pesticide-related outreach to residents at community-wide events. The outreach includes coordinated community which include the following:
  - *Earth & Science Fair (Annual Event - April)*
  - *National Public Works Week (Annual Event – May)*
  - *Arbor Week (Annual Event – March)*
  - *Back to School Block Party & Safety Fair (Annual Event – August)*
  - *Apricot Fiesta (Annual Event – June/July)*
  - *Household Hazardous/E-Waste Mobile Events (Twice per year)*
- Regional Outreach – The City of Patterson participates in regional outreach efforts by leveraging relationships with other agencies to provide outreach to residents. Currently the City is exploring to expand their existing partnerships to develop a good Outreach and training program to address Pyrethroids requirements.
  - *e.g., mixed media advertising/outreach campaigns, coordinated events with Stanislaus County Agricultural Commissioner, San Joaquin Valley Stormwater Quality Partnership, etc.*
- UC Master Gardeners – The City of Patterson will look into the possibility of consulting out with UC Master Gardeners to provide workshops and training to the community regarding integrated pest management (IPM) and other pesticide-related topics. <http://mg.ucanr.edu>
  - *Brochures handed out at all point-of-sale locations, e.g., Ace Hardware Garden Center, True Value Hardware, Joe’s Landscaping, Wal-Mart Super Store, etc.*
  - *Link for UC Master Gardeners on City website: [www.ci.patterson.ca.us](http://www.ci.patterson.ca.us)*
  - *City of Patterson Pyrethroids Management Program webpage that will be developed on City’s website: [www.ci.patterson.ca.us](http://www.ci.patterson.ca.us)*

- *Link to the San Joaquin Valley Storm Water Quality Partnership: [www.sjvswqp.org](http://www.sjvswqp.org)*
- *Social Media Campaign to distribute information (Facebook, Twitter, Instagram, etc.).*

## **2.2 POINT-OF-PURCHASE OUTREACH**

The BPA requires the following point-of-purchase outreach activity:

*Make available point-of-purchase outreach materials to pesticide retailer(s) in or near the City of Patterson’s jurisdiction. These materials shall provide targeted information on proper pesticide use and disposal, potential adverse impacts on water quality, and less toxic methods of pest prevention and control.*

The City of Patterson has developed and implemented an approach to provide point-of-purchase outreach materials to local retailer(s) that convey messages to the residents specific to the proper use and disposal of pesticides, potential adverse effects on water quality, and less toxic methods of pest control. The point-of-purchase outreach activities will be developed and implemented by the City of Patterson include the following:

- City of Patterson Provides Materials – The City of Patterson will develop and/or purchase outreach materials regarding pesticides and less toxic options that it provides to local pesticide retailers, including *Wal-Mart Super Center, Save-Mart, Ace Hardware, True Value Hardware Store, Joe’s Landscaping, etc.* Additionally, information is also provided to commercial/industrial businesses through the City’s Business License process.
- Our Water – Our World – The City of Patterson will consider contracting out with Our Water – Our World (OWOW), a statewide program specifically designed to address water quality impacts of urban use pesticides and has an OWOW IPM Advocate who provides outreach at local store(s). The IPM Advocate is responsible for setting up and maintaining in-store racks containing OWOW outreach materials. These materials and literature provide customers with information regarding the potentially adverse impacts of pesticides on water quality, proper pesticide use and disposal, and less toxic methods of pest control. Additional information is available on the OWOW website: <http://ourwaterourworld.org>

## 2.3 OUTREACH TO PEST CONTROL AND LANDSCAPE PROFESSIONALS

The BPA requires the following outreach activity regarding pest control and landscape professionals:

*Conduct outreach to City of Patterson’s residents and businesses who may hire structural pest control and landscape professionals that contains messages that (a) explain the links between pesticide usage and water quality; and (b) provides information about structural pest control IPM certification programs and IPM for landscape professionals.*

The City of Patterson has developed and provides pesticide-related outreach to residents and industrial and/or commercial businesses who may hire structural pest control and/or landscape professionals. The outreach to pest control and landscape professionals that is implemented (or will be developed and implemented) by the City of Patterson includes the following:

- Outreach Materials –BMP fact sheets, flyers, handouts that are provided by the City of Patterson during the Business License process regarding hiring of structural pest control and landscape professionals.
- E-Newsletter –The City of Patterson sends an e-newsletter to its community that addresses stormwater-related topics, including the links between pesticide usage and water quality, as well as considerations when hiring structural pest control and/or landscape professionals.
- Website – The City of Patterson provides pesticide-specific outreach on its website at [www.ci.patterson.ca.us](http://www.ci.patterson.ca.us) . The website includes links to pesticide-related information, including:
  - Our Water – Our World (OWOW):
    - Hiring a Pest Control Company: Ask for IPM Services!: <https://ourwaterourworld.org/hiring-a-pest-control-company/>
    - Pesticides and Water Quality: <https://ourwaterourworld.org/pesticides-and-water-quality/>
  - University of California Statewide Integrated Pest Management Program (UC IPM):
    - Hiring a Pest Control Company: <http://ipm.ucanr.edu/PMG/PESTNOTES/pn74125.html>
  - BMP Fact sheets are provided for businesses (i.e., industrial and commercial facilities) that address the links between pesticide usage and water quality, as well as considerations when hiring structural pest control and/or landscape professionals.
  - Narratives, articles, fact sheets, flyers, and/or handouts.
- Coordinated Outreach – The City of Patterson coordinates with other City of Patterson departments/divisions to provide outreach to residents.

- *Earth & Science Fair (Annual Event - April)*
- *National Public Works Week (Annual Event – May)*
- *Arbor Week (Annual Event – March)*
- *Back to School Block Party & Safety Fair (Annual Event – August)*
- *Apricot Fiesta (Annual Event – June/July)*
- *Household Hazardous/E-Waste Mobile Events (Twice per year)*
- **Community Events** – The City of Patterson provides pesticide-related outreach to residents at community-wide events. The outreach includes *[insert description of outreach provided and how it meets the requirement]*. Such events include the following:
  - *Earth & Science Fair (Annual Event - April)*
  - *National Public Works Week (Annual Event – May)*
  - *Arbor Week (Annual Event – March)*
  - *Back to School Block Party & Safety Fair (Annual Event – August)*
  - *Apricot Fiesta (Annual Event – June/July)*
  - *Household Hazardous & E-Waste Mobile Events (Twice per year)*
- **Regional Outreach** – The City of Patterson participates in regional outreach efforts by leveraging relationships with other agencies to provide outreach to residents on various environmental and regulatory programs (e.g., Water Conservation, Stormwater Management, F.O.G., Recycling, etc.).
  - *San Joaquin Valley Storm Water Quality Partnership (SJVSWQP), e.g., mixed media advertising/outreach campaigns, educational activities, sporting events, training, countywide events, etc.).*

## 2.4 OUTREACH FOR LANDSCAPE AND IRRIGATION PRACTICES

The BPA requires the following outreach activity for landscape and irrigation practices:

*Encourage public and private management practices (e.g., landscape design, irrigation management, etc.) that minimize pesticide runoff.*

The Permittee has developed and conveys messages specific to landscape design and irrigation management that minimize pesticide runoff. The outreach for landscape and irrigation practices activities that will be developed and implemented by the city includes the following:

- Outreach Materials – Materials will include *BMP fact sheets, flyers, handouts, etc. that are provided by the city regarding landscape design and irrigation management.*]
- Our Water – Our World –The Permittee will consider contracting with Our Water – Our World (OWOW) and has an IPM Advocate that provides outreach at local store(s). Such outreach includes store mentoring and training for store employees, which allows the store and its employees to better educate the public. IPM Advocates also host in-store public outreach events to talk directly with potential customers about landscape management recommendations, including irrigation practices optimized for plant health and minimal runoff. The IPM Advocate also is responsible for filling and maintaining in-store racks with OWOW outreach materials and literature.
- Newsletter – The City distributes its quarterly “Citizen’s Newsletter” to its community that addresses stormwater-related topics, including minimizing runoff through proper landscape design and irrigation practices. The newsletters are distributed in the utility bills on a quarterly basis (Spring, Summer, Fall, Winter Editions). These newsletters are also uploaded into the City’s website at [www.ci.patterson.ca.us](http://www.ci.patterson.ca.us) and can be downloaded as a E-Newsletters at <http://www.ci.patterson.ca.us/510/Citizens-Newsletter>
- Website – The City provides outreach on landscape design and irrigation practices via its website <http://www.ci.patterson.ca.us/677/Water-Wise-Gardening> and <http://www.ci.patterson.ca.us/177/Stormwater-Management> . The web pages include links to sites focusing on water conservation and landscape design, including:
  - Save Our Water: <https://saveourwater.com/go-california-friendly/>
  - California Department of Water Resources, Water Efficient Landscaping: <https://water.ca.gov/Water-Basics/Conservation-Tips/Plant-and-Landscape-Guide>
  - Be Water Wise: <http://www.bewaterwise.com>
  - USEPA Water Sense: <https://www.epa.gov/watersense/water-smart-landscape-design>
  - *The City’s Stormwater Management webpage offers digital BMPs Fact Sheet/Brochures for the Landscape Industry:* <http://www.ci.patterson.ca.us/DocumentCenter/View/1503/Patterson-Stormwater-BMPs-Brochure--Landscape-PDF>

- UC Master Gardeners – The Permittee coordinates with UC Master Gardeners to provide workshops and training to the community regarding water conservation and irrigation management. <http://mg.ucanr.edu>
- Community Events – The Permittee provides landscape design and irrigation management outreach to residents at community-wide events. The outreach includes *annual Arbor Week events, National Public Works weeks events, Back to School & Safety Fair Events, Apricot Fiesta, and Earth & Science Fairs, etc.* These events are held during the following times:
  - *Earth & Science Fair (Annual Event - April)*
  - *National Public Works Week (Annual Event – May)*
  - *Arbor Week (Annual Event – March)*
  - *Back to School Block Party & Safety Fair (Annual Event – August)*
  - *Apricot Fiesta (Annual Event – June/July)*
  - *Household Hazardous/E-Waste Mobile Events (Twice per year)*

Coordinated Outreach – The Permittee coordinates with other agencies within Stanislaus County and San Joaquin County through the Stormwater SJVSWQP partnership to pay for Radio Ads and provide outreach to residents. For more information on the radio ads, please visit the City’s website at <http://www.ci.patterson.ca.us/177/Stormwater-Management>

- *Stormwater Radio Ads (Annually)*
- Regional Outreach – The Permittee participates in regional outreach efforts by leveraging relationships with other agencies to provide outreach to residents.
  - *The city is also actively involved in regional outreach efforts through the San Joaquin Valley Storm Water Quality Partnership (SJVSWQP) since 2003. The partnership has been successful in the development and implementation of the MS4 Phase II permit and provides a cost-effective approach for distribution of stormwater related information, trainings, and Radio Ads, etc.*

### 3 Pesticide Pollution Prevention Activities

---

The BPA includes a range of pollution prevention activities for public agencies that reduce reliance on pesticides that adversely impact water quality. Through the stormwater management program, the City of Patterson implements several activities that address pesticide management via pollution prevention. Consistent with the BPA, the City of Patterson will build on the existing stormwater program activities and Vegetation Management Program to implement the following pollution prevention BMPs:

- Practices to Reduce Pesticide Use
- Implementation of Integrated Pest Management Policies and Practices
- Participation in Pesticide Regulatory Processes

### 3.1 PRACTICES TO REDUCE PESTICIDE USE

The BPA requires the following practices to reduce pesticide use:

*Reduce reliance on pyrethroids and other pesticides that threaten water quality by adopting and implementing policies or procedures that minimize the use of pesticides that threaten water quality in the discharger's operations and on the discharger's property.*

The City of Patterson developed and implements a landscape design and maintenance program and specific practices to reduce the amount of water, pesticides, herbicides, and fertilizers used during City of Patterson operations and activities on City of Patterson-owned or operated facilities, including park sites, athletic fields, landscaped medians, and other landscaped areas.

The activities to reduce pesticide use that are implemented by the City of Patterson include the following:

- Pesticide-Related Policies and Procedures – Annual Safety & Educational Training, Annual Pesticide Product Compliance Inventory Audit, complete Pesticide Equipment Audit to ensure all staff has all necessary items to be in compliance, and complete annual reporting through the Stanislaus County Agriculture Commission Office electronic portal at [www.stanag.org/forms.shtm](http://www.stanag.org/forms.shtm), [www.calagpermits.org](http://www.calagpermits.org) . Obtain restricted materials permit annually from the County. Adhere to the Stanislaus County Hazardous materials disposal protocol. Dispose at all used pesticide containers at Stanislaus County pesticide recycling events.
- IPM Policy – Please see Section 3.2. for a description of the City of Patterson's IPM Policy dated August 2021.

### 3.2 IMPLEMENTATION OF INTEGRATED PEST MANAGEMENT POLICIES AND PRACTICES

The BPA requires the implementation of integrated pest management (IPM) policies and practices, as follows:

*Develop and implement an Integrated Pest Management policy that:*

- *Is consistent with IPM as defined by the University of California Statewide IPM Program (UC-IPM) or the California Structural Pest Control Board definition.*
- *Applies to all City of Patterson staff who conduct or contract for pest management and to pest management vendors under contract to the City of Patterson.*
- *Assigns responsibilities to a designated staff position and/or department to coordinate City of Patterson activities and ensure that the IPM policy is implemented.*

The IPM policies and practices that are implemented by the City of Patterson include the following:

- The City of Patterson has adopted an IPM Policy, effective in *August 2021*. The City of Patterson implements and enforces the policy to promote the use of IPM and minimize the use of pesticides within its jurisdiction. The IPM Policy is:
  - Consistent with IPM as defined by the University of California Statewide IPM Program (UC-IPM) or the California Structural Pest Control Board definition.
  - Applies to all City of Patterson staff who conduct or contract for pest management and to pest management vendors under contract to the City of Patterson.
  - Assigns responsibilities to a designated staff position and/or department to coordinate the City of Patterson’s activities and ensure that the IPM policy is implemented.
  - Refer to Appendix “A” for a copy of the City of Patterson IPM policy.

- The City of Patterson has developed an IPM Policy dated August 2021. The City of Patterson will implement and enforce the policy to promote the use of IPM and minimize the use of pesticides within its jurisdiction. The IPM Policy will be:
  - Consistent with IPM as defined by the University of California Statewide IPM Program (UC-IPM) or the California Structural Pest Control Board definition.
  - Apply to all City of Patterson staff who conduct or contract for pest management and to pest management vendors under contract to the City of Patterson.
  - Assign responsibilities to a designated staff position and/or department to coordinate the City of Patterson’s activities and ensure that the IPM policy is implemented.

### 3.3 PARTICIPATION IN PESTICIDE REGULATORY PROCESSES

The BPA requires support of pollution prevention through participation in pesticide regulatory processes, as follows:

*Track USEPA and DPR pesticide evaluation and registration activities as they relate to surface water quality and encourage these agencies to accommodate urban water quality concerns within their pesticide registration processes. This may include assembling and submitting available information (such as monitoring data) to USEPA and DPR during public comment periods to assist in their pesticide evaluation and registration activities. This best management practice would be implemented most effectively through a cooperative regional or statewide approach.*

Participation in pesticide regulatory processes by the City of Patterson includes the following:

The City of Patterson is a member of and participates in the California Stormwater Quality Association (CASQA). One of CASQA's subcommittees, the Pesticides Subcommittee (PSC) currently conducts a number of activities that assist in tracking and reporting on the USEPA and DPR pesticide evaluation and registration activities. These have generally included the following:

- Regulatory-Related Activities – The PSC addresses pesticide uses that impact stormwater discharges, provides input to EPA and DPR to improve regulations, compiles relevant information, assists members with compliance strategies, and coordinates its activities with other agencies statewide. The types of activities include:
  - Support for the development of the Urban Pesticides Amendment;
  - Support for the formation of the Urban Pesticides Coordinated Monitoring Program (potential statewide monitoring program);
  - Review of scientific literature to update and prioritize the Pesticide Watch List;
  - Prepared written comments to EPA on its Endangered Species Act Pesticides Risk Assessment proposed procedures and other pesticide evaluations and re-registrations.
- Annual Report – This report provides a summary of the CASQA efforts that were conducted on behalf of the membership during that reporting year to prevent pesticide pollution in urban waterways. In addition, the report has provided an effectiveness assessment regarding the activities that were conducted.

On an annual basis, CASQA identifies the highest priority activities and implements these activities based on available funding and membership needs. As such, implementation of past activities, such as those described above, is not a guarantee of continued implementation of similar activities in the future.

## 4 Progress Reports and Adaptive Management

---

### 4.1 REPORTING REQUIREMENTS

The BPA requires an annual progress report to be developed to document the management practices that have been implemented, evaluate pyrethroid concentrations with respect to the pyrethroid triggers, and identify effective actions to be taken in the future. Accordingly, the City of Patterson will prepare and submit a progress report by **October 15** each year in conjunction with the Phase II Permit annual report submitted via Stormwater Multiple Application and Report Track System (SMARTS). Pending approval of this Management Plan, the first progress report is anticipated to be submitted in 2023, after a full year of Management Plan implementation.

## 4.2 REPORT APPROACH AND CONTENT

The BPA requires an annual progress report, as follows:

*A progress report shall be provided to the Board annually or at a frequency consistent with the discharger's permit requirements to document the management practices that have been implemented, to evaluate pyrethroid concentrations with respect to the pyrethroid triggers, and to identify effective actions to be taken in the future. The progress report can be included in other reports submitted to the Board, as appropriate.*

The City of Patterson will evaluate the implementation of the required management practices and present the results in narrative, tabular, and/or graphical form, as appropriate. The City of Patterson anticipates that the annual progress report may include, but not be limited to, the following:

- Documentation of the management practices that have been implemented
  - A narrative summary of BMP implementation, by category (i.e., Education and Outreach Activities and Pesticide Pollution Prevention Activities)
  - Tabular and/or graphical presentations of BMP implementation, as well as summary statistics or other general descriptors to most usefully present the implementation results.
- Evaluation of pyrethroid concentrations with respect to the pyrethroid triggers<sup>4</sup>
- Identification of effective actions to be taken in the future
  - This information will be identified through the adaptive management process (see **Section 4.3**).

---

<sup>4</sup> The approach for trend monitoring by the Phase II cities is undetermined at this time (February 2020). It is anticipated that the Regional Water Board will be providing further guidance on trend monitoring for these City of Patterson.

### 4.3 ADAPTIVE MANAGEMENT

The BPA acknowledges that during the course of Management Plan implementation, if the pyrethroid numeric triggers are not being met, adaptive management may be necessary:

*If the management practices do not result in discharge concentrations at or below the pyrethroid numeric triggers, then the MS4 discharger shall either identify any available, reasonable and feasible additional/alternative practices for implementation, or provide a justification for why current practices are expected to result in achieving the triggers within a reasonable timeframe. This justification may include actions required by state and federal regulations.*

As a part of the reporting process, and on approximately a five-year timeframe (e.g., in conjunction with the “Year 5” Phase II Permit Annual Report, the Region-wide Permit End-Term Reports, or the equivalent), the City of Patterson will qualitatively evaluate the effectiveness of the Management Plan, as well as the experience that staff has had in implementing the Management Plan, to identify potential modifications and refine the Management Plan approach, as needed.

The Management Plan may be reviewed and revised in the future based on the following:

- Analysis of trend monitoring results (5-10 year period of record);<sup>5</sup>
- Completion of the UPAs expected to formalize proactive regulation of pesticides by the DPR and identify cost-effective activities that can be implemented or supported by the regulated entities, including the City of Patterson (see **Section 3.3**);
- Identification by the City of Patterson of changes to improve the effectiveness of specific Management Plan activities, based on its experience in implementing the stormwater program and the activities described in **Section 2** and **Section 3**.

---

<sup>5</sup> The approach for trend monitoring by the Phase II cities is undetermined at this time (February 2020). The Regional Water Board will be providing further guidance on trend monitoring for these cities.