

Mill Assessment Study: Preliminary Recommendations and Implementation Plan

Table of Contents

Executive Summary	2
1. Introduction.....	8
A. Background.....	10
B. Funding the Department of Pesticide Regulation	12
C. Guiding Principles	17
D. Mill Alternatives Concept Paper.....	18
E. Workload Analysis Results	20
2. Preliminary Proposal Recommendations	21
A. Recommended Proposal Options and Key Assumptions.....	21
B. Sustainability of Mill Assessment Revenue to Support Recommended Proposal Options	24
C. Appropriateness of the Mill Assessment to Support Recommended Proposal Options	28
3. Design Recommendations	31
A. Recommended Mill Setting Options	31
B. Recommended Mill Structure Options	38
4. Usage Recommendations	42
A. Recommended Usage Options for Programmatic Needs	43
B. Recommended Usage for Positive Incentives	46
5. Implementation Recommendations	48
A. Recommended Timing of Mill Implementation	49
B. Recommended Overall Funding Sources.....	51
6. Proposed Implementation Plan.....	53
A. Milestones and Key Assumptions.....	53
B. Roles and Responsibilities.....	55
C. Activities	55
D. Success Factors and Challenges	59
Appendix A: Methodology	60
Appendix B: Funding Authority	68
Appendix C: County Agricultural Commissioners Funding Analysis.....	73
Appendix D: Funding Models Analysis	79
Appendix E: Detailed Analysis of Current and Future Mill Revenues.....	86







Executive Summary

The Department of Pesticide Regulation’s mission is to protect human health and the environment by regulating pesticide sales and use, and by fostering reduced-risk pest management. The department’s primary funding mechanism – a mill assessment on the sale of registered pesticide products – has not been updated in almost 20 years. Over the past two decades, the Department of Pesticide Regulation (DPR) has experienced an expansion of programmatic responsibilities due to legislative mandates and executive priorities. These added programmatic responsibilities coupled with the department’s support for the state’s transition to safer, more sustainable pest management has put additional pressure on its funding condition.

In February 2022, DPR contracted with Crowe LLP (Crowe) to conduct a study on the mill assessment, engage and consult stakeholders throughout the various stages of the study, and issue a final report by June 2023 outlining proposed mill options. This report provides Crowe’s preliminary recommendations and proposed implementation plan based on a comprehensive examination of the study’s six (6) objectives, listed in **Exhibit ES-1**.

The preliminary recommendations and proposed implementation plan detailed in this report reflect extensive research, analysis, and stakeholder consultation conducted over the course of the last year. Our goal was to maintain a forward-looking focus to identify mill options – based on our research, analysis, and stakeholder consultation – that could adequately and sustainably support DPR, County Agricultural Commissioners (CACs), California Department of Food and Agriculture’s (CDFA) mill-related current and future programmatic needs, and the state’s transition to safer, more sustainable pest management.

Exhibit ES-1 Mill Assessment Study Objectives

	<p>Examine current and future funding needs for DPR while also considering funding associated with CACs’ mill-related responsibilities.</p>
	<p>Examine existing structure and rate of the mill assessment.</p>
	<p>Examine current and future revenues produced by that structure and rate.</p>
	<p>Examine detailed options that incentivize the use of safer sustainable pest management practices across the state of California.</p>
	<p>Examine incentivization options, including “tiering the mill assessment,” to incentivize the use of safer pest management, as well as evaluating strategies for linking how revenues are collected to support the broader mission of DPR.</p>
	<p>Examine long-term sustainable funding that allows DPR to continue to fulfill its mission.</p>

A. Recommended Proposal Options

Based on our comprehensive examination of the mill assessment, we recommend a proposal that includes the options described in **Exhibit ES-2**. Option A generates mill revenue at current rate levels to support DPR, CACs, and CDFA’s mill-related responsibilities. Together, Option B and Option C would sustainably and appropriately support DPR’s mill-related current and future programmatic needs. Option D would support CACs’ future programmatic needs for pesticide usage enforcement workload activities and administration priorities. Option E would support CDFA’s future programmatic needs for the Office of Pesticide Consultation & Analysis (OPCA). Option F would fund preliminary sustainable pest management (SPM) programmatic needs to support the state’s transition to safer, more sustainable pest management.

Exhibit ES-2
Recommended Proposal Options – Minimum Revenue and Incremental Rate Requirements¹

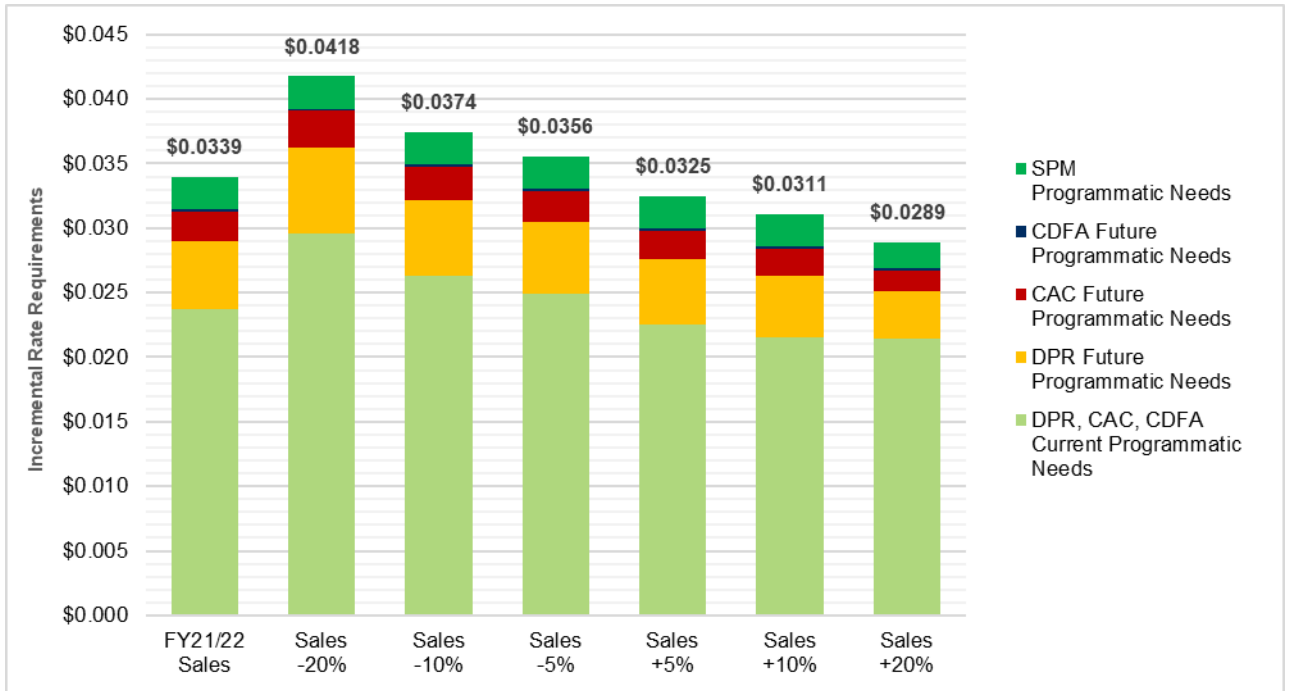
Mill Options	Minimum Revenue Requirements	Incremental Rate Requirements	Descriptions
A. Current Mill	\$94.5 million	\$0.0215	Reflects a combined rate based on \$0.021 applied to all products and an additional \$0.00075 applied to ag products.
B. DPR Current Programmatic Needs	\$9.7 million	\$0.0022	Requires a \$0.0022 adjustment to the existing mill rate to generate \$9.7 million. This additional revenue would fully support DPR’s current programmatic needs based on its FY2022/23 budget totaling \$102.1 million, which includes revenue to support CACs existing mill allotment criteria.
C. DPR Future Programmatic Needs	\$23.2 million	\$0.0053	Requires a \$0.0053 adjustment to the existing mill rate to support DPR’s future programmatic needs totaling \$23.2 million. This option would support \$16.1 million in resources (including \$2.8 million for SPM-related resources), \$6.1 million in Integrated Pest Management (IPM) grants, and \$1.0 million to support environmental monitoring.
D. CAC Future Programmatic Needs	\$10.2 million	\$0.0023	Requires a \$0.0023 adjustment to the existing mill rate to support up to \$10.2 million in as-needed funding for CAC pesticide usage enforcement workload activities and administration priorities.
E. CDFA Future Programmatic Needs	\$0.8 million	\$0.0002	Requires a \$0.0002 (equivalent to \$0.00029 to ag sales) rate to generate roughly \$800,000 to support CDFA’s future programmatic needs for the OPCA. This additional revenue would fully support CDFA’s OPCA current and future programmatic needs totaling roughly \$2.9 million.
F. SPM Programmatic Needs	\$11.0 million	\$0.0025	Requires a \$0.0025 adjustment to the existing mill rate to support \$11.0 million in additional funding for SPM programmatic needs identified by/aligned with the Sustainable Pest Management Roadmap for California. ²
Total	\$149.3 million	\$0.0339	<i>Note: this summary presents rounded values</i>

¹ Based on FY2021/22 pesticide product sales revenue totaling approximately \$4.4 billion.

² The Sustainable Pest Management Roadmap for California Roadmap (SPM Roadmap) was developed over the course of nearly two years by a diverse group of stakeholders representing conventional and organic agriculture, urban environments, community and environmental groups, tribes, researchers, and government. The SPM Roadmap charts the course for accelerating the state’s systemwide transition to sustainable management and eliminating and replacing of prioritized high-risk pesticides by 2050.

In **Exhibit ES-3**, we provide incremental rate requirements under seven (7) scenarios assuming FY2021/22 pesticide product sales revenue³ up to +/- 20 percent of FY2021/22 pesticide product sales revenue. Based on historical trends, it is likely that the “worst” scenario would be that pesticide product sales revenue decrease up to 5 percent in the near term (e.g., five-year period) as market impacts from the pandemic subside.

Exhibit ES-3
Recommended Proposal Options under Different Pesticide Sales Scenarios



³ FY2021/22 pesticide product sales totaled approximately \$4.4 billion.

B. Design, Usage, and Implementation Recommendations

In addition to the recommended proposal options, we recommend the design, usage, and implementation recommendations summarized in **Exhibit ES-4**.

- **Design recommendations** address the legal authority of the mill, how the mill is set initially and, in the future, the structure of the assessment, alignment of the assessment, and approaches to revenue stabilization. In *Section 3*, we provide stakeholder feedback, detailed recommendations, and rationale for mill design options.
- **Usage recommendations** address how revenue from the mill is utilized by DPR, CACs, and CDFA, clarifying the types of programs to be funded, including options that would utilize mill revenues to positively incentivize sustainable pest management practices. In *Section 4*, we provide stakeholder feedback, detailed recommendations, and rationale for mill usage options.
- **Implementation recommendations** address the timing of implementation and how mill revenue is monitored and adjusted over time. Our implementation recommendations account for how mill revenue is integrated with DPR’s other funding sources. In *Section 5*, we provide stakeholder feedback, detailed recommendations, and rationale for mill implementation options.

Exhibit ES-4 Proposed Design, Usage, and Implementation Recommendations

Mill Options	Recommendations
Mill Design Options	
Setting	<p>Legislative Authority We recommend a maximum rate and structure to be set in statute, with the maximum rate set at a level higher than the implemented rate (e.g., up to 10 percent higher than the implemented rate to allow for flexibility and assure revenue stability). We also recommend that the Director have authority to increase the mill rate up to its maximum to support the department’s mission.</p>
	<p>Alignment We recommend funding alignment with the department’s programmatic authorities.</p>
	<p>Revenue Stability We recommend that DPR conduct a regular review of the mill, at a minimum every five (5) years, to adjust within the maximum rate to assure the continuance of a stable revenue source.</p>
Structure	<p>Flat Rate We recommend that the mill assessment is initially set at a flat rate until Priority Pesticides⁴, defined through the process outlined in the SPM Roadmap, have been identified by DPR.</p>
	<p>Tiered Rate We do not recommend implementing a tiered rate at the outset. We recommend that DPR revisit “tiering” as a viable option once Priority Pesticides have been evaluated and identified as part of the SPM Roadmap process. At that point, DPR could consider establishing higher mill assessments on Priority Pesticides. This tiering would serve to educate users and manufacturers, and function as a policy signal to incentivize the development and use of safer pest management tools and practices. We provide supporting rationale for this recommendation in <i>Appendix D</i>.</p>
	<p>Reserve Mechanism We do not recommend incorporating a self-correcting funding reserve mechanism into the mill assessment’s structure.</p>

⁴ According to the SPM Roadmap, “Priority Pesticides” refer to pesticide products, active ingredients, and groups of related products within the context of specific product uses or pest/location use combinations that have been deemed to be of greatest concern and warrant heightened attention, planning, and support to expedite their replacement and eventual elimination. The criteria for classifying pesticides as “Priority Pesticides” includes, but is not limited to hazard and risk classifications, availability of effective alternative products or practices, and special consideration of pest management situations that potentially cause severe or widespread adverse impacts.

Mill Options	Recommendations
Mill Usage Options	
Funding for Programmatic Needs	<p>DPR’s Programmatic Needs We recommend that the mill assessment supports DPR’s overall programmatic needs for its mill-related responsibilities totaling approximately \$125.3 million. This supports the department’s current programmatic needs totaling \$102.1 million based on its FY2022/23 authorized budget and future programmatic needs totaling \$23.2 million. We identify DPR’s mill-related responsibilities in <i>Section 2</i>, Exhibit 15.</p> <p>CACs’ Programmatic Needs We recommend maintaining the existing mill allotment criteria and up to approximately \$10.2 million funded by the mill assessment that provides as-needed funding (separate from the existing mill allotment criteria) to support CACs’ pesticide usage enforcement programs and administration priorities.</p> <p>CDFA’s Programmatic Needs We recommend the existing mill assessment level \$0.00075 (0.75 mill), with an additional \$0.00029 (0.29 mill) for a total mill rate of \$0.00104 (1.04 mills) applied to ag-related pesticide product sales to support current and future programmatic needs for the OPCA totaling \$2.9 million.</p>
Funding for Positive Incentives	<p>Support and Incentivize Safer, More Sustainable Pest Management We recommend an option to utilize the mill assessment (e.g., 2.5 mill option) to support actions in alignment with the SPM Roadmap. This option would generate approximately \$11.0 million per year with specific activities aligned with the SPM Roadmap.</p>
Mill Implementation Options	
Timing	<p>Phased or One-Time Change We recommend a phased implementation of a flat rate to allow DPR, CACs, CDFA, and stakeholders to plan accordingly. A phased implementation (e.g., three to five years) of a flat rate would align with the department’s need to support its authorized expenditures for its mill-related responsibilities.</p> <p>Implementation Start We recommend that the phased implementation of a flat rate begins in FY2024/25.</p> <p>Mill Adjustments We recommend an examination of the mill assessment every five (5) years, at a minimum, to review and potentially adjust the maximum mill assessment rate for revenue stabilization purposes, especially as the department’s SPM Roadmap related priorities are determined in the coming years.</p> <p>Continuous Review We recommend that the department analyzes its financial condition during the annual budgeting process to determine whether an adjustment to the mill assessment would be necessary.</p> <p>Stakeholder Involvement in Review Process We recommend that stakeholders are consulted by DPR during recommended adjustment reviews.</p>
Funding Sources	<p>Mill Contribution to Departmental Funding Mix We found that the mill is the appropriate funding source to support the recommended proposal options. In addition, we found that the General Fund is not a sustainable nor appropriate funding source to support recommended proposal options. We provide additional rationale for this finding in <i>Section 2</i> of this report.</p> <p>Mill Revenue Levels and Other DPR Funding Sources We found that additional mill assessment revenues to support the recommended proposal options would only support DPR’s authorized responsibilities, excluding its registration and licensing and certification related responsibilities, and would have no impact on the department’s other revenue sources from registration and licensing and certification fees.</p>

C. Proposed Implementation Plan

We propose the following milestones to successfully implement the recommended proposal options:

- **Pre-Implementation** is the first milestone of the plan and involves all activities leading up to and required for implementation. This includes final recommendation decisions, development of a budget change proposal, consultation with stakeholders and the legislature, and approval and release of a final budget.
- **Implementation** is the second milestone of the plan and involves executing the mill recommendations. To reach this milestone, it is assumed that all requirements for pre-implementation and implementation are met.
- **Post-Implementation** is the last milestone of the plan and includes all activities after implementation has occurred. This includes ongoing stakeholder and legislative engagement, determining the review process, mill adjustment phases, and consideration of Priority Pesticides and future mill tiering options to further alignment with California’s transition to safer, more sustainable pest management.

Exhibit ES-5 provides an anticipated timeline for each milestone. This timeline considers the state’s budget approval process, legislative process, and potential future review and adjustments to mill assessment rate(s) and structure to align with Priority Pesticides to be determined by the process detailed within the SPM Roadmap.

Exhibit ES-5 Implementation Timeline

Milestone and Activities	2023				2024												TBD	
	JAN-AUG	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	TBD
Ongoing																		
Stakeholder Engagement and Outreach	[Dark blue bar with orange dot in Nov 2023]																	
Pre-Implementation																		
Develop Budget Change Proposal	[Dark blue bar with green dot in Dec 2023 and purple dot in May 2024]																	
Implementation																		
Begin Recruitment Strategy																		
Implement Mill Proposal																		
Post-Implementation																		
Phase-in Mill Adjustments																		
Consider Mill Review Process																		
Consider Tiered Mill for Priority Pesticides																		







- Begin notification period (tentative)
- Release of Governor’s FY2024/25 Budget
- Submit May Revision BCP, if necessary
- Implement Mill Proposal July 1, 2024
- * Start depends on determination of Priority Pesticides

1. Introduction

Crowe LLP (Crowe) prepared this report on behalf of the Department of Pesticide Regulation (DPR) as part of the Mill Assessment Study. This report provides Crowe’s preliminary recommendations and proposed implementation plan based on our examination of the study’s six (6) objectives, listed in **Exhibit 1**.

Crowe has previously released a Mill Alternatives Concept Paper (Concept Paper) and a Workload Analysis Report (Workload Analysis). The Concept Paper provided initial proposals, including mill design, usage, and implementation related considerations for feedback and review by DPR and interested stakeholders. The Workload Analysis report provided the results of Crowe’s Workload Analysis of DPR’s current and future programmatic needs. The Concept Paper, the Workload Analysis, and this report serve as supporting documents in anticipation of future budget change proposals by DPR.

Exhibit 1 Mill Assessment Study Objectives

	<p>Examine current and future funding needs for DPR while also considering funding associated with CACs’ mill-related responsibilities.</p>
	<p>Examine existing structure and rate of the mill assessment.</p>
	<p>Examine current and future revenues produced by that structure and rate.</p>
	<p>Examine detailed options that incentivize the use of safer sustainable pest management practices across the state of California.</p>
	<p>Examine incentivization options, including “tiering the mill assessment,” to incentivize the use of safer pest management, as well as evaluating strategies for linking how revenues are collected to support the broader mission of DPR.</p>
	<p>Examine long-term sustainable funding that allows DPR to continue to fulfill its mission.</p>

Report Structure

This report is organized into six (6) sections and five (5) appendices, as described below:

1. **Introduction** summarizes the Mill Assessment Study background, including an overview of the study objectives, profile of the mill assessment, and guiding principles. We then provide an overview of the design, usage, and implementation considerations proposed in the Concept Paper and outcomes from the Workload Analysis.
2. **Preliminary Proposal Recommendations** describes our recommended proposal options and key assumptions. We present our findings on the sustainability and appropriateness of the mill assessment to support our recommended proposal options.
3. **Design Recommendations** describes our mill design recommended options and rationale.
4. **Usage Recommendations** describes our mill usage recommended options and rationale.
5. **Implementation Recommendations** describes our mill implementation recommendations and rationale.
6. **Proposed Implementation Plan** describes our proposed implementation plan, which includes the identification of key milestones and assumptions, roles and responsibilities, key activities, and challenges and success factors.
7. **Appendix A** provides a detailed summary of our methodology for each of the Mill Assessment Study's project milestones.
8. **Appendix B** summarizes DPR's funding authority for its Pesticide Programs and Administration.
9. **Appendix C** summarizes key findings, background, and detailed analysis supporting our recommended proposal option to support CACs' programmatic needs for mill related responsibilities.
10. **Appendix D** summarizes our additional analysis of the three (3) funding models proposed within the Concept Paper: 1) a flat rate model based on the current mill assessment, 2) a tiered rate model based on levels of pesticide category workload, and 3) a tiered rate based on levels of pesticide product workload. This Appendix also summarizes a fourth proposed model, a tiered rate based on Priority Pesticides to be identified through the process outlined in SPM Roadmap.
11. **Appendix E** summarizes our findings on the sustainability of the mill assessment based on a detailed analysis of historical mill revenues generated from pesticide product sales at the existing rate along with other factors that may potentially impact future mill revenues.

A. Background

DPR is responsible for the registration of, continuous evaluation of, and mitigation of risks associated with pesticides used in California; oversees statewide enforcement of pesticide laws and regulations and oversees local enforcement carried out locally by CACs; and for facilitating the use of reduced risk pest management. Food and Agriculture Code (FAC) Section 11501 sets forth DPR's six (6) mandates:

1. To provide for the proper, safe, and efficient use of pesticides essential for production of food and fiber and for protection of public health and safety
2. To protect the environment from environmentally harmful pesticides by prohibiting, regulating, or ensuring proper stewardship of those pesticides
3. To assure agricultural and pest control workers of safe working conditions where pesticides are present
4. To permit agricultural pest control by competent and responsible licensees and permittees under strict control of DPR and the County Agricultural Commissioners
5. To assure consumers and users that pesticides are properly labeled and appropriate for the use designed by the label and that state or local government dissemination of information on pesticide uses of any registered pesticide product is consistent with the uses for which the product is registered
6. To encourage the development and implementation of pest management systems, stressing application of biological and cultural pest control techniques with selective pesticides when necessary to achieve acceptable levels of control with the least possible harm to the public health, nontarget organisms, and the environment.

Mill Assessment Study Milestones

In the FY2021/22 state budget, DPR was allocated one-time funding to embark on a comprehensive study of its mill assessment that examines:

- The existing structure and rate of the mill assessment
- Current and future funding needs for DPR, including strategies for linking how revenues are collected to support DPR's broader mission objectives and support for the state's transition to safer, more sustainable pest management
- Existing CAC funding associated with mill related responsibilities and future needs
- Detailed options that incentivize the use of safer, more sustainable pest management across the state of California
- Current and future revenues produced by proposed structures and rates to provide long-term sustainable funding that allows DPR to continue to fulfill its mission.

In February 2022, DPR contracted with Crowe to conduct a study on the mill assessment, engage and consult stakeholders throughout the various stages of the study, and issue a final report outlining proposed mill options. By the end of June 2023, Crowe will provide DPR with a detailed plan including mechanisms to implement the recommended options identified based on the study. **Exhibit 2** provides a summary of the Mill Assessment Study milestones, activities, and outcomes to-date.

Exhibit 2
Overview of Milestones, Key Activities, and Outcomes

Milestones	<p>Perform Initial Interviews and Program Research <i>Spring – Summer 2022</i></p>	<p>Conduct Stakeholder Engagement and Consultation <i>Summer – Fall 2022</i></p>	<p>Release Mill Alternative Concepts Paper <i>Fall 2022</i></p>	<p>Obtain Stakeholder Input on Concepts <i>Fall 2022 – Winter 2023</i></p>	<p>Release Workload Analysis <i>Fall 2022 – Winter 2023</i></p>	<p>Release Preliminary Recommendations & Proposed Implementation Plan <i>Winter – Spring 2023</i></p>	<p>Release Final Mill Recommendations & Implementation Plan <i>Spring -Summer 2023</i></p>
Key Activities	<ul style="list-style-type: none"> Identified, reviewed, and documented relevant background materials Conducted 12 initial interviews with DPR subject matter experts across Pesticide Programs and Administration branches Conducted 15 initial individual stakeholder interviews Prepared written summary of findings to support the development of mill alternative options 	<ul style="list-style-type: none"> Conducted one-on-one stakeholder consultation sessions with 30 stakeholders Analyzed and summarized results Prepared summary of findings to the development of mill alternative options 	<ul style="list-style-type: none"> Identified and documented Mill Alternative Concept considerations Identified and documented examples of potential mill design, usage, and implementation alternative options Outlined and communicated remaining milestones Prepared Mill Alternatives Concept Paper 	<ul style="list-style-type: none"> Conducted public webinar outlining objectives of Concept Paper Distributed Concept Paper for review by stakeholders Conducted five cross-sector stakeholder Focus Groups Conducted additional follow-up interviews with stakeholders 	<ul style="list-style-type: none"> Identified and obtained relevant programmatic and fiscal data Identified DPR's current programmatic needs Identified DPR's future programmatic needs Examined the appropriateness of the mill assessment to support its programmatic needs Prepared Detailed Fiscal Analysis Results 	<ul style="list-style-type: none"> Review and consolidate stakeholder input on Concept Paper Develop recommended proposal options Develop recommended design, usage, and implementation options Evaluate recommendations for consistency with guiding principles Conduct public webinar on preliminary recommendations and proposed implementation plan Obtain stakeholder feedback 	<ul style="list-style-type: none"> Prepare Final Report and Implementation Plan, incorporating stakeholder feedback as appropriate
Outcomes	<ul style="list-style-type: none"> Release of Study Update in July 2022 	<ul style="list-style-type: none"> Release of Study Update in October 2022 	<ul style="list-style-type: none"> Release of Mill Alternatives Concept Paper in December 2022 	<ul style="list-style-type: none"> Public Webinar on Mill Alternatives Concept Paper Release of Study Update in February 2023 	<ul style="list-style-type: none"> Release of Workload Analysis Report in February 2023 	<ul style="list-style-type: none"> Release of Preliminary Recommendations and Implementation Plan in April 2023 	<ul style="list-style-type: none"> Release of Final Recommendations and Implementation Plan in Summer 2023

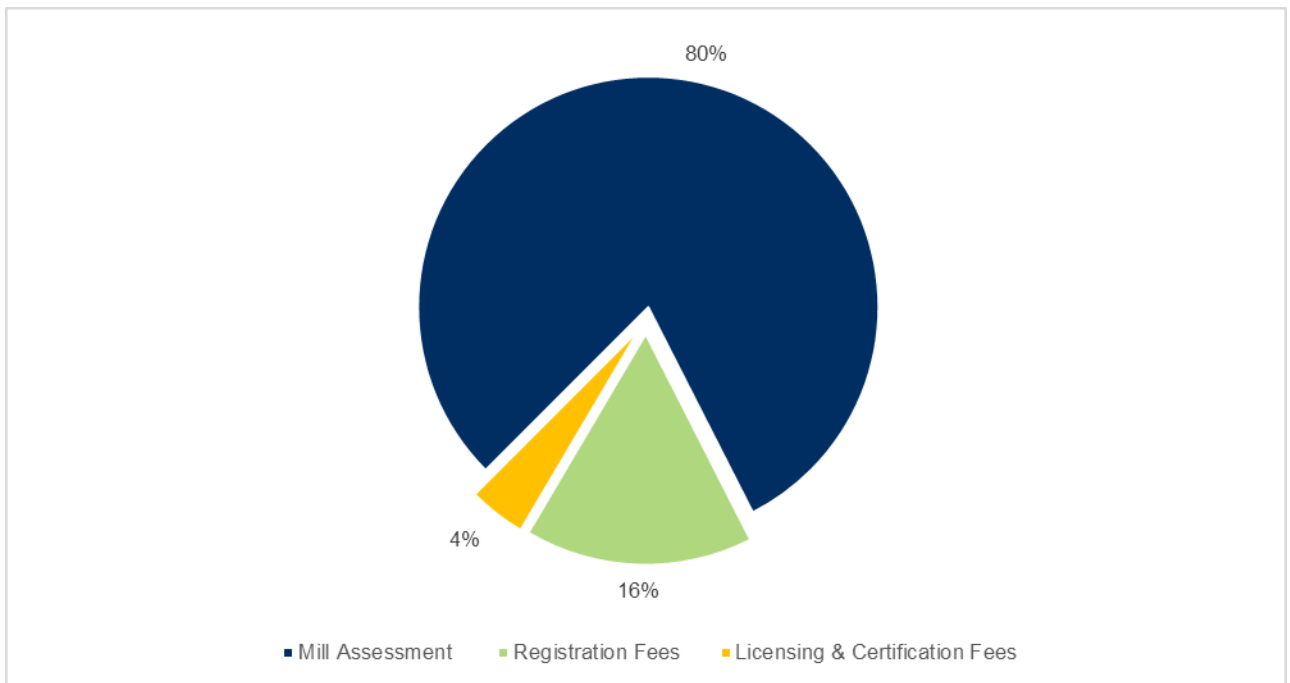
B. Funding the Department of Pesticide Regulation

DPR is primarily funded by the Department of Pesticide Regulation Fund⁵ with limited funding from federal funds, special funds, and reimbursements from other departments to support its Pesticide Programs and Administration. The Department of Pesticide Regulation Fund collects revenues from the following three (3) sources:

- a quarterly mill assessment on pesticide sales
- pesticide registration fees from over 13,750 registrants
- licensing and certification fees from individual commercial applicators, pest control pilots and advisers and dealers.

DPR's mill assessment is the department's primary funding source accounting for roughly 80 percent of the Department of Pesticide Regulation Fund's revenues sources, as shown in **Exhibit 3**.

Exhibit 3
Department of Pesticide Regulation Fund
Mill, Registration, and Licensing & Certification Revenue Sources



⁵ The Department of Pesticide Regulation Fund supports roughly 85 percent of the department's FY2022/23 current programmatic needs (i.e., \$132.6 million out of \$156.3 million total budgeted expenditures from all funds). DPR's current programmatic needs are also supported by the General Fund (\$27.9 million), California Environmental License Plate Fund (\$653,000), Federal Trust Fund (\$2.4 million), Reimbursements (\$610,000), and Cannabis Control Fund (\$2.7 million). It is important to note funding from the General Fund reflects temporary support.

Status of the Department of Pesticide Regulation Fund

The Department of Pesticide Regulation Fund has operated under a structural deficit⁶ in five out of eight years from FY2014/15 to FY2021/22, as shown in **Exhibit 4**. DPR projects the Department of Pesticide Regulation Fund will operate under a structural deficit in FY2022/23 (budgeted). The fund's structural deficit, as shown in **Exhibit 5**, is driven by the following:

- **Mill Revenues & Expenditures:** From FY2014/15 to FY2021/22, mill revenues and expenditures have increased approximately 4 percent, on average, on an annual basis. In FY2016/17 through FY2019/20, the fund's structural deficit was driven by mill related deficits. In FY2020/21, the fund's surplus was driven by an increase in mill revenues due to pandemic related pesticide sales of disinfectants and antimicrobials along with overall state directed budget cuts as a fiscal response to the pandemic. DPR last raised the mill assessment in 2004.
- **Registration Revenues & Expenditures:** From FY2014/15 to FY2021/22, registration revenues have increased approximately 11.5 percent, on average, on an annual basis and expenditures have increased approximately 12.0 percent on an annual basis. The increases in revenues during this period were driven by increased registration fees in FY2015/16 and again in FY2021/22 to support registration related programmatic needs. The increases in expenditures during this period were driven by increased programmatic costs that support new positions to address workload increases and California Pesticide Electronic Submission Tracking (CalPEST) database development related expenditures. DPR last raised registration fees in 2021.
- **Licensing and Certification Revenues & Expenditures:** From FY2014/15 to FY2021/22, licensing and certification revenues decreased approximately 2.0 percent, on average, on an annual basis and expenditures increased approximately 9.6 percent on an annual basis. The increases in expenditures during this period were driven by increased programmatic costs for new positions to address workload increases. As part of DPR's FY2022/23 budget, the department received 3.0 permanent positions supported by \$1.6 million from the General Fund through FY2024/25, and \$1.3 million going forward. These positions implement responsibilities required by unfunded federal mandates⁷ issued in 2017 and modernize elements of the licensing system. DPR is planning to propose regulations to increase licensing and certification fees to support its future programmatic needs. DPR last raised licensing and certification fees in 2004.

In FY2021/22, the Department of Pesticide Regulation's total expenditures (i.e., DPR's current programmatic needs) increased roughly \$15.0 million from the prior fiscal year due to the following factors:

- Restoration of FY2020/21 budget cut to the fund balance – \$2.5 million
- Restoration of pandemic related budget cuts – \$4.6 million
- Initial CalPEST project funding – \$5 million
- FY2021/22 employee compensation increases – \$3.3 million.

⁶ A structural deficit occurs when actual expenditures are greater than revenues.

⁷ Federal Certification of Pesticide Applicators Rule.

Exhibit 4
Department of Pesticide Regulation Fund
FY2014/15 through FY2022/23

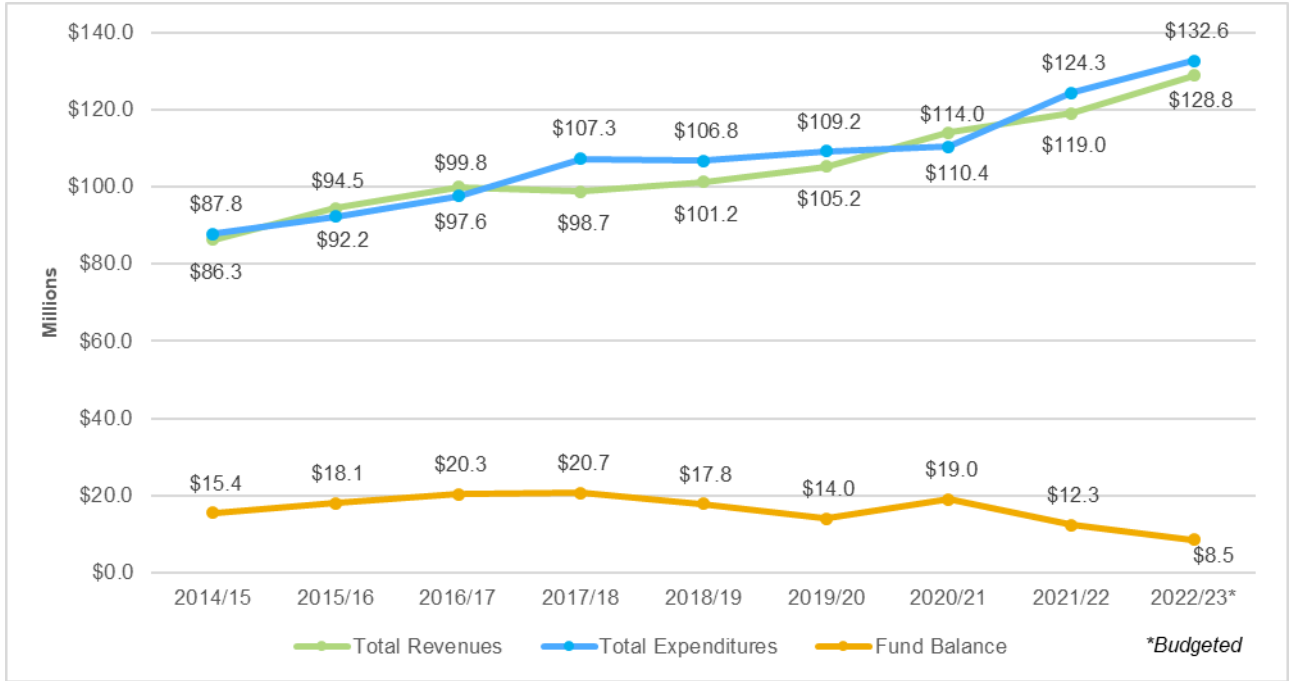


Exhibit 5
Comparison of Mill, Registration, and Licensing & Certification Revenues and Expenditures
FY2014/15 through FY2022/23



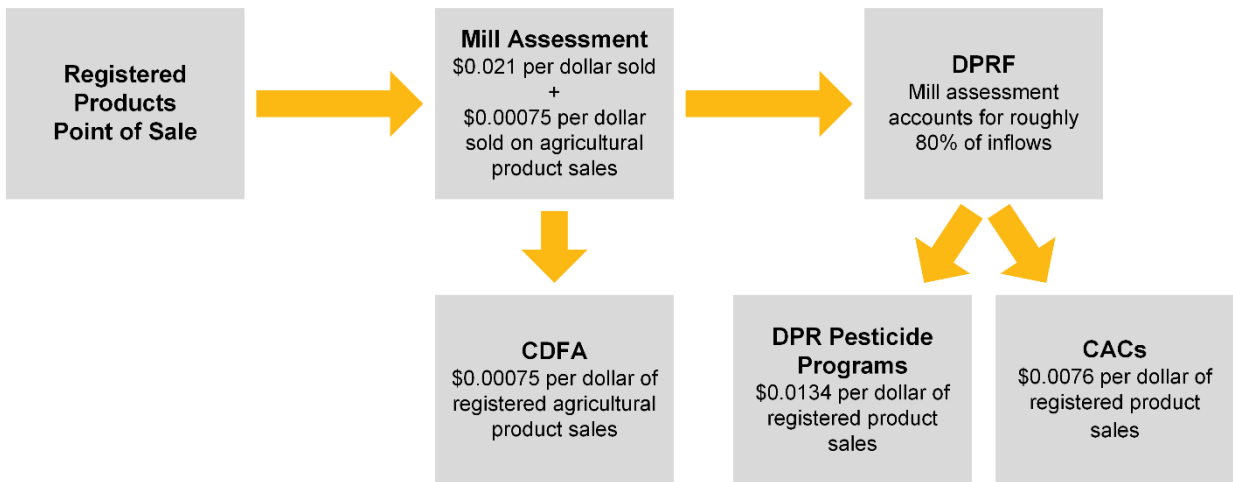
Profile of the Mill Assessment

The current mill assessment was established in 2004 and is currently set⁸ at a rate of 21 mills, or 2.1 cents per dollar of registered pesticide product sales. DPR assesses an additional 0.75 mills, or 0.075 cents per dollar on the sale of agricultural use pesticides.⁹

DPR’s mill assessment revenues flow into the Department of Pesticide Regulation Fund, as illustrated in **Exhibit 6**, pursuant to FAC section 12841(g). Mill assessment revenues primarily support the following:

1. DPR’s Pesticide Programs and Administration: Mill assessment revenues derived from 13.4 out of 21 mills levied on registered pesticide product sales fund the department’s Pesticide Programs and Administrative branches. DPR receives roughly 63.8 percent of mill assessment revenues.
2. County Agricultural Commissioners: Mill assessment revenue derived from 7.6 mills out of 21 mills levied on registered pesticide product sales is distributed to California’s 55 CACs (covering all 58 counties) performing local pesticide enforcement activities pursuant to federal and state pesticide laws and regulations. The CACs receive roughly 36.2 percent of mill assessment revenues.
3. California Department of Food and Agriculture: Mill assessment revenue derived from 0.75 mills levied on the sale of registered agricultural use pesticides funds the CDFA’s Office of Pesticide Consultation and Analysis Unit (OPCA). The OPCA focuses on potential pesticide regulatory impacts and pest management alternatives that may mitigate or prevent such impacts on production agriculture.

**Exhibit 6
Mill Assessment Revenues Flow**



⁸ The maximum assessment rate is set by statutes in California Food and Agricultural Code (FAC) sections 12841/12841.1. The Director sets the actual rate by regulation in Title 3 of the California Code of Regulations (3 CCR) section 6386 (Established Rate).
⁹ FAC section 12841.1(a) requires an additional assessment be collected on sales of all pesticides, except those labeled solely for home, industrial, or institutional use. Therefore, a pesticide label that contains any "agricultural use" sites and applications will be subject to the additional mill assessment.

C. Guiding Principles

Crowe developed principles to guide the development of the preliminary recommendations and proposed implementation plan presented in this report. Crowe introduced the guiding principles, presented in **Exhibit 7**, to DPR and interested stakeholders earlier in the study. The guiding principles reflect key themes emerging from Crowe’s program analysis, research, and stakeholder consultation over the course of the last year as part of the Mill Assessment Study.

Exhibit 7 Mill Assessment Study Guiding Principles

Principle	Description
Provide a sustainable long-term funding source for the department	Our recommendations consider the sustainability of the mill assessment to continue to provide a long-term funding solution for proposed options. In addition, our recommendations account for potential fiscal impacts to DPR, CACs, and CDFA as they work together to support the state’s transition to safer, more sustainable pest management.
Incentivize safer, more sustainable pest management	Our recommendations consider options that support DPR and CDFA’s initial actions to support implementation of the SPM Roadmap. We also consider the behavioral and economic factors that may incentivize pesticide usage decision-making within the marketplace to support the state’s transition to safer, more sustainable pest management.
Align with the department’s mission, emerging priorities, and legal requirements	Our recommendations consider that any changes to the mill rate and structure must align with the department’s mission, emerging priorities, and legal requirements.
Support alignment of the department and CACs’ programmatic activities with appropriate funding sources	Our recommendations consider the alignment of the department and CACs’ workload activities with appropriate funding sources. We reviewed DPR’s funding authorities, current and future programmatic needs based on workload, and the department’s functional accounting methodology to prepare recommendations guided by this principle.
Support the availability of tools, technologies, and practices to address the diverse pest management needs in the State	Our recommendations consider how the mill assessment may affect the availability of effective tools, technologies, and practices to address California’s diverse pest management needs.
Incorporate objective measures	Our recommendations reflect an in-depth analysis of potential alternative criteria to determine the mill assessment rate and structure. Our recommendations reflect the principle that the mill assessment rate and structure should be clear, fair, science-based, and objective.
Minimize the potential for unintended consequences	Our recommendations carefully account for intended and unintended consequences based on research, analysis, and feedback provided by stakeholders over the course of the last year.
Foster transparency	In developing our recommendations, we strived to clearly explain and demonstrate the reasoning and methods for our recommended proposal options, including design, usage, and implementation options.
Minimize administrative burden	Our recommendations account for the feasibility and resource demands through implementation.
Allow for re-evaluation and refinement	The last guiding principle relates closely to providing a sustainable long-term funding source for the department. We understand that our recommendations represent one approach to supporting the DPR, CACs, and CDFA at this time. We recognize the potential need for additional reevaluation of the mill assessment once Priority Pesticides are determined as part of the SPM Roadmap process.

D. Mill Alternatives Concept Paper

In December 2022, Crowe released the Mill Alternatives Concept Paper (Concept Paper) outlining mill design, usage, and implementation considerations for review and feedback by DPR and interested stakeholders to support the development of mill recommendations. Below is a description of the considerations described in the Concept Paper:

- **Design considerations** address the legal authority of the mill, how the mill is set initially and, in the future, the structure of the assessment, alignment of the assessment, and approaches to revenue stabilization.
- **Usage considerations** address how revenue from the mill is utilized by DPR, CACs, and CDFA, clarifying the types of programs to be funded, including alternatives that would utilize mill revenues to positively incentivize sustainable pest management activities.
- **Implementation considerations** address the timing of the mill assessment implementation and how mill revenue is monitored and adjusted over time. More broadly, we also consider how mill revenue is integrated with DPR’s other funding sources within implementation.

Exhibit 8 provides an overview of mill considerations raised in the Concept Paper that we asked DPR and its interested stakeholders to provide feedback on. In *Section 3*, we provide our recommendations related to mill design, in *Section 4*, we provide our recommendations related to mill usage, and finally, in *Section 5*, we provide our recommendations related to mill implementation. In each of these sections we summarize stakeholder feedback on these considerations along with our rationale to support recommendations on mill design, usage, and implementation.

Exhibit 8 Overview of Mill Concepts

Design	Setting <ul style="list-style-type: none"> • In Statute and Regulation • Alignment with Statutory Mandates and Regulation • Alignment with Program Expenditures • Alignment with Sustainable Pest Management (SPM) • Revenue Stabilization 	Structure <ul style="list-style-type: none"> • Tiered Rate vs. Flat Rate • Reserve Mechanism
	Usage	Funding for Programmatic Needs <ul style="list-style-type: none"> • Program Core Needs • Program SPM Needs • County Agricultural Commissioner (CAC) Needs • Other Needs
Implementation	Timing <ul style="list-style-type: none"> • Phased In • One-Time • Review, Monitoring, and Future Adjustments 	Funding Source <ul style="list-style-type: none"> • Mill Funding • Registration Funding • Licensing and Certifying Funding • General Fund • Other: AB32, U.S. EPA

Mill Design Considerations

- **Setting** – Refers to the mechanism by which the mill is formally established, alignment of the mill, level of the mill, and extent to which the mill provides a stable revenue source. It answers the following questions:
 - Is the mill assessment set in statute, or authorized in statute and set in regulation?
 - Is the mill aligned with statutory mandates, regulation, program expenditures, and incentivizing SPM?
 - Is the mill set to provide a stable revenue source?
- **Structure** – Refers to the basic construction of the mill:
 - Is it set at a single value?
 - Is it set at multiple different values based on established criteria (e.g., tiered)?
 - Does the mill structure provide for a funding reserve?

Mill Usage Considerations

- **Programmatic Needs** – Defines how, and to what extent, mill revenues are utilized to cover DPR's programmatic needs. This includes how mill revenue could be utilized to further DPR's objective of incentivizing safer sustainable pest management:
 - What portion of unbudgeted core programmatic needs are funded by the mill?
 - What portion of future SPM programmatic needs will be funded by the mill?
 - At what level does the mill support CACs?
 - What other needs are funded by the mill?
- **Positive Incentives** – Considers how mill revenue could be utilized to support DPR's goal of safer sustainable pest management:
 - How does mill funding support and/or incentivize safer, more sustainable pest management?
 - How does the mill support research, education, and/or grants to inform new pest management approaches?

Mill Implementation Considerations

- **Timing** – Considers practical aspects of how the mill is implemented, monitored, and adjusted over time:
 - Is there a built-in structure to adjust the mill in the future?
 - Is the mill assessment implemented in a phased approach or as a one-time change?
 - What is the process to review and monitor the mill assessment over time?
 - Is there a mechanism to adjust the mill assessment over time?
 - How are stakeholders involved in the review process?
- **Funding Source** – Considers mill revenue within DPR's overall funding sources, including potential new sources of funding:
 - How does mill revenue contribute to DPR's overall mix of funding?
 - How do changes to mill revenue levels impact other current and potential DPR funding sources?

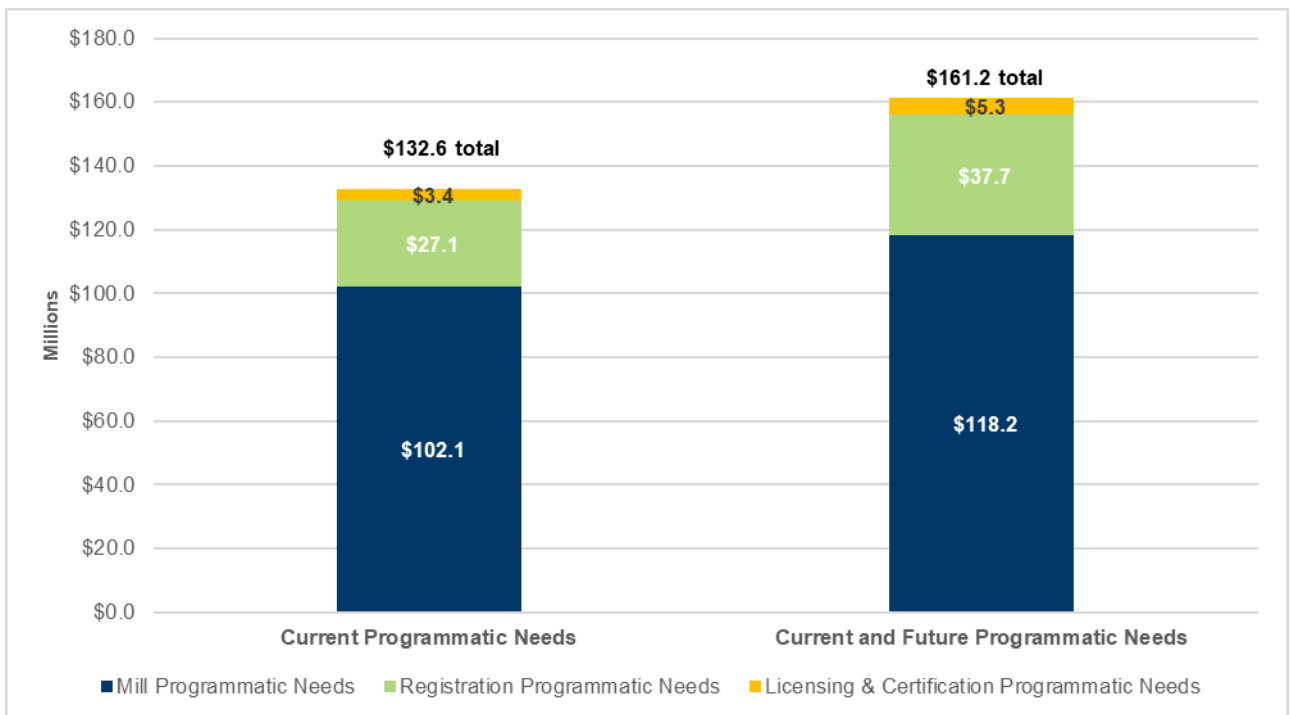
E. Workload Analysis Results

In February 2023, Crowe released a Workload Analysis Report (Workload Analysis) identifying the department’s estimated level of funding to support its overall programmatic needs for mill-related responsibilities, as shown in **Exhibit 9**. Below is a summary of key findings:

- Current Programmatic Needs:** DPR’s current programmatic needs reflected in its FY2022/23 budget for mill related responsibilities total approximately \$102.1 million – nearly 80 percent of \$132.6 million in needs supported by the Department of Pesticide Regulation Fund. This includes approximately \$47.1 million to support personnel services related expenditures (i.e., support for authorized positions) and approximately \$55.0 million to support other expenditures, including CACs (\$34.7 million), operating and equipment expenditures (\$11.8 million), external agency fund users¹⁰ (\$4.4 million), and shares of pro rata and supplemental pension obligations (\$4.1 million).
- Future Programmatic Needs:** DPR’s future programmatic needs based on the Workload Analysis, total approximately \$16.1 million for its mill related responsibilities. This includes approximately \$2.8 million in estimated needs to support the early implementation of the SPM Roadmap.

DPR’s current and future programmatic needs for mill-related responsibilities, including initial estimated programmatic needs to support the implementation of the SPM Roadmap, total \$118.2 million. This equates to a 16 percent increase in overall programmatic needs. It is important to note that Crowe’s Workload Analysis did not account for additional mill funding to support the department’s other future needs, including \$6.1 million for IPM grants and \$1.0 million for environmental monitoring equipment. These are accounted for in Crowe’s preliminary proposal recommendations within the next section.

Exhibit 9
Summary Comparison of Estimated Current and Future Programmatic Needs



¹⁰ External agency fund users include California Environmental Protection Agency (CalEPA), California Department of Toxic Substances Control, California Department of Resources Recycling and Recovery, California Office of Environmental Health and Hazard Assessment, California Department of Public Health, and Commission on State Mandates.

2. Preliminary Proposal Recommendations

This section provides our preliminary proposal recommendations based on our comprehensive examination of the mill assessment. This section is organized as follows:

- A. *Recommended Proposal Options and Key Assumptions*
- B. *Sustainability of Mill Assessment Revenue to Support Recommended Proposal Options*
- C. *Appropriateness of the Mill Assessment to Support Recommended Proposal Options.*

A. Recommended Proposal Options and Key Assumptions

We recommend proposal options based on identified mill-related programmatic needs that support DPR, CACs, CDFA, and the transition to safer, more sustainable pest management. In **Exhibit 10**, we identify minimum revenue and incremental rates requirements to support recommended proposal options.

DPR Programmatic Needs

We recommend a proposal option that, at a minimum, supports DPR's overall programmatic needs for its mill-related responsibilities totaling approximately \$125.3 million. This supports the department's current programmatic needs totaling \$102.1 million based on its FY2022/23 authorized budget and future programmatic needs totaling \$23.2 million.

The department's current programmatic needs totaling \$102.1 million supports approximately \$47.1 million for personal services related expenditures (i.e., support for authorized positions) and approximately \$55.0 million for other needs including CACs (\$34.7 million), operating and equipment expenditures (\$11.8 million), external agency fund users (\$4.4 million), and shares of pro rata and supplemental pension obligations (\$4.1 million).

The department's future programmatic needs totaling \$23.2 million includes \$16.1 million in future programmatic needs, including approximately \$2.8 million in estimated needs for the early implementation of the SPM Roadmap, identified by our Workload Analysis. The department's future programmatic needs also include \$6.1 million to support the department's Integrated Pest Management (IPM) grants and \$1.0 million to support environmental monitoring.

CACs' Programmatic Needs

CACs' current programmatic needs for mill-related responsibilities include maintaining the existing mill allotment criteria pursuant to FAC Section 12844 and CCR 6393, which generates nearly \$35.0 million per year to support local pesticide usage enforcement programs. To support CACs' future programmatic needs, we recommend a proposal option that maintains the existing mill allotment criteria and up to approximately \$10.2 million¹¹ that provides as-needed funding (separate from the existing mill allotment criteria) to support individual County authorized needs (e.g., project, personnel, stakeholder engagement support, other funding, etc.) for local pesticide usage enforcement workload activities and administration priorities.

¹¹ \$10.2 million equates to roughly 1.0 position at \$175,000 per County, though the as-needed funding could be allocated based on individual County needs, which are to be determined.

Exhibit 10
Recommended Proposal Options – Minimum Revenue and Incremental Rate Requirements¹²

Mill Options	Minimum Revenue Requirements	Incremental Rate Requirements	Descriptions
A. Current Mill	\$94.5 million	\$0.0215	Reflects a combined rate based on \$0.021 applied to all products and an additional \$0.00075 applied to ag products.
B. DPR Current Programmatic Needs	\$9.7 million	\$0.0022	Requires a \$0.0022 adjustment to the existing mill rate to generate \$9.7 million. This additional revenue would fully support DPR's current programmatic needs based on its FY2022/23 budget totaling \$102.1 million, which includes revenue to support CACs existing mill allotment criteria.
C. DPR Future Programmatic Needs	\$23.2 million	\$0.0053	Requires a \$0.0053 adjustment to the existing mill rate to support DPR's future programmatic needs totaling \$23.2 million. This option would support \$16.1 million in resources (including \$2.8 million for SPM-related resources), \$6.1 million in Integrated Pest Management (IPM) grants, and \$1.0 million to support environmental monitoring.
D. CAC Future Programmatic Needs	\$10.2 million	\$0.0023	Requires a \$0.0023 adjustment to the existing mill rate to support up to \$10.2 million in as-needed funding for CAC pesticide usage enforcement workload activities and administration priorities.
E. CDFA Future Programmatic Needs	\$0.8 million	\$0.0002	Requires a \$0.0002 (equivalent to \$0.00029 to ag sales) rate to generate roughly \$800,000 to support CDFA's future programmatic needs for the OPCA. This additional revenue would fully support CDFA's OPCA current and future programmatic needs totaling roughly \$2.9 million.
F. SPM Programmatic Needs	\$11.0 million	\$0.0025	Requires a \$0.0025 adjustment to the existing mill rate to support \$11.0 million in additional funding for SPM programmatic needs identified by/aligned with the Sustainable Pest Management Roadmap for California . ¹³
Total	\$149.3 million	\$0.0339	<i>Note: this summary presents rounded values</i>

¹² Based on FY2021/22 pesticide product sales revenue totaling approximately \$4.4 billion.

¹³ The Sustainable Pest Management Roadmap for California Roadmap (SPM Roadmap) was developed over the course of nearly two years by a diverse group of stakeholders representing conventional and organic agriculture, urban environments, community and environmental groups, tribes, researchers, and government. The SPM Roadmap charts the course for accelerating the state's systemwide transition to sustainable management and eliminating and replacing of prioritized high-risk pesticides by 2050.

CDFA Programmatic Needs

CDFA's overall programmatic needs for its mill-related responsibilities conducted by OPCA total roughly \$2.9 million. CDFA currently receives an average of roughly \$2.1 million annually from the mill assessment and would need roughly \$800,000 in additional mill revenue to support its overall programmatic needs for its mill-related responsibilities conducted by OPCA.

The department's current programmatic needs for its mill-related responsibilities totaling \$1.8 million support approximately \$772,000 for personal services related expenditures, approximately \$800,000 for regulatory analyses¹⁴ and \$184,000 in related department overhead and staff travel, professional development, and equipment.

The department's future programmatic needs for its mill-related responsibilities totaling \$1.1 million support approximately \$156,000 for personal services related expenditures, approximately \$400,000 for regulatory analyses, \$500,000 in competitive grants and direct source for IR-4 reduced risk pesticide tools for specialty crops, and \$36,000 in related department overhead and staff travel, professional development, and equipment.

CDFA is requesting an increase in the ceiling to its mill assessment for future use, but not an immediate increase in assessment revenue. We recommend a proposal option that supports CDFA's current programmatic needs to account for increases in costs of existing CDFA personnel and anticipated increases in costs for University of California regulatory analyses grants, as well as its future programmatic needs to support the early implementation of the SPM Roadmap.

SPM Programmatic Needs

We recommend a proposal option that would provide a funding mechanism (e.g., an additional 2.5 mill generating up to approximately \$11.0 million annually) to support priority actions identified by/aligned with the SPM Roadmap. This option would support the state's transition to safer, more sustainable pest management practices across the state of California. The additional funding could support priority actions implemented by DPR or its partners, including University of California, California State University, CACs, and CDFA, with specific allotments and activities to be determined.

Key Assumptions

Below are key assumptions of our recommended proposal options:

- The recommended proposal options reflect DPR, CACs, CDFA, and initial SPM programmatic needs, which are aligned and authorized with existing funding authorities.
- The existing mill rate of \$0.0210 applied to all products and \$0.00075 applied to agricultural product sales would need to be increased to support the recommended proposal options to generate the minimum revenue requirements.
- For the next several years, DPR would implement a flat rate versus a tiered rate to support the recommended proposal options.
- Adjustments to the flat rate would be phased-in over time to appropriately support programmatic needs authorized through the annual budget process.
- DPR could implement a tiered rate option once Priority Pesticides have been evaluated and identified as part of the SPM Roadmap process. At that point, DPR could consider establishing higher mill assessments on Priority Pesticides. In *Appendix D*, we provide additional rationale to support this assumption.

¹⁴ To assess the pest management and fiscal impacts of proposed DPR regulations on producers. Awards go to UC Cooperative Extension researchers and UC/CSU agricultural economists who work with OPCA on analyses. As feasible, special awards go to fill areas with information gaps such as the cost and use of non-chemical controls, the potential of pesticides to affect soil emissions, and cost studies for various crops. These costs vary annually.

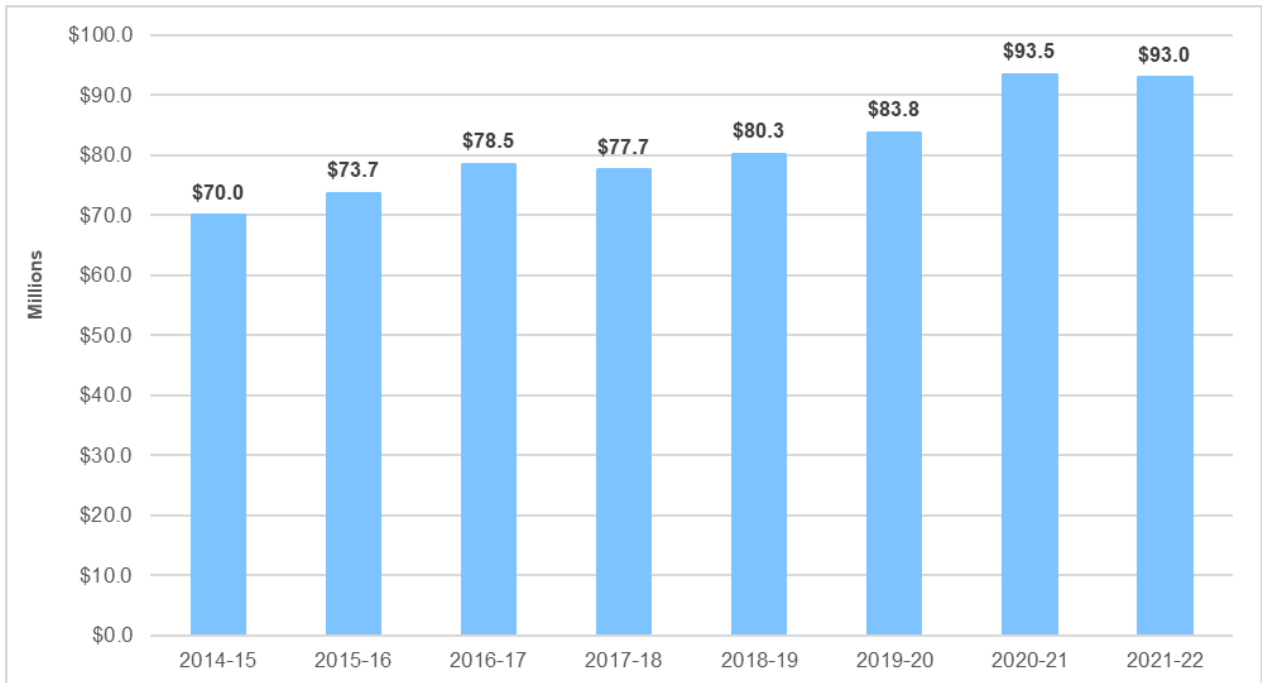
B. Sustainability of Mill Assessment Revenue to Support Recommended Proposal Options

The recommended proposal options outlined in Exhibit 10 require minimum rates that will provide sustainable and long-term funding to support DPR, CACs, CDFA, and the transition to safer, more sustainable pest management. To assure that the mill can continue to sustainably support the recommended proposal options, Crowe examined historical mill revenues generated from pesticide product sales at the existing rate along with other factors that may potentially impact future mill revenues. Below is a summary of our findings:

Historical Mill Revenues

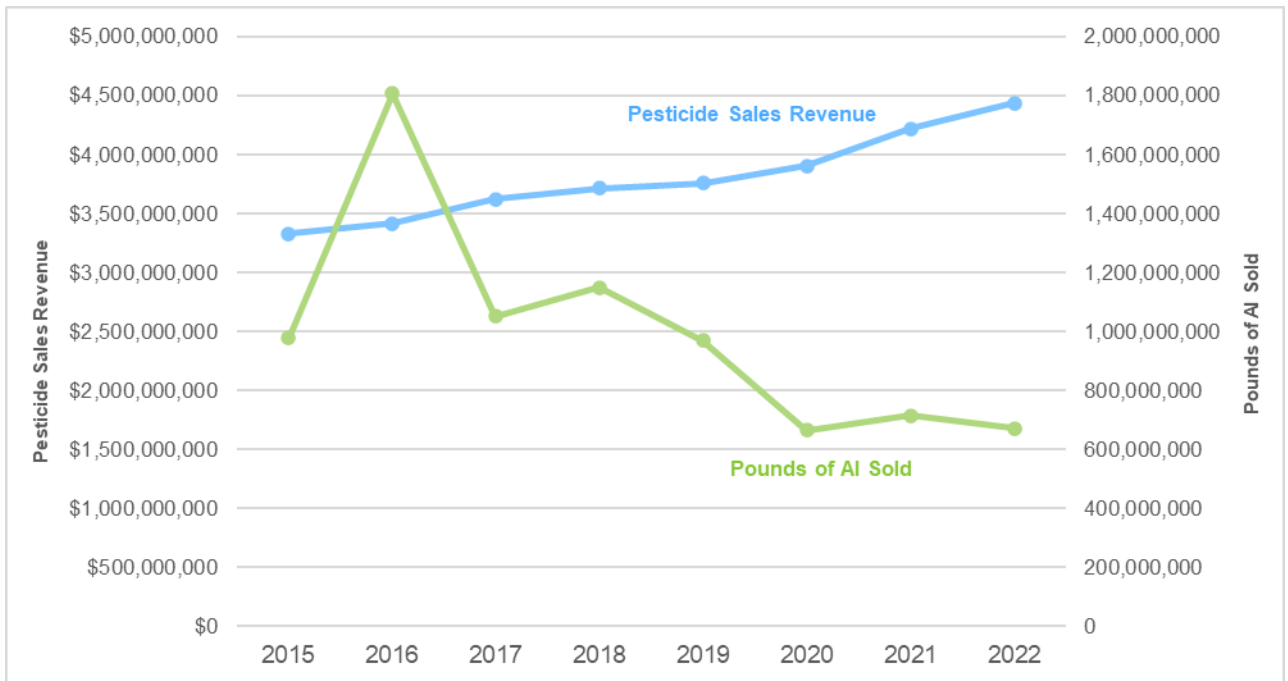
Historical mill revenue trends are consistent with approximately pesticide product sales (dollars) trends. Mill revenue has increased from \$70.0 million to \$93.0 million or 30 percent from FY2014/15 to FY2021/22, as shown in **Exhibit 11**. Mill revenues decreased by a half percent in FY2021/22, which is 16 percent higher than pre-pandemic levels in FY2018/19 and 33 percent higher than FY2014/15 levels. From FY2014/15 to FY2021/22, mill revenues only exceeded the department’s mill related expenditures in FY2021/22. Note the mill revenue trends reflected in Exhibit 11 only account for mill revenue generated at the current mill rate of \$0.021 applied to all products. CDFA generates roughly \$2.1 million per year from the \$0.00075 mill rate applied to ag-related products.

Exhibit 11
Mill Revenue Generated from Pesticide Product Sales
FY2014/15 to FY2021/22



According to MillPay records¹⁵, historical pesticide product sales trends, shown in **Exhibit 12**, demonstrate pesticide product sales revenue continue to increase despite reductions in pesticide quantity sold (measured as pounds of active ingredients). From 2015 to 2022, pesticide quantity (measured as pounds active ingredient sold) has decreased on average, 4 percent each year totaling approximately 30 percent over the course of the last eight calendar years. However, due to increased cost per pound sold, pesticide product sales revenue has increased, on average, 5 percent each year, totaling approximately 30 percent over the course of the last eight calendar years.

Exhibit 12
Pesticide Sales Revenue and Pounds of Active Ingredients Sold
CY2015 to CY2022



¹⁵ Data is based on information obtained from a system of self-reporting.

Future Mill Revenues

Future mill revenues will be dependent on a variety of factors that may impact the supply and demand of pesticide products, which would then influence future sales trends for those pesticide products. Key factors include but are not limited to: pesticide product innovation, new technology, regulatory and policy changes including transitioning to safer and sustainable pest management approaches, consumer preferences, force majeure events (e.g., pandemics, supply chain disruptions, and escalatory inflationary trends), population shifts, climate change, and others.

Economic studies¹⁶ to date have indicated pesticides are inelastic indicating that even when pesticide prices increase, demand remains relatively stable. One of the reasons that pesticide products are inelastic is likely a real or perceived lack of substitutes. As the state implements the SPM Roadmap, the knowledge and availability of alternatives could lead to greater elasticity and price sensitivity. While some factors such as regulatory changes, transitioning to safer and sustainable pest management, consumer demand for organic and sustainably produced foods might suggest a decrease in pesticide sales revenue, several other factors (e.g., inflation, population increases, higher crop values, invasive species) may contribute to an increase in revenue.

As a result, we expect that mill revenue will be relatively stable for at least the next five to ten years based on historical trends and expected timeline to implement SPM Roadmap priorities. The longer-term impacts of the state's transition to safer and sustainable pest management on mill revenue are uncertain. Therefore, we recommend that the department examine the mill assessment every five (5) years to assure that DPR's primary funding mechanism continues to provide a stable revenue source. It is also a best practice to review regulatory fees on a routine basis.

Sustainability of Mill Revenue

Based on these findings and the detailed analysis presented in *Appendix E*, we found that for the next five to ten years mill revenue is likely a sustainable funding source to support the recommended proposal options using the corresponding minimum rates, shown in **Exhibit 13**, ranging from the existing \$0.0215¹⁷ rate up to a fully phased-in rate of \$0.0339.

In **Exhibit 14**, we provide minimum rate requirements under seven (7) pesticide product sales scenarios assuming FY2021/22 product sales up to +/- 20 percent of FY2021/22 product sales revenue. Based on historical trends, it is likely that the "worst" scenario would be that sales decrease up to 5 percent in the near term (e.g., five-year period) as market impacts from the pandemic subside.

¹⁶ Böcker, T. G., & Finger, R. (2017). A Meta-Analysis on the Elasticity of Demand for Pesticides. *Journal of Agricultural Economics*, 68(2). <https://doi.org/10.1111/1477-9552.12198>. This article summarized 31 different studies of pesticide sales elasticity, focusing on pricing changes rather than policy impacts on pesticide demand.

¹⁷ Reflects a combined rate based on \$0.021 applied to all products and an additional \$0.00075 applied to ag products to support CDFA's OPCA.

Exhibit 13
Minimum Rate Requirements to Support Recommended Mill Proposals

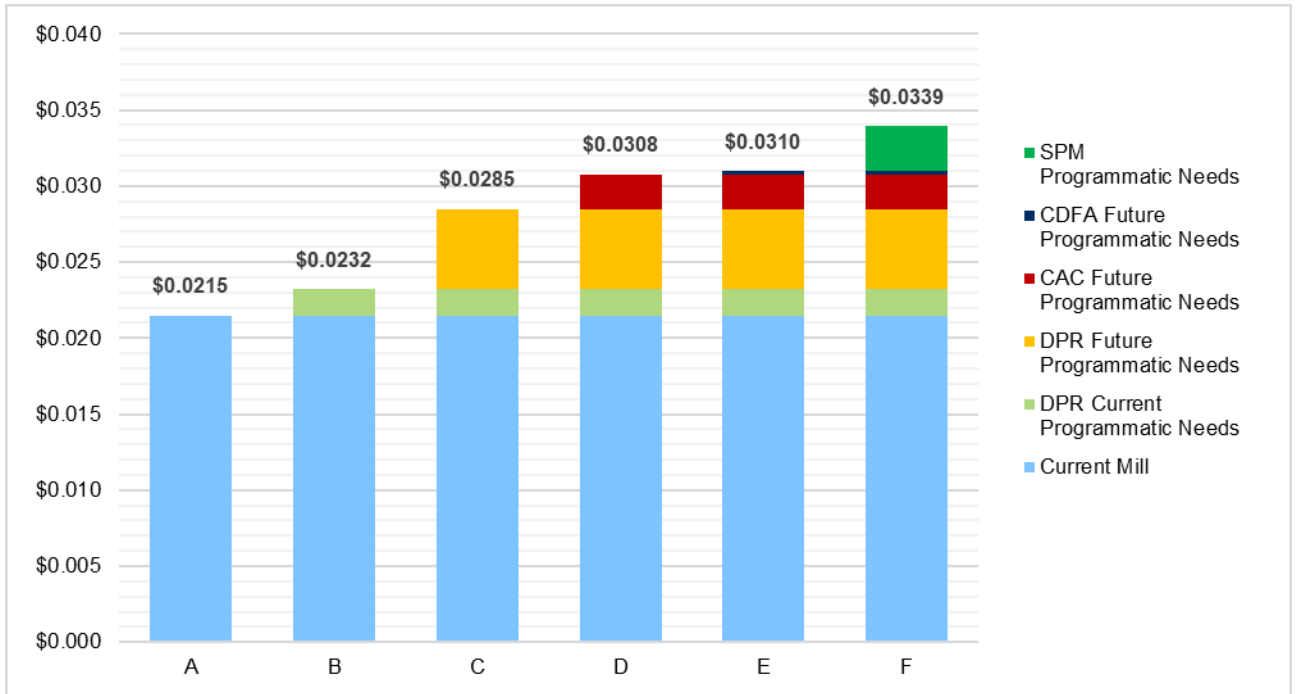
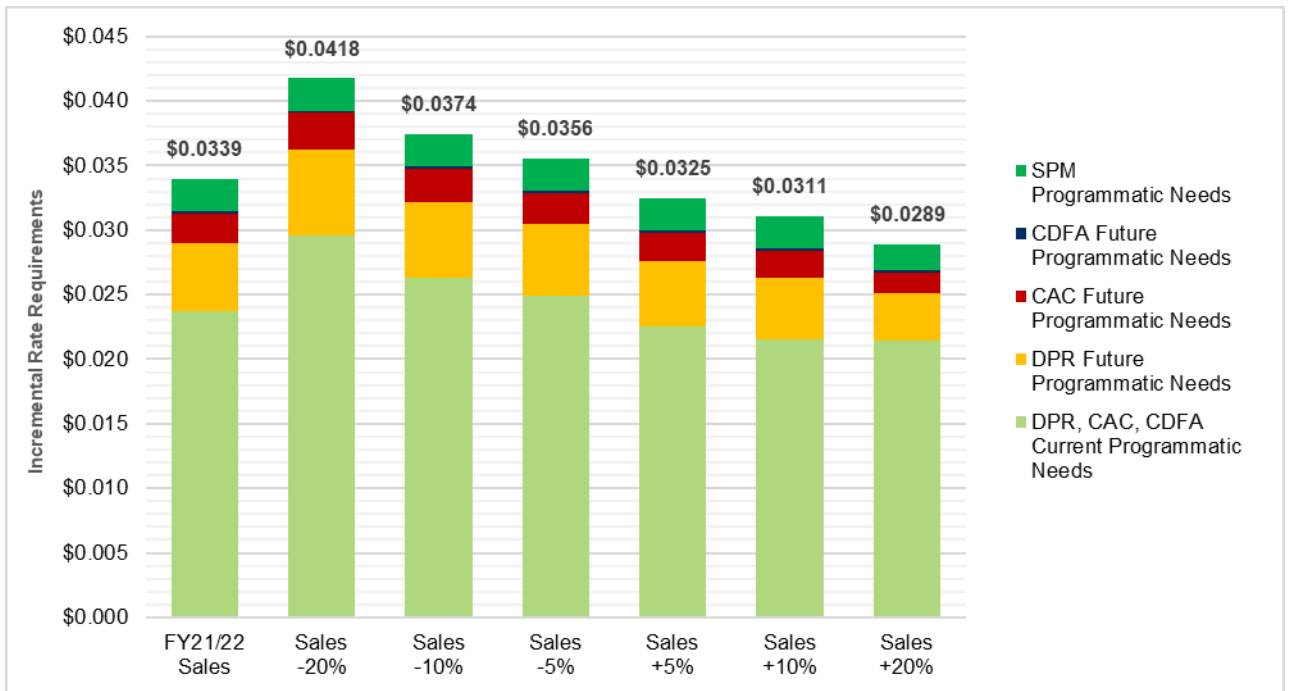


Exhibit 14
Minimum Rate Requirements Under Different Pesticide Sales Scenarios



C. Appropriateness of the Mill Assessment to Support Recommended Proposal Options

In this subsection, we first provide background on the appropriateness of the mill assessment to support DPR, CACs, CDFA, and the state's transition to safer, more sustainable pest management. We then provide specific rationale to justify why the mill assessment is the appropriate funding source to support the recommended proposal options. We conclude by providing additional rationale to justify why the General Fund and other funding sources are not appropriate funding sources to support the recommended proposal options.

Appropriately Funding Pesticide Programs and Administration

Twenty years ago, the Legislature¹⁸ asked DPR and its stakeholders to respond to the following question – *What is the appropriate mix of general funds and special funds, including the pesticide mill assessment, to support the department's activities?* We revisited this question as part of our study to provide context that could assure the appropriateness of the mill assessment to support the recommended proposal options.

In its FY1992/93 review of the DPR's budget, the LAO recommended:

- *“regulatory fees are an appropriate way of financing programs that prevent the use or degradation of public resources by private entities”*
- *“the use of pesticides potentially can result in social costs by harming the public health and the environment”*
- *“to minimize the social costs from the use of pesticides, DPR regulates the use of pesticides in the state. As a result, the costs of regulating the use of pesticides should appropriately be funded from regulatory assessments, not from the General Fund, because it requires the people that potentially damage public resources to pay for regulating the risk that their activities impose on the public.”*

The LAO's recommendations are consistent with the extended producer responsibility (EPR) model. This model is a widely accepted approach for allocating the costs of regulation and is embedded in major pollution control laws, such as the Clean Air Act, Clean Water Act, and the Resource Conservation and Recovery Act. Like DPR, many departments within CalEPA follow this model and assess fees on responsible parties to support state regulatory programs.

The EPR model suggests responsible parties should bear the regulatory costs associated with managing and mitigating the potential harm to human health and the degradation of environmental resources, such as air, water, and soil. Based on our research, we found that the EPR model supports the appropriateness of regulatory fees (i.e., the mill assessment) to support DPR's Pesticide Programs and Administration due to:

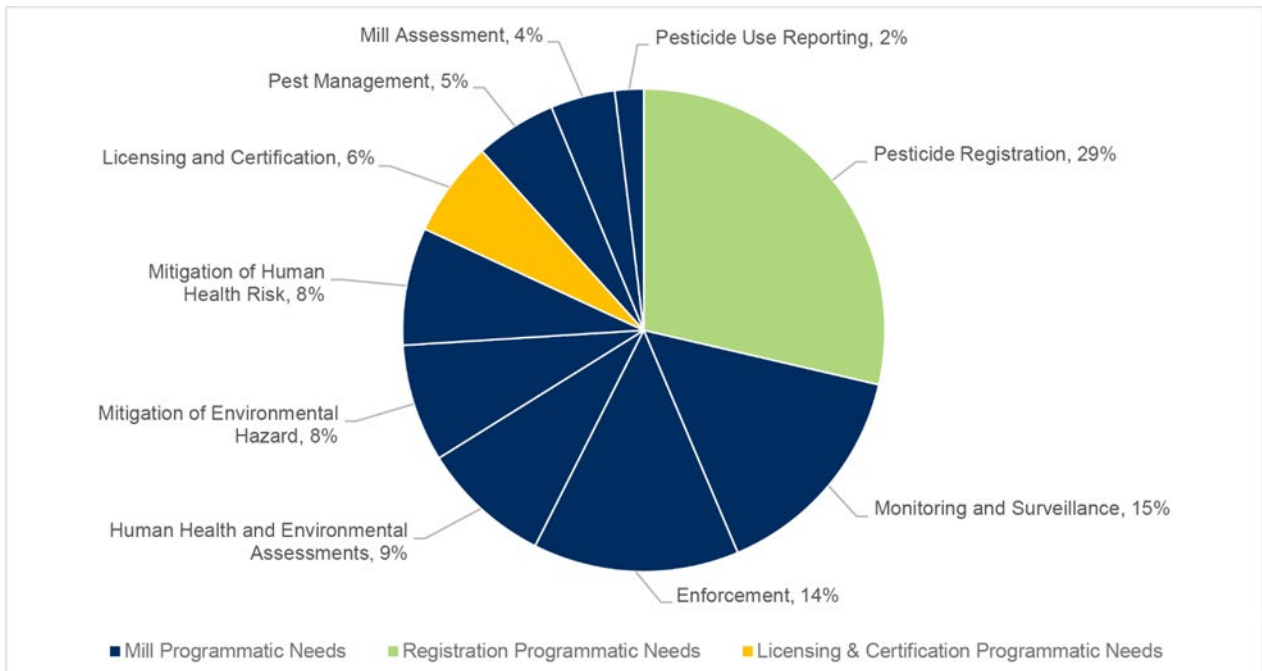
- **Cost internalization:** The EPR model encourages parties to internalize the external costs of health and environmental impacts. By requiring parties to pay regulatory fees, the model potentially incentivizes parties to reduce potential harm to human health and the environment and to invest in cleaner alternatives to minimize their costs.
- **Fairness and equity:** The EPR model promotes fairness by ensuring that those whose products may harm human health or public resources bear the costs of mitigating its effects, rather than passing them on to the public or other stakeholders. This approach prevents non-polluting parties from being unfairly burdened with the costs of environmental regulation.
- **Efficient resource allocation:** The EPR model can lead to more efficient resource allocation by providing a direct economic incentive to reduce the degradation of public resources. This can result in lower overall degradation levels and improved environmental outcomes.

¹⁸ Pursuant to Assembly Bill 780 (Thomson, Chapter 523, Statutes of 2001). In accordance with AB780, the DPR issued a report to the Legislature in January 2003 titled *Funding California's Pesticide Regulatory Program*.

- Revenue generation for environmental initiatives:** Regulatory fees collected from producers can be used to fund environmental initiatives, such as monitoring activities, research and development of technologies, or enforcement activities. This approach ensures that resources are available for environmental protection and sustainable development.
- Dynamic incentives:** The EPR model provides an ongoing incentive for businesses to innovate and adopt cleaner technologies, as the cost of degradation remains directly linked to their operations. This can lead to continuous improvements in environmental performance over time.

The department's funding aligns with the EPR model – it collects regulatory fees to support its Pesticide Programs and Administration, which are required by statute and regulation to enforce, monitor, assess, and mitigate potential degradation to human health, the environment, and the economy due to the use of pesticides. DPR's mill related responsibilities supported by the mill assessment represent 65 percent of the department's estimated distribution of its authorized programmatic functions, as shown in **Exhibit 15**. DPR's authorized programmatic functions for its mill-related responsibilities include: Monitoring and Surveillance (15%), Enforcement (14%), Human Health and Environmental Assessment (9%), Mitigation of Human Health Risks (8%), Mitigation of Environmental Health Risks (8%), Pest Management (5%), Mill Assessment (4%), and Pesticide Use Reporting (2%). DPR's registration programmatic function supported by registration fees accounts for 29% of the department's overall authorized programmatic functions and its licensing and certification function supported by licensing and certification fees accounts for 6% of its overall functions.

Exhibit 15
Pesticide Programs and Administration
FY2022/23 Distribution of Authorized Functions



Appropriately Funding Recommended Proposal Options

In addition to the appropriateness of regulatory fees (i.e., the mill assessment) to support DPR's Pesticide Programs and Administration, we also identified concerns that the General Fund is not a sustainable nor appropriate funding source to support the recommended proposal options for the following reasons:

- **Volatility of General Fund allocations:** The General Fund is highly sensitive to economic fluctuations and can vary significantly from year to year. Depending on the economic climate, the available funds for DPR's mill-related programmatic needs could be severely impacted during downturns, making it difficult to maintain consistent program operations and potentially compromising the effectiveness of the programs.
- **Competition for limited resources:** California agencies compete for the General Fund each year. In FY2023/24, the General Fund is budgeted to decrease funding to seven (7) out of 11 funding groups – general funding for Environmental Protection is budgeted to decrease roughly 7 percent and general funding for Natural Resources is budgeted to decrease nearly 40 percent from FY2022/23. This competition for General Fund can be significant, especially during periods of economic distress or when there are urgent funding priorities in other areas, such as healthcare or education. In such scenarios, DPR may not receive the necessary funding for its mill-related programmatic needs, which could jeopardize program success.
- **Unpredictability of funding:** Relying on the General Fund for DPR's mill-related programmatic needs would subject the programs to the uncertainties of the annual budgeting process. This unpredictability can make long-term planning and resource allocation challenging, potentially hindering the effectiveness of the programs and their ability to achieve their goals.
- **Potential loss of funding priority:** DPR's mill-related programmatic needs might not always be considered a priority for the state, especially when faced with other pressing issues or emergencies. In such cases, the allocation of General Fund resources to higher-priority areas could result in reduced or insufficient funding for DPR's programs, potentially compromising their effectiveness.

Using the General Fund to support the recommended proposal options might negatively impact the stability, effectiveness, and long-term success of DPR's programs. Therefore, we recommend that the mill assessment is a more appropriate funding source rather than the General Fund to support the recommended proposal options. In *Section 5*, we provide stakeholder feedback and additional rationale to support this recommendation.

3. Design Recommendations

This section provides our recommendations and justification for those recommendations related to mill design (i.e., how the mill assessment is set and structured). The mill’s design is foundational to how the mill can effectively serve as a sustainable funding mechanism to support the recommended proposal options.

A. Recommended Mill Setting Options

Mill setting addresses how the mill is legally established (e.g., in statute, in regulation), how the mill aligns with DPR’s statutory mandates, regulations, and programmatic expenditures, and at what rate(s) the mill is set to provide a stable revenue source.

Legal Authority

There are two options related to the legal authority of the mill. As illustrated in **Exhibit 16**, these options include: 1) the mill assessment level and structure are set in statute, and 2) the overall directive of the mill is set in statute, but the mill assessment level and structure are set in regulation. In **Exhibit 17**, we provide stakeholder feedback, our recommendations, and rationale for mill setting options.

Exhibit 16
Legal Authority Options for Mill Setting

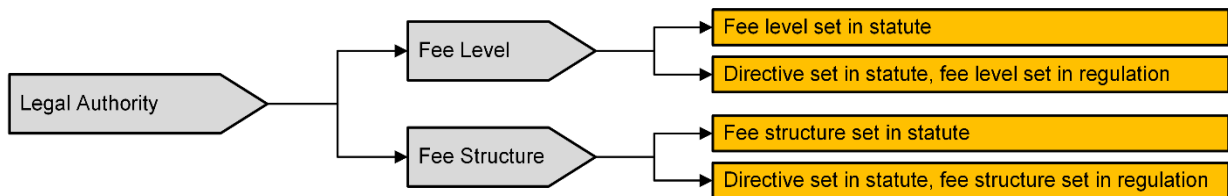


Exhibit 17
Recommended Options for Setting the Mill Assessment

Stakeholder Feedback	Recommendations	Rationale
Is the mill assessment level and structure set in statute, or authorized in statute and set in regulation?		
<p>Stakeholders that responded to this question unanimously supported a mill assessment level set in statute.</p> <p>Stakeholders felt strongly about the need for Legislative oversight and public engagement. There is concern among some stakeholders that DPR could “fast track” mill assessment increases if the mill was set by regulation. Many stakeholders consider that the mill assessment is a tax that would require a 2/3 vote of the Legislature.</p>	<p>We recommend that the maximum and minimum mill assessment levels be authorized and defined in statute in the Food and Agricultural Code (FAC).</p> <p>We recommend that the mill assessment structure, allowing for a flat or tiered rate, be authorized, and defined in statute in the FAC.</p> <p>We recommend that the Director set the current rate and structure in regulation through the California Code of Regulations (CCR).</p>	<p>Crowe researched government assessment setting best practices and reviewed comments from DPR stakeholders. We found that establishing the mill in statute provides a greater degree of oversight and accountability to the Legislature and Department of Finance. Establishing the mill in regulation provides more flexibility to adjust the mill, although the regulatory process also provides for comment and review.</p> <p>At the federal level, the GAO reports an agency has greater flexibility when they can set an assessment by regulation as compared to when an assessment is set in statute. Conversely, there is more legislative oversight and accountability when the assessment is set by legislation. Those stakeholders that provided input to the question of legislative authority favored that a minimum or maximum mill level and general structure be set in statute with the requirement to set and change the assessment within these boundaries in regulation.</p> <p>The recommended legal authority, with a maximum cap, is consistent with the current mill assessment: FAC Section 12841.1 establishes the maximum rate and a default rate and Title 3 of CCR Section 6368 establishes the rate.</p> <p>Establishing the maximum and minimum mill assessment levels and structure in statute enables legislative oversight and enhanced accountability. The mill assessment would likely require a 2/3 vote under Proposition 26 requirements.</p> <p><i>Our recommendation is consistent with guiding principles to foster transparency and allow for re-evaluation and refinement.</i></p>

Stakeholder Feedback	Recommendations	Rationale
Is the mill assessment aligned with statutory mandates, regulation, program expenditures, and incentivizing SPM?		
<p>Stakeholders hold divergent opinions related to mill alignment. Among some stakeholders, there is a perception that DPR is stepping outside of their regulatory mandate. Among other stakeholders, there is a perception that DPR is well within their regulatory mandate and in fact should be doing more within their mission to protect human health and the environment.</p>	<p>FAC Section 11501 sets forth DPR's six (6) primary mandates, listed in Exhibit 19. Crowe's Workload Analysis confirmed that DPR's current and future programmatic needs are aligned with these mandates and statutory and regulatory requirements.</p>	<p>Crowe's Workload Analysis, released in February 2023, provides a detailed summary of DPR's activities across ten pesticide program functions. Our analysis identified current and future programmatic needs aligned with statute, mandates, regulations, and program expenditures. It also identified future funding needs to be funded by the mill assessment, registration fees, and licensing fees.</p> <p><i>Our recommendation is consistent with the guiding principle to support alignment of the department and CACs' workload activities with appropriate funding sources.</i></p>
Is the mill assessment set to provide a stable revenue source?		
<p>Universally, stakeholders supported a "strong DPR" that is adequately funded to meet program mandates. Stakeholders recognized the importance of a sustainable funding source for DPR.</p>	<p>Historical data on pesticide sales revenue and use trends suggests that the mill assessment will provide a stable revenue source for DPR over the next five to ten years. The future impacts of policy and statutory support for the transition to safer and sustainable pest management on mill revenue are uncertain and will take longer to be understood. Broader policy changes as well as future elimination of Priority Pesticides by 2050 could result in a reduction in overall sales revenue. Regular evaluation and monitoring of mill revenue and expenditures and establishing a maximum mill assessment level in statute that is higher than current anticipated need will provide mechanisms for DPR to adjust the mill as needed.</p>	<p>Crowe provides a detailed analysis of pesticide quantities (measured as pounds of active ingredient (AI), pesticide sales revenue trends, and support of our determination that the mill assessment will provide a stable revenue source for DPR in the next several years, in <i>Appendix E</i>, with key findings summarized in <i>Section 2</i>.</p> <p><i>Our recommendation is consistent with the guiding principle to provide a sustainable long-term funding source for the department.</i></p>

Alignment

Another decision point to consider as part of mill setting (i.e., rate and structure) is assuring it aligns with DPR’s statutory mandates and regulations, illustrated in **Exhibit 18**. DPR’s overall authority is primarily coded and described within the FAC, Divisions 2, 6, and 7. DPR’s regulations are primarily coded within Title 3 CCR. FAC Section 11501 sets forth DPR’s six (6) primary mandates, listed in **Exhibit 19** along with selected authorized mill-related functions performed by the department’s Pesticide Programs and Administration.

Exhibit 18 Alignment and Revenue Stabilization Options for Mill Setting

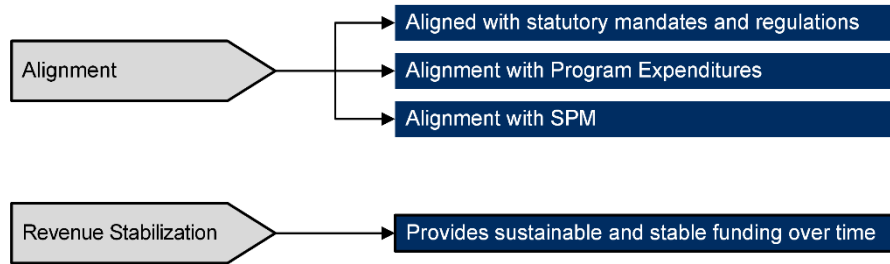


Exhibit 19
DPR’s Primary Mandates Identified in FAC Section 11501 and Selected Functions

FAC Section 11501	Selected Functions
1. To provide for the proper, safe, and efficient use of pesticides essential for production of food and fiber and for protection of public health and safety	<ul style="list-style-type: none"> • Enforcement • Human health and environmental assessments • Monitoring and surveillance • Mitigation of human health risk • Mitigation of environmental hazard • Pest Management • Worker health and safety
2. To protect the environment from environmentally harmful pesticides by prohibiting, regulating, or ensuring proper stewardship of those pesticides	<ul style="list-style-type: none"> • Enforcement • Monitoring and surveillance • Mitigation of human health risk • Mitigation of environmental hazard • Encouraging low-risk pest management approaches
3. To assure agricultural and pest control workers of safe working conditions where pesticides are present	<ul style="list-style-type: none"> • Enforcement • Mitigation of human health risk • Pest management • Worker health and safety
4. To permit agricultural pest control by competent and responsible licenses and permittees under strict control of DPR and the County Agricultural Commissioners	<ul style="list-style-type: none"> • Enforcement • Mill Assessment
5. To assure consumers and users that pesticides are properly labeled and appropriate for the use designed by the label and that state or local government dissemination of information on pesticide uses of any registered pesticide product is consistent with the uses for which the product is registered	<ul style="list-style-type: none"> • Enforcement • Human health and environmental assessments • Pesticide Use Reporting • Mill Assessment
6. To encourage the development and implementation of pest management systems, stressing application of biological and cultural pest control techniques with selective pesticides when necessary to achieve acceptable levels of control with the least possible harm to the public health, nontarget organisms, and the environment.	<ul style="list-style-type: none"> • Enforcement • Monitoring and surveillance • Pest Management • Human health and environmental assessments

Pesticide Programs protect California’s residents and the environment from adverse pesticide impacts with particular emphasis on the protection of children, vulnerable populations, workers, and communities. DPR’s various branches within its Pesticide Programs, with support from its Administration branches, carry out its mission and mandates, and will be responsible for critical aspects of the SPM Roadmap’s implementation, through ten key programmatic functions, described in **Exhibit 20**.

DPR has utilized these functions for over 20 years to account for the department’s programmatic needs (i.e., personal services, and operating and equipment expenditures) to carry out its statutory requirements. DPR’s programmatic needs for its Administration branches are distributed across these functions. *Appendix B* further profiles key funding authorities for DPR’s Pesticide Programs and Administration.

**Exhibit 20
Pesticide Program Functions, Descriptions, and Key Funding Authorities**

Function	Description	Key Funding Authorities
1. Pesticide Registration	Pesticides must be registered (licensed) with the state before they can be sold or used in California. DPR uses scientific, legal, and administrative evaluations of a pesticide before its registration. Activities include but are not limited to process and track pesticide product registration and amendment application submissions, coordinate data evaluations, prepare public reports and notices regarding registration decisions and respond to public comments on registration decisions, maintain pesticide label files and data volume archive, maintain pesticide product label database and data index, coordinate human health risk assessment/mitigation process and reevaluations, and provide information on registered pesticides and label instructions to pesticide enforcement agencies and the public.	FAC §12784; FAC §12811; FAC §12812; FAC §12818; FAC §12824; FAC §12825; FAC §12825.5
2. Human Health and Environmental Assessments	Risk assessment including but not limited to the following activities: hazard identification, dose-response assessment, exposure assessment, and preparation of a risk characterization document that assesses potential dietary, workplace, residential, and ambient air exposures.	FAC §11454.1; FAC §13121-13135; FAC §13141-13152; FAC §14004.5; FAC §14021-14027; FAC §12825.5
3. Licensing and Certification	Ensures people selling, possessing, storing, handling, applying, or recommending the use of pesticides are competent and knowledgeable in their safe use. Conducts licensing exams and issues and renews licenses for pest control businesses, pesticide brokers and dealers, dealer designated agents, pest control advisers, pest control pilots, and pesticide applicators.	FAC §11502 and 11502.5; FAC §14006.5-14009; FAC §13186.5; FAC §15201
4. Pesticide Use Reporting	Collects, analyzes, and reports on statewide pesticide use reporting data relating to agricultural use and a subset of non-agricultural use; works with local CACs to ensure data quality; responds to external data inquiries and data requests.	FAC§12979; FAC§13186
5. Monitoring and Surveillance	Pursuant to California law, DPR must continuously evaluate pesticides after they are in use to protect the public and environment. Activities include but are not limited to analysis of hazards and developing pollution prevention strategies, investigation, and evaluation of pesticide illnesses, testing of fresh produce, and various exposure monitoring (including workers and bystanders).	FAC §14006.5-14009; FAC §14010-14015; FAC §12532 and 12534; FAC §12824; FAC §12825.5; FAC §12581; FAC §12671; FAC §12996-13000.1

Function	Description	Key Funding Authorities
6. Mitigation of Human Health Risk	Using scientific data to develop measures that reduce human exposure to pesticides that have unacceptable risks. Activities include but are not limited to reviewing data to assess worker health impacts of pesticide use, developing mitigation strategies, and preparing health and safety recommendations for workers and bystanders for incorporation into regulations and permit conditions.	FAC §11454.1; FAC §13121-13135; FAC §13141-13152; FAC §14004.5; FAC §14021-14027; FAC §12824; FAC §12981; FAC §13129; FAC §14005; FAC §14024
7. Mitigation of Environmental Hazard	Using scientific data to develop measures that protect the environment from potentially adverse effects of pesticides. Activities include but are not limited to developing mitigation strategies, proposing label changes, placing conditions on registration, regulations, and permit conditions.	FAC §13141-13152; FAC §14021-14027; FAC §14005; FAC §14024
8. Pest Management	Pest management assesses the impacts and potential problems resulting from pesticide use, with a focus on preventive solutions that incorporate integrated pest management (IPM). Activities include but are not limited to facilitating adoption of IPM in schools, awarding grants to encourage development and use of alternatives to pesticides, and evaluating pest management practices.	FAC §12841.2; FAC §13183; FAC §13185; FAC §13186.5
9. Enforcement	DPR oversees local enforcement of pesticide use by California Agricultural Commissioners (CACs). DPR's Enforcement Program provides CACs with training, coordination, and technical and legal support. DPR activities also include but are not limited to enforcing federal pesticide tolerances on raw agricultural commodities, issuing enforcement actions, conducting pesticide misuse investigations, developing statewide enforcement priorities and guidance, evaluating CAC performance under annual work plans, and researching and analyzing compliance trends.	FAC §11501.5; FAC §2281; FAC §12581; FAC §12601; FAC §12642; FAC §12991; FAC §12996-13000.1; FAC §11791 and 11792; FAC §11891-11894; BCP §8614 and 8616.; BCP §8662
10. Mill Assessment	Ensures pesticide products are registered before sale and use, that they are labeled correctly, and that required assessments have been paid. Activities include but are not limited to inspecting products offered for sale, reviewing labels to ensure they are registered, auditing pesticide sellers, and responding to sellers in violations of requirements	FAC §12841; FAC §12881-12885; FAC §12992; FAC §12993; FAC §12995

B. Recommended Mill Structure Options

Mill structure options for mill design, shown in **Exhibit 21**, account for the basic construction of the mill. In **Exhibit 22**, we summarize stakeholder input, our recommendations, and rationale for mill structure options.

Exhibit 21
Structure Options for Mill Design

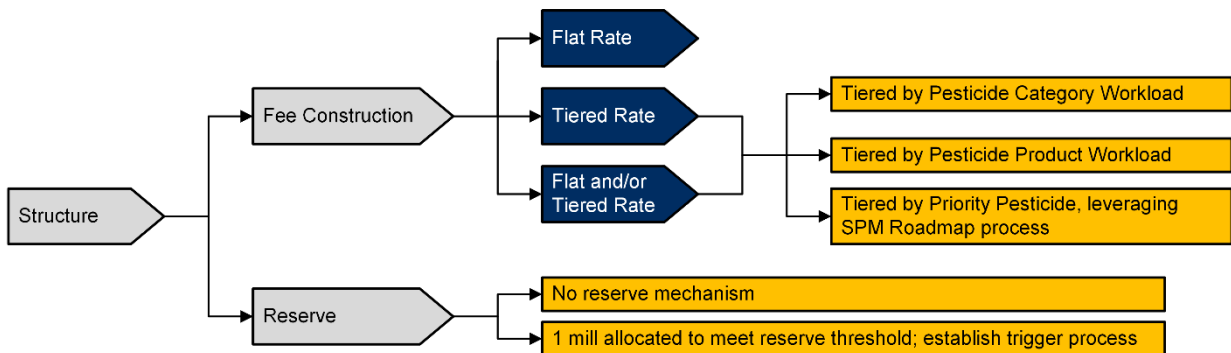


Exhibit 22
Recommended Structure Options for Mill Design

Stakeholder Feedback	Recommendations	Rationale
Is the mill set at a single rate?		
<p>Some stakeholders were strongly in favor of a flat rate mill assessment. These stakeholders felt that a flat rate is fair, simple, and more easily administered based on the pesticide category or pesticide product workload.</p> <p>Some stakeholders oppose a flat rate because it does not incentivize or influence SPM. Some stakeholders also believe that funding DPR through the mill assessment is in conflict with the goal of reducing pesticide use.</p>	<p>We recommend that DPR initially maintain a flat mill assessment rate with an option to utilize a tiered rate in the future once Priority Pesticides have been identified through the process outlined in the SPM Roadmap.</p>	<p>Given the recency of the release of the SPM Roadmap and future identification of Priority Pesticides, it is premature to change the mill assessment structure from a flat assessment to a tiered assessment. Maintaining a flat assessment in the near-term will be administratively straightforward and will allow time for policy decisions and funding needs for SPM Roadmap activities to be identified.</p> <p><i>Our recommendation is consistent with guiding principles to foster transparency, support the availability of diverse pest management approaches, minimize administrative burdens, and minimize the potential for unintended consequences.</i></p>

Stakeholder Feedback	Recommendations	Rationale
<p>Is it set at multiple different values (i.e., tiered) based on established criteria?</p>		
<p>Some stakeholders were strongly opposed to a tiered mill assessment. These stakeholders felt that a tiered rate would be “needlessly complex and penalize new innovations.”</p> <p>There was interest among some stakeholders in treating ag and non-ag products differently, resulting in a more equitable distribution of assessments paid into the DPRF versus services provided.</p> <p>There was also strong support among some stakeholders for a lower mill assessment on organic products. Some stakeholders also favored the option to tier based on pesticide product workload, particularly if the approach included health and environmental monitoring and mitigation.</p>	<p>Based on our analysis presented in <i>Appendix D</i>, we do not recommend tiering based on pesticide category workload or pesticide product workload. However, DPR should maintain flexibility to develop a tiered mill structure when Priority Pesticides have been identified (note that identification of Priority Pesticides will be an ongoing process). At that point, DPR could consider a higher mill on Priority Pesticides.</p>	<p>In <i>Appendix D</i>, we provide a detailed analysis of the tiered models that Crowe identified in the Concept Paper. A tiered model may be feasible once criteria for Priority Pesticides are confirmed; the process of identifying Priority Pesticides will be a rigorous and comprehensive multi-year effort. At that point, DPR could consider a tiered assessment with a higher mill assessment on Priority Pesticides. This assessment differential would be an educational tool and signal a policy preference for alternatives. However, based on economic analyses, it would likely not result in an economic incentive to shift to safer alternatives, as shown in the example in Exhibit 23. However, DPR could utilize fees from the higher assessments on Priority Pesticides to support R&D on alternatives.</p> <p>It is premature to use pesticide category or pesticide product workload to determine tiered mill assessments while the SPM Roadmap Priority Pesticide process is taking place. In addition, the Pesticide Category Workload model is problematic because within any single pesticide category there are products that require high workloads and those that do not. Furthermore, many pesticide products fall under multiple categories, making it difficult to assign any product to a single category. With the Pesticide Product Workload model there would be the ability to distinguish specific products or AIs. However, the data to determine workload levels is subjective and covers a wide range of time periods. Neither method provides for clearly defined, consistent, or objective criteria to select those products or categories assigned to higher mill assessment tiers.</p> <p>The comprehensive process that is proposed to identify Priority Pesticides will be objective and transparent, consistent with the guiding principles. Establishing higher mill assessments on these products will serve to educate users and as a policy signal to registrants and others.</p> <p><i>Our recommendation is consistent with guiding principles to foster transparency, incorporate objective measures, and support the availability of diverse pest management approaches.</i></p>

Stakeholder Feedback	Recommendations	Rationale
<p>Does the mill structure provide for a funding reserve?</p>		
<p>There was concern among many stakeholders that a reserve mechanism that sets aside 1 mill to build a reserve could divert funds that should be spent addressing the core work of DPR. Some stakeholders strongly felt that without clear policies and procedures around how the reserve was defined there would be potential for that money to be diverted to unrelated programs.</p> <p>There were also stakeholders that favored a reserve mechanism in which once the reserve was built the additional mill supported “positive incentives”</p>	<p>We do not recommend incorporating a self-correcting funding reserve into the mill’s structure.</p>	<p>DPR should utilize regular reviews of the required mill assessment, tracking mill assessment revenue and program expenditures to adjust the mill assessment and maintain a reasonable fund balance rather than establish a formal self-correcting fund reserve. In the next five years, pesticide sales revenue is likely to be relatively stable (see <i>Appendix E</i>) and should not result in dramatic swings in revenue. With more frequent review of the mill assessment and adjustments upward, if necessary, DPR can avoid the fund imbalances of recent years.</p> <p><i>Our recommendation is consistent with guiding principles to foster transparency and reduce administrative burden.</i></p>

Exhibit 23 illustrates the implications of pesticide price inelasticity of demand (PED) based on a meta study covering 31 studies resulted in a median PED of -0.28, classifying pesticides as inelastic¹⁹. PED is defined as: % change in demand / % change in price.

An inelastic product indicates changes in price do not result in equivalent changes in demand. In the example, we utilize the known PED (-0.28) and hypothetical changes in price based on assumed changes to the mill and pesticide pricing from our research to calculate the estimated change in demand for the product (% change in demand = PED x % change in price).

Our example shows that a five-fold increase in the mill assessment, from \$0.021 to \$0.105, would result in a demand change of -2.3%. A doubling of the mill assessment, from \$0.021 to \$0.042, would result in an even smaller demand change of -0.6%.

As we describe in *Appendix E*, there are various factors that impact pesticide sales that could add additional upward or downward pressure on sales. For example, DPR’s broader policy approach to transition to safer, sustainable pest management could create downward pressure on sales. However, this example illustrates that, all other factors held equal, pesticide demand is not sensitive to changes in price (i.e., an upward adjustment to the mill assessment to support our recommended mill proposal options would not likely impact demand). One of the reasons that products are inelastic is a real or perceived lack of substitutes. As the state implements the SPM Roadmap, the knowledge and availability of alternatives could lead to greater elasticity (price sensitivity).

Exhibit 23
Example Demand Change Calculations Based on Median Pesticide Price Elasticity of Demand

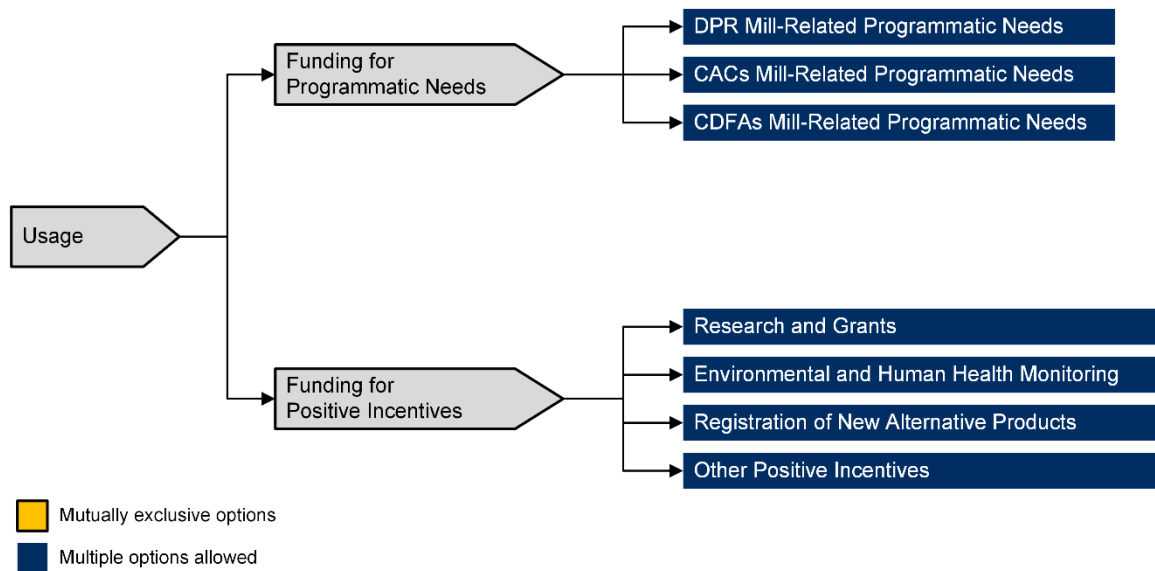
Product	Price	Total mill @\$0.021	Price at Current Mill	Example Mill Increase	Total Mill with Increase	Price at Increased Mill	Price Change	Demand Change
Product A (2.5 gallon)	\$285	\$5.99	\$290.99	5x (\$0.105)	\$29.93	\$314.93	8.2%	-2.3%
Product B (1 gallon)	\$13	\$0.27	\$13.27	3x (\$0.063)	\$0.82	\$13.82	4.1%	-1.2%
Product C (1 gallon)	\$18	\$0.38	\$18.38	2x (\$0.42)	\$0.76	\$18.76	2.1%	-0.6%

¹⁹ Böcker, T. G., & Finger, R. (2017). A Meta-Analysis on the Elasticity of Demand for Pesticides. *Journal of Agricultural Economics*, 68(2). <https://doi.org/10.1111/1477-9552.12198>

4. Usage Recommendations

In this section, we provide our recommendations and justification for those recommendations related to mill usage. Mill usage considers how mill revenue should be utilized to support DPR, CACs, and CDFA’s mill related responsibilities, and funding for positive incentives. In **Exhibit 24**, we provide the mill usage considerations we proposed in the Concept Paper, which included options related to funding programmatic needs (i.e., DPR, CACs, and CDFA mill-related programmatic needs) and positive incentives (i.e., options to support state’s the transition to safer, more sustainable pest management practices). The options in Exhibit 26 are examples of the types of SPM programs, some of which are already in place, but could be expanded. This is meant to be a placeholder for potential options to be funded by the mill that support SPM Roadmap priorities.

Exhibit 24
Mill Usage Options



A. Recommended Usage Options for Programmatic Needs

Mill usage options for programmatic needs define how, and to what extent, mill revenues are utilized to support DPR, CACs, CDFA, and other programmatic needs. In **Exhibit 25**, we provide stakeholder feedback, our recommendations, and rationale for usage options related to programmatic needs.

Exhibit 25 Recommended Usage Options for Programmatic Needs

Stakeholder Feedback	Recommendations	Rationale
What portion of DPR’s future programmatic needs are supported by the mill?		
<p>Stakeholders generally agreed the mill should be utilized to support DPR’s current and future programmatic needs to carry out its authorized functions.</p> <p>Stakeholders were divided over utilizing the mill to support DPR’s core versus SPM related future programmatic needs described in the Concept Paper.</p> <p>Stakeholders backing the utilization of the mill to support DPR’s SPM related future programmatic needs described in the Concept Paper argued that the department’s identified SPM programmatic needs are aligned with DPR’s primary statutory mandates under FAC Section 11501 and the department’s mission.</p> <p>Stakeholders disagreeing with the utilization of the mill to support DPR’s SPM related future programmatic needs argued that the department’s SPM related future programmatic needs should be funded by the General Fund since identified workload could potentially be seen as benefiting the public.</p>	<p>We recommend \$23.2 million out of \$35.8 million²⁰ in future programmatic needs to be supported by the mill.</p> <p>\$23.2 million would support:</p> <ol style="list-style-type: none"> 1) \$16.1 million in future programmatic needs for DPR’s mill related responsibilities, and 2) \$6.1 million for integrated pest management (IPM) grants, and 3) \$1.0 million to support environmental monitoring. <p>DPR’s \$16.1 million in future programmatic needs for its mill-related responsibilities include approximately \$2.8 million in estimated needs to support the early implementation of the SPM Roadmap (i.e., described as “SPM related future programmatic needs” in the Concept Paper).</p>	<p>Our Workload Analysis identified DPR’s future programmatic needs for its mill related responsibilities totaling \$16.1 million.</p> <p>As part of our Workload Analysis, we examined DPR’s accounting and funding authorities for its resources to perform mill, registration, and licensing and certification related programmatic activities. Based on our examination of DPR’s accounting and funding authorities, we then determined the appropriate funding sources (e.g., mill, registration, licensing, and certification revenues) to support its future programmatic needs for the department’s Pesticide Programs and Administration.</p> <p>The \$16.1 million in future programmatic needs for DPR’s mill related responsibilities support enforcement, integrated pest management, environmental monitoring, human health assessment, worker health and safety, mill assessment, and administration related workload.</p> <p><i>Our recommendation is consistent with guiding principles to provide a sustainable long-term funding source for the department and to align with the department’s mission, emerging priorities, and legal requirements.</i></p>

²⁰ DPR’s estimated future programmatic needs total \$35.8 million. This includes \$23.2 million for mill related programmatic needs, \$10.6 million for registration programmatic needs, and \$1.9 million for licensing and certification programmatic needs.

Stakeholder Feedback	Recommendations	Rationale
<p>At what level does the mill support CACs?</p>		
<p>Stakeholders recognized the importance of supporting CACs’ existing and future pesticide usage enforcement workload activities. Stakeholders also emphasized the importance of supporting CACs since they enforce state pesticide regulatory laws at the local level and engage with communities.</p> <p>Some stakeholders expressed that the existing mill apportionment criteria pursuant to FAC Section 12844 and CCR 6393 should not be adjusted because a change could potentially disrupt the CACs balance of funding between other sources, primarily including County general funds and unclaimed gas taxes (UGT).</p> <p>According to CACASA, “It [the mill] was designed to fund a portion of the program in cooperation with funding from County contributions and unclaimed gas tax. To fully fund county pesticide programs through mill funding, would upset the delicate balance of funding that CACs must maintain, to ensure that any additional revenue would not result in a reduction in County General Fund contributions, which would impact a county’s ability to meet its Annual Financial Statement Maintenance of Effort to qualify for unclaimed gas tax allocations.”</p> <p>Stakeholders expressed that options to further support CACs should be distinct from the existing mill apportionment criteria and should be voluntary because every County’s financial situation due to a number of factors, including but not limited to: availability of County General Funds, availability of UGT funds, increases/decreases in local economies, climate change, population decreases/increases, and others.</p>	<p>We recommend that the existing level of 7.6 mills, at a minimum, should continue to be maintained to support CACs.</p> <p>We also recommend a proposal option that includes a separate fund up to approximately \$10.2 million that provides “as-needed” funding (separate from the existing mill allotment criteria) to support individual County authorized needs (e.g., project, personnel, stakeholder consultation support, other funding, etc.) for local pesticide usage enforcement workload activities and administration priorities.</p> <p>We recommend that this mill proposal option should be programmed in a manner that does not impact the CACs’ existing mill apportionment defined in FAC Section 12844 and CCR 6393 to prevent reductions in County general funds and UGT.</p>	<p>Our recommendation is based on a detailed analysis of CACs funding for mill related responsibilities, provided in <i>Appendix C</i>, and on stakeholder feedback.</p> <p>Our analysis identified that mill revenues account for approximately 40% of CACs’ total statewide funding for pesticide usage enforcement programs – the remaining 60% is supported by County General Funds, UGT, and other sources. We also identified that funding from the mill assessment is, on average, more stable than funding from County General Fund and UGT sources due to how CACs are reimbursed for its programmatic needs from funding from these sources.</p> <p>Additional mill funding, if not properly administered and implemented, will likely offset needed funding from County General Funds and UGT sources. Therefore, our recommended proposal option must be programmed separately from the existing mill apportionment criteria in a separate fund to avoid disrupting CACs existing balance of funding between primary funding sources: mill assessment, County General Funds, and UGT sources.</p> <p>We also understand each County is unique. CACs across the state are managing a different set of conditions influencing actual needs for additional funds to support pesticide usage enforcement activities. Therefore, we recommend that our proposal option provides “as-needed” funding to support individual County authorized needs (e.g., project, personnel, stakeholder consultation support, other funding, etc.) for local pesticide usage enforcement workload activities.</p> <p><i>Our recommendation is consistent with the guiding principle to support alignment of the department and CACs’ programmatic activities with appropriate funding sources.</i></p>

Stakeholder Feedback	Recommendations	Rationale
At what level does the mill support CDFA?		
<p>Stakeholders recognized the importance of maintaining the existing level of 0.75 mill, at a minimum, to support CDFA's existing and future programmatic needs for the Office of Pesticide Consultation and Analysis.</p>	<p>In addition to maintaining the existing mill level \$0.00075 (0.75 mill) in statute²¹, we recommend an additional \$0.00029 (0.29 mill) for a total mill rate of \$0.00104 (1.04 mills) to support CDFA's current and future programmatic needs. The 1.04 mills would only be applied to ag-related pesticide sales.</p>	<p>Crowe reviewed supplemental information provided by CDFA to support both its current and future programmatic needs for the Office of Pesticide Consultation and Analysis, which currently receives roughly \$2.1 million in mill assessment revenues.</p> <p>The total mill rate of \$0.00104 applied to ag-related sales would support \$927,000 in personal services related expenditures, \$1.2 million for UC Regulatory analysis, and \$500,000 for competitive grants, and \$220,000 for operating and equipment expenditures (OEE).</p> <p><i>Our recommendation is consistent with the guiding principle to support alignment of the department and CDFA's programmatic activities with appropriate funding sources.</i></p>

²¹ Pursuant to FAC 12841: *“The director may only collect up to an additional three-fourths mill (\$0.00075) per dollar of sales, in addition to the rate established pursuant to Section 12841, if necessary to fund, or augment the funding for, an appropriation to the Department of Food and Agriculture to provide pesticide consultation to the department pursuant to Section 11454.2. The necessity of this additional assessment shall be determined by the Secretary of Food and Agriculture, in consultation with the director, on an annual basis after consideration of all other revenue sources, including any reserves, which may be appropriated for this purpose. The secretary's written determination, including a request for a specified additional assessment and the basis for that request, shall be provided to the director by a time and in a manner prescribed by the director.”*

B. Recommended Usage for Positive Incentives

Mill usage options for positive incentives account for how mill revenues could be utilized to support DPR’s goal of safer, more sustainable pest management. In **Exhibit 26**, we provide stakeholder feedback, recommendations, and rationale related to usage options for positive incentives.

Exhibit 26
Recommended Usage Options for Positive Incentives

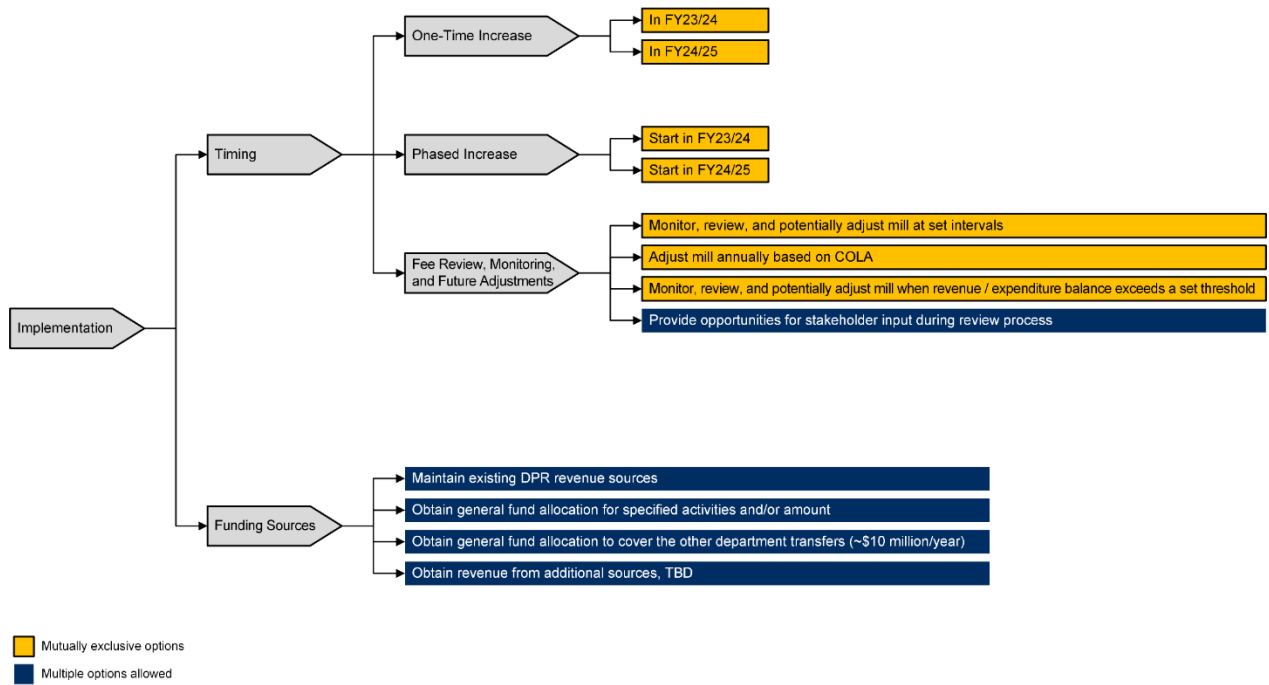
Stakeholder Feedback	Recommendations	Rationale
How does mill funding support and/or incentivize safer, more sustainable pest management?		
<p>Stakeholders provided diverse feedback on how mill funding supports and/or incentivizes safer, more sustainable pest management.</p> <p>Stakeholder responses to this question generally aligned with whether they viewed the state’s goal of accelerating the transition to safer, more sustainable pest management practices, including DPR’s SPM related programmatic needs described in the Concept Paper, as discretionary or authorized and whether DPR should be responsible for this goal.</p> <p>Stakeholders that viewed the State’s goal to accelerate the transition to safer, more sustainable pest management practices as discretionary and exceeding DPR’s mission and mandates expressed that the General Fund would be a more appropriate source should DPR be responsible to carry out this goal.</p> <p>Stakeholders that viewed the State’s goal to accelerate the transition to safer, more sustainable pest management practices as authorized and aligned with DPR’s mission and mandates expressed that the mill would be a more appropriate funding source to support the department’s SPM goals. Further, some stakeholders that held this view expressed that mill revenues should go directly into the General Fund versus the Department of Pesticide Regulation Fund as a symbolic mechanism to “delink” revenues from pesticide sales.</p>	<p>We recommend, at a minimum, that the mill support the department’s estimated needs to support the early implementation of the SPM Roadmap (i.e., SPM related future programmatic needs) totaling \$2.8 million for resources.</p> <p>Any additional funding using the mill to support SPM Roadmap related workload should align with the priorities identified by SPM Roadmap, such as Option F of our proposal options.</p>	<p>DPR’s mission is to protect human health and the environment by regulating pesticide sales and use, <i>and</i> by fostering reduced-risk pest management. DPR’s broad mandates set in FAC Section 11501 set forth its authority to “encourage the development and implementation of pest management systems” among other mandates.</p> <p>We view DPR’s SPM related programmatic needs as a mechanism, aligned with its mission and mandates, to support and/or incentivize safer, more sustainable pest management.</p> <p>Mill funding is an appropriate funding source to support DPR’s estimated resources for the early implementation of the SPM Roadmap.</p> <p>In <i>Appendix D</i>, we elaborate on why we recommend that a tiered mill structure should not be implemented at the outset. DPR should consider a tiered rate once Priority Pesticides are determined as part of the SPM Roadmap decision-making process.</p> <p><i>Our recommendation is consistent with the guiding principle to incentivize safer, more sustainable pest management and to support alignment of the department’s workload activities with appropriate funding sources.</i></p>

Stakeholder Feedback	Recommendations	Rationale
<p>How does the mill support research, education, and/or grants to inform new pest management approaches?</p>		
<p>Stakeholders provided diverse feedback on how mill funding supports research, education, and/or grants to inform new pest management approaches.</p> <p>Some stakeholders were cautious on the appropriateness of the mill to support additional pest management programs that are yet to be defined.</p> <p>Nearly all stakeholders expressed conditional support for research and grants to inform new pest management approaches in both urban and rural settings. In addition, stakeholders expressed that additional mill funding could support DPR's partners, especially the University of California, which is generally viewed by stakeholders as a respected institution to conduct targeted research that supports that the advancement of pest management in both rural and urban settings.</p>	<p>To support the advancement of safer, more sustainable pest management practices across the state of California, we recommend a proposal option that would provide a funding mechanism (e.g., an additional 2.5 mill generating up to approximately \$11.0 million) to support priority actions aligned with the SPM Roadmap. This proposal reflects startup funding for SPM Roadmap priorities – complete implementation of all SPM Roadmap priorities will likely require a more comprehensive funding strategy beyond the mill assessment.</p>	<p>The additional funding generated by our recommended proposal option could support priority programs conducted by DPR or its partners, including the University of California, CACs, and CDFA, with specific allotments and activities to be determined.</p> <p><i>Our recommendation is consistent with guiding principles to incentivize safer, more sustainable pest management and support the availability of tools, technologies, and practices to address the diverse pest management needs in the State.</i></p>

5. Implementation Recommendations

In this section, we provide our recommendations and justification for those recommendations related to mill implementation. Mill implementation addresses the timing of the mill assessment implementation and how mill revenue is monitored and adjusted over time. It also addresses how mill revenue is integrated with DPR’s other funding sources within implementation. For reference, in **Exhibit 27**, we provide the mill implementation options described in the Concept Paper.

Exhibit 27
Mill Implementation Options



A. Recommended Timing of Mill Implementation

Timing of mill implementation accounts for the practical aspects of how the mill is implemented, monitored, and adjusted over time. In **Exhibit 28**, we provide stakeholder feedback, recommendations, and rationale related to timing options for mill implementation.

Exhibit 28
Recommended Timing Options for Mill Implementation

Stakeholder Feedback	Recommendations	Rationale
Is the mill assessment implemented in a phased approach or as a one-time change?		
<p>Most stakeholders agreed that a phased implementation versus a one-time change would be optimal to provide sufficient time for legislative authorization and program planning. Further, most stakeholders communicated that a one-time change would be challenging to plan for and absorb.</p>	<p>We recommend a phased implementation approach versus a one-time change.</p>	<p>Because of the time needed to hire qualified resources, DPR will not likely require a one-time change to support its future programmatic needs. Therefore, a phased implementation is a more appropriate approach to support DPR's future programmatic needs.</p> <p>A phased implementation approach (e.g., phasing an increase to the mill over three to five years) should align with the department's authorized budget to support its mill related responsibilities.</p> <p><i>Our recommendation is consistent with the guiding principle to minimize potential for unintended consequences and administrative burden, and to foster transparency.</i></p>
When should the phased increase begin?		
<p>Most stakeholders agreed that a phased increase starting in FY2024/25 would be optimal to provide sufficient time for budgeting and planning purposes.</p>	<p>We recommend a phased implementation approach over three to five fiscal years with an increase to the mill beginning in FY2024/25.</p>	<p>The minimum mill rate to support DPR's current and future programmatic needs for its mill related responsibilities is \$0.029 – a 36% increase to the existing rate of \$0.021 applied to all products. This rate does not account for potential mill funding to support CACs, CDFA, and initial SPM Roadmap priorities. It is imperative that mill payees are given sufficient notice to plan for a future adjustment.</p> <p>In Section 6, <i>Proposed Implementation Plan</i>, we provide three (3) scenarios of a phased-in implementation approach – three-, four-, and five-year phases starting with an increase in FY2024/25.</p> <p><i>Our recommendation is consistent with the guiding principle to minimize administrative burden and to foster transparency.</i></p>

Stakeholder Feedback	Recommendations	Rationale
Is there a built-in structure to adjust the mill in the future?		
<p>Stakeholders generally agreed that DPR should consider the implementation of a built-in structure to appropriately account for future adjustments to the mill.</p> <p>Stakeholders offered the following options:</p> <p>Authorization in statute that specifies an examination of the appropriate mill rate level at least every five years.</p> <p>Authorization in statute that outlines sunseting terms (i.e., identifying in statute when the mill must be reauthorized by the legislature).</p> <p>Additional consultation when DPR plans to move forward with potential mill adjustments to allow for stakeholders to provide feedback and understand the justification for potential mill adjustments.</p> <p>Nearly all stakeholders agreed that the mill should not be adjusted annually based on a cost-of-living adjustment (COLA) given mill revenue is based on pesticide sales, which are already adjusted by inherent market dynamics.</p>	<p>We recommend an examination of the mill every five (5) years, at a minimum, to review the appropriateness of the mill rate level, especially in relation to pesticide sales levels and as the department’s SPM Roadmap related priorities are determined in the coming years. This recommendation does not imply a sunset of the mill fee.</p> <p>We do not recommend sunseting as a mechanism to adjust the mill in the future because it could potentially pose problems for the department’s funding stability.</p> <p>We do not recommend adjusting the mill in future years based on a COLA, consumer price index (CPI) or another factor; we agree with the responses from stakeholders that pesticide sales are inherently adjusted by market forces (i.e., inflation, supply/demand), which would negate the need to adjust the mill by COLA, consumer price index (CPI) or another factor. See <i>Appendix E</i> for further analysis.</p>	<p>This study is the first time the mill has been comprehensively examined in nearly 20 years. In 2003, AB 780 authorized and directed the department to conduct a holistic examination (like this study) to determine an appropriate rate that could sustainably support the department.</p> <p>It is common for regulatory assessments to be examined on a consistent basis to assure benefactors of revenues generated by the assessments are appropriately and sustainably supported, and that payees are equitably assessed an appropriate rate.</p> <p>An examination of the mill, at least every five (5) years, rather than sunseting or adjusting the mill via an escalatory factor, would assure the department’s primary funding mechanism is stable and the department’s stakeholders understand how and why some Pesticide Programs and Administration functions are supported by the mill versus other funding sources (e.g., registration or licensing and certification assessments).</p> <p><i>Our recommendation is consistent with guiding principles to allow for re-evaluation and refinement, provide a sustainable long-term funding source for the department, and to foster transparency.</i></p>
What is the process to review and monitor the mill assessment over time?		
<p>Most stakeholders stressed the importance of the legislative process to authorize DPR’s budget, which allows for stakeholders to engage, review, and monitor the department’s budgeted revenues and expenditures.</p> <p>Some stakeholders expressed that that mill should not be adjusted at set intervals because the legislative process should be the guiding authority to implement potential mill adjustments.</p>	<p>In addition to the minimum five-year review, we recommend that the department continue to analyze its fund condition, with support from the Department of Finance, during the annual budgeting process to support the Legislature’s determination as to whether a mill adjustment up to the maximum amount authorized would be necessary to support its mill related responsibilities. This process can be performed in conjunction with the state’s annual budget process.</p>	<p>The Legislature maintains the authority to approve DPR’s budget. Therefore, the annual budgeting process is the appropriate mechanism to review and monitor the mill assessment over time to support DPR’s budgeted needs for its mill related responsibilities.</p> <p><i>Our recommendation is consistent with guiding principles to allow for re-evaluation and refinement, provide a sustainable long-term funding source for the department, and to foster transparency.</i></p>

Stakeholder Feedback	Recommendations	Rationale
How are stakeholders involved in the review process?		
Stakeholders generally agreed that they should be consulted by DPR when the mill is under review.	We recommend that stakeholders are consulted by DPR during mill review processes.	Inclusion of stakeholders in regulatory fee reviews is a recognized best practice (e.g., GAO). <i>Our recommendation is consistent with the guiding principle to foster transparency.</i>

B. Recommended Overall Funding Sources

Recommended overall funding sources considers mill revenue within DPR's overall funding sources, including potential new sources of funding. In **Exhibit 29**, we provide stakeholder feedback, recommendations, and rationale related to overall funding sources for mill implementation.

Exhibit 29 Recommended Overall Funding Source for Mill Implementation

Stakeholder Feedback	Recommendations	Rationale
How does mill revenue contribute to DPR's overall mix of funding?		
<p>Stakeholders generally supported mill revenue to continue to support DPR's current and future programmatic needs to carry out its authorized functions. Some stakeholders further expressed that mill revenue should flow directly into the General Fund rather than directly into department's special fund. Those that held this view sought to create a mechanism that unlinked the department's funding from pesticide product sales.</p> <p>Some stakeholders also expressed that DPR should examine other funding sources, such as the General Fund, to diversify its funding allocation and to become less reliant on the mill assessment.</p> <p>Some stakeholders argued DPR should seek General Funds to support its overall funding mix based on the notion that some of the department's workload activities (e.g., its SPM programmatic needs) could be viewed as benefitting the public.</p>	<p>We recommend that the mill should continue to support, at a minimum, DPR's current and future programmatic needs for its mill related responsibilities totaling \$125.3 million. The existing mill rate of \$0.021 applied to all products would need to be adjusted to support DPR's current and future programmatic needs.</p> <p>We do not recommend that the DPR seek General Funds to support its Pesticide Programs and Administration because of the sustainability and appropriateness concerns noted in <i>Section 2</i>.</p>	<p>Our Workload Analysis identified the appropriate funding sources (i.e., revenue from mill assessment, registration fees, and licensing and certification fees) based on an examination of DPR's accounting of its authorized functions, workload, and funding authorities.</p> <p>Using the General Fund to support DPR's mill-related activities could expose the programs to financial volatility, increased competition for resources, unpredictability in funding, and the potential loss of funding priority. These factors might negatively impact the stability, effectiveness, and long-term success of DPR's Pesticide Programs and Administration that rely on mill funding.</p> <p><i>Our recommendation is consistent with guiding principles to provide a sustainable long-term funding source for the department, support alignment of the department and CACs' workload responsibilities with the appropriate funding sources, and to minimize the potential for unintended consequences.</i></p>

Stakeholder Feedback	Recommendations	Rationale
<p>How do changes to mill revenue levels impact other current and potential DPR funding sources?</p>		
<p>Some stakeholders expressed interest in mill revenues supporting registration programmatic needs. However, some stakeholders expressed that program funding should be aligned with the appropriate funding source (i.e., registration fees should support registration programmatic needs).</p>	<p>We found that additional mill assessment revenues to support the recommended proposal options would only support DPR's authorized responsibilities, excluding its registration and licensing and certification related responsibilities, and would have no impact on the department's other revenue sources from registration and licensing and certification fees.</p>	<p>Our Workload Analysis identified the appropriate funding sources for the department's current and future programmatic needs. The identified future programmatic needs for DPR's mill, registration, and licensing and certification programmatic needs to align with existing funding authorities, workload, and the department's functional accounting methodology.</p> <p><i>Our recommendation is consistent with guiding principles to support alignment of the department and CAC's workload activities with appropriate funding sources and to provide a sustainable long-term funding source for the department.</i></p>

6. Proposed Implementation Plan

This section provides a proposed plan to support the implementation of recommended options, which would require changes in statute to implement adjustments to the existing mill assessment rate. The implementation plan identifies pre-implementation, implementation, and post-implementation milestones, roles and responsibilities, detailed activities, and potential challenges and success factors.

A. Milestones and Key Assumptions

The proposed plan includes pre-implementation, implementation, and post-implementation milestones, as described:

- **Pre-Implementation** is the first milestone of the plan and involves all activities leading up to and required for implementation. This includes final recommendation decisions, development of a budget change proposal, consultation with stakeholders and the legislature, and approval and release of a final budget.
- **Implementation** is the second milestone of the plan and involves executing the mill recommendations. To reach this milestone, it is assumed that all requirements for pre-implementation and implementation are met.
- **Post-Implementation** is the last milestone of the plan and includes all activities after implementation has occurred. This includes ongoing stakeholder and legislative engagement, determining the review process, mill adjustment phases, and consideration of Priority Pesticides and future mill tiering options to further alignment with California's transition to safer, more sustainable pest management.

This proposed plan assumes the following conditions:

- The final plan will support the proposal options detailed in *Section 2*
- The mill assessment will be set at a flat rate that is phased-in over a specified period (e.g., up to five years)
- Implementation will be effective Budget Year FY2024/25, with budget planning activities occurring in FY2023/24, to allow for planning and additional stakeholder consultation
- DPR will make final decisions, in consultation with its partners and stakeholders, on how to operationalize this plan.

Exhibit 30 provides an overview of the proposed implementation plan, including the three (3) milestones, key activities, and outcomes. **Exhibit 31** shows each milestone of implementation on a potential timeline, considering factors such as the state's budget approval process, legislative process, mill adjustment phases, and others.

Exhibit 30
Implementation Plan: Milestones, Timeline, Activities, and Outcomes

Milestone	Pre-Implementation	Implementation	Post-Implementation
Timeline	Fall 2023 to Summer 2024	Summer 2024	Summer 2024 to TBD
Activities	<ul style="list-style-type: none"> Develop Budget Change Proposal Conduct Stakeholder Outreach Release of Governor's FY2024/25 Budget 	<ul style="list-style-type: none"> Continue Stakeholder Engagement Begin Recruitment Strategy Implement Mill Proposal on July 1, 2024 	<ul style="list-style-type: none"> Continue Stakeholder Engagement Phase-in Mill Adjustments Consider Mill Review Process Consider Tiered Mill for Priority Pesticides
Outcomes	<ul style="list-style-type: none"> Release Final Budget Change Proposal Release FY 2024/25 Budget 	<ul style="list-style-type: none"> Implement Recruitment Strategy Implement Mill Proposal Enacted Legislation for Mill Proposal 	<ul style="list-style-type: none"> Implement Review Process

Exhibit 31
Implementation Plan: Detailed Timeline

Milestone and Activities	2023				2024												TBD		
	JAN	AUG	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	TBD
Ongoing																			
Stakeholder Engagement and Outreach																			
Pre-Implementation																			
Develop Budget Change Proposal																			
Implementation																			
Begin Recruitment Strategy																			
Implement Mill Proposal																			
Post-Implementation																			
Phase-in Mill Adjustments																			
Consider Mill Review Process																			
Consider Tiered Mill for Priority Pesticides																			

- Begin notification period (tentative)
- Release of Governor's FY2024/25 Budget
- Submit May Revision BCP, if necessary
- Implement Mill Proposal July 1, 2024
- * Start depends on determination of Priority Pesticides

B. Roles and Responsibilities

DPR along with its partners and stakeholders are integral to executing this proposed implementation plan. The department will be responsible for conducting the key activities within the implementation plan as described in the subsection below. This includes developing the budget change proposal, conducting stakeholder outreach and engagement, including legislative engagement, determining a mill review process, and more. They will need to consult with partner agencies and stakeholders throughout all of the implementation milestones to carry out these activities.

C. Activities

In this subsection, we describe the key activities and outcomes within the three implementation milestones. Some activities may overlap, meaning that not all activities are in chronological order. Again, throughout all milestones of implementation, DPR would engage and consult stakeholders and the legislature and agency partners, to solicit feedback and foster greater transparency and communication.

1. Pre-Implementation

Develop Budget Change Proposal

As part of the pre-implementation process, the department will need to develop a budget change proposal (BCP). In DPR's case, the BCP will be the justification and description of the mill proposal to continue to conduct the department's mission and authorized activities. In order to develop the BCP, DPR would need to determine their final mill proposal based on Crowe's final recommendations, stakeholder consultation, and other considerations.

Throughout development of the BCP, DPR would consult partner agencies such as CDFA, CACASA/CACs, and others, as well as any external stakeholders and the legislature, as necessary. Approved BCPs would be released in early January 2024. If there are any BCP revisions, DPR would submit the May Revision BCP to the Department of Finance (DOF).

Conduct Stakeholder Outreach and Notification

DPR staff developing the BCP would have consulted with external stakeholders and the legislature through the development and the release of the BCP. During this period, DPR would have provided sufficient notice to stakeholders to plan for future mill adjustments.

Governor's Budget Release(s)

The Governor's Budget is generally released three times during the current fiscal year (FY) in Winter, Spring, and Summer for the upcoming FY. For DPR, the budget release timeline informs the activities during pre-implementation for the development of their BCP and stakeholder consultation. The release of the Governor's Proposed Budget for FY 2024/25 will be January 10, 2024. Following this, the Governor's Budget will be revised in May and then finally enacted and finalized in the Summer of 2024.

2. Implementation

Develop and Implement Recruitment Strategy

Before mill proposal implementation on July 1, 2024, DPR would need to develop and implement a recruitment strategy to fill the positions according to their mill proposal BCP and subsequent legislation. This would require DPR to consult with internal stakeholders in programs receiving new positions and administration staff in charge of onboarding and training.

Continue Stakeholder Engagement and Consultation

As part of implementation, we recommend DPR conduct another formal round of stakeholder outreach and communication. For this set of stakeholder consultation, DPR would focus outreach and communication on the details of the mill proposal implementation. This includes clear information on the timing of the implementation (likely starting July 1, 2024), the timing of the phased mill adjustments (3-year, 5-year, etc.), the mill rate(s) for each year it is phased-in, and if the department sees fit, any insight into DPR's recruitment strategy and what stakeholders can expect as a benefit to mill adjustments.

The format of this round of stakeholder outreach and communication would likely be more informative. DPR may provide opportunities for stakeholders to ask questions and may decide to hold a public webinar for stakeholders to learn more about the mill proposal implementation.

Implement Mill Proposal

If the BCP is approved by the full Legislative Budget Committee and full legislative bodies, and the Governor signs the final budget bill that includes funding requested by the BCP, DPR has the authority to encumber and expend the funds as proposed in the BCP as early as July 1, 2024. Assuming the recruitment strategy and stakeholder outreach are both complete, DPR would be prepared to execute the mill proposal starting July 1, 2024.

3. Post-Implementation

Continue Stakeholder Engagement and Consultation

Once the mill proposal has been implemented, DPR would continue to engage and consult stakeholders as part of the post-implementation milestone and beyond to continue to foster transparency, accountability, and open two-way communication. DPR would continue to keep stakeholders informed on any future mill adjustments and review processes and continue to solicit feedback and participation of stakeholder perspectives during any planning and decision-making.

Phasing-In Mill Adjustments

We propose two phases for mill adjustments post-implementation. In the first phase, mill adjustments would be phased-in each year for a determined number of years. The phase-in adjustment time period would be outlined as part of the BCP mill proposal. In the second phase, the mill adjustment would be fully phased-in, and any other mill adjustments would be determined through consideration of a review process.

- Phase 1:** In our mill implementation recommendations, we recommend a phased approach to mill adjustments. The phased timeline (e.g., three, four, or five years) would align with the department’s ability to spend the funds. **Exhibit 32** through **Exhibit 34** show the proposed mill rates in various increments of phasing from a three-year approach to a five-year approach. All three exhibits assume sales are consistent at \$4.4 billion and the mix of agricultural and non-agricultural pesticide sales stays the same.
- Phase 2:** In the second phase, the mill adjustment would be fully phased-in. This could occur after three years, four years, five years, or another time the department determined as part of their BCP mill assessment proposal. We recommend at this phase, DPR consider future mill adjustments based on two factors: 1) development of a formal review process and 2) identification of Priority Pesticides.

Exhibit 32
Three-Year Phase-in of Proposed Mill Rates

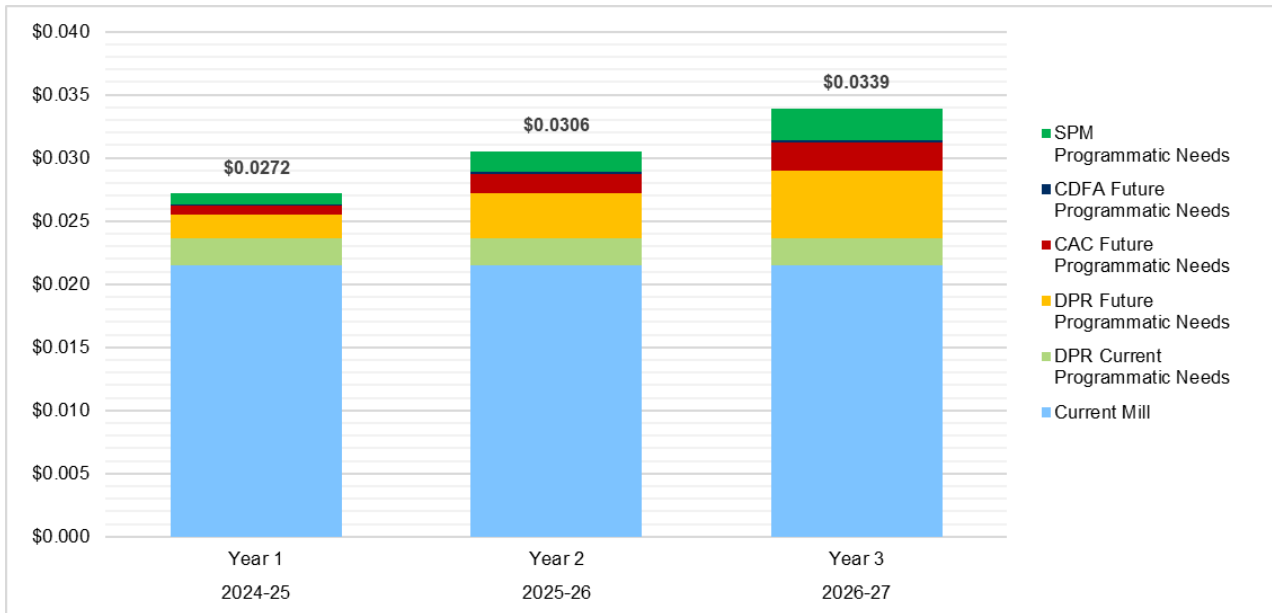


Exhibit 33
Four-Year Phase-in of Proposed Mill Rates

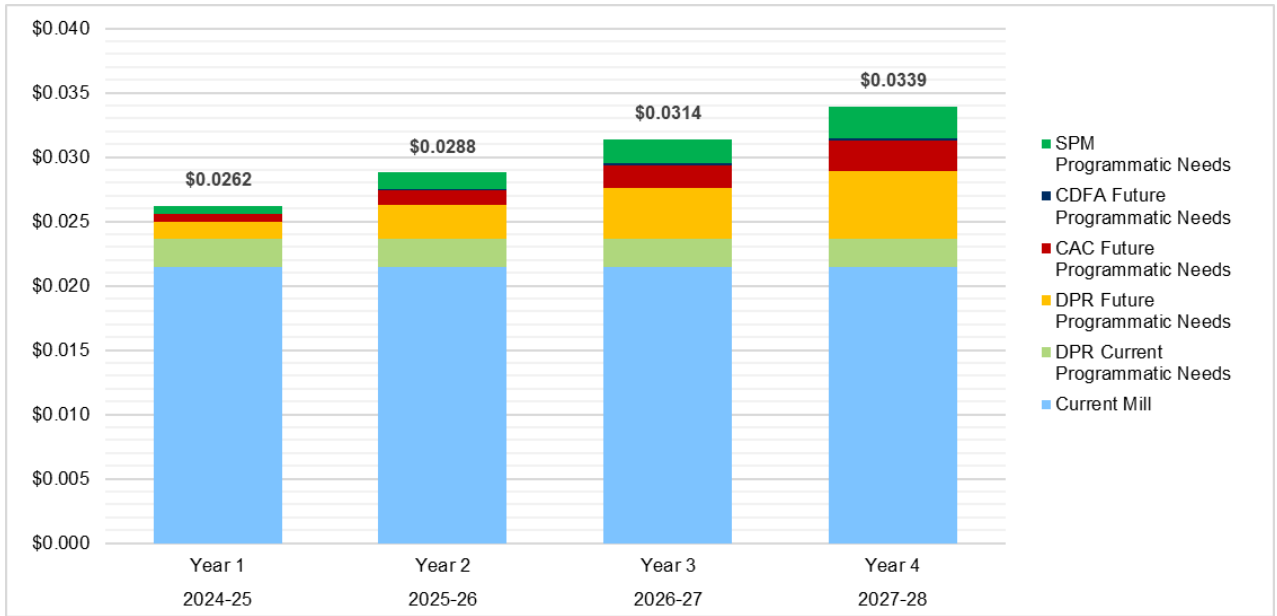
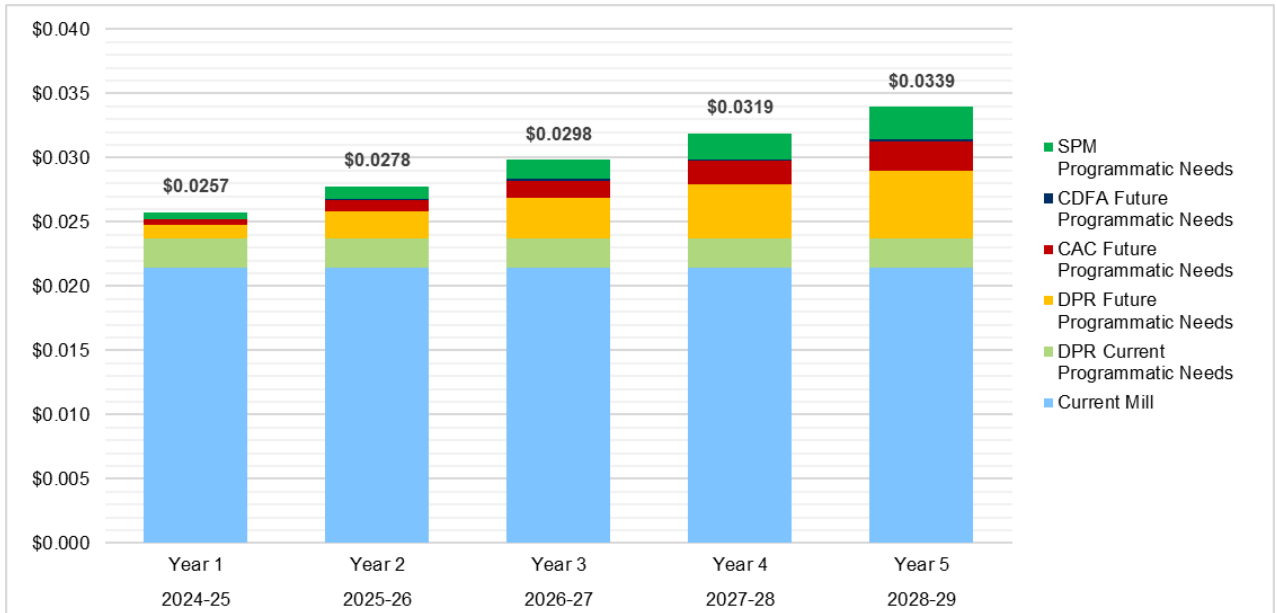


Exhibit 34
Five-Year Phase-in of Proposed Mill Rates



Consider Mill Review Process

Once the mill proposal enters the post-implementation phase, we recommend DPR consider implementing a formal mill review process. As documented in our recommendations, we recommend an examination of the mill every five (5) years, at a minimum, to review and potentially adjust the maximum mill rate. We also recommend that stakeholders are consulted and/or informed during the planning phase of any upcoming adjustments. As part of the review process, DPR would consider the department’s SPM-related efforts, especially as Priority Pesticides and other SPM Roadmap outcomes and/or activities continue to be defined in the coming years.

Consider Priority Pesticides and Other SPM Roadmap Outcomes

In addition to the review process, DPR would consider Priority Pesticides and other SPM Roadmap outcomes for future alignment with DPR’s funding mechanisms. We recommend that once Priority Pesticides have been identified and/or defined, DPR consider and evaluate other mill structure options, such as tiering, for future adjustments. Though we found through our research that a tiered mill structure will likely not influence consumer choices due to various factors (inelasticity of pesticides, etc.), the tier structure could help signal policy directives and further alignment with California’s transition to safer, more sustainable pest management.

D. Success Factors and Challenges

We provide a list of potential success factors and challenges in **Exhibit 35**. This is not an exhaustive list, but a summary of potential key success factors and challenges we deem to be critical for implementation based on our comprehensive examination of the mill assessment.

**Exhibit 35
Potential Challenges and Success Factors**

Topic	Challenge	Success Factors
<p>Stakeholder Consultation</p>	<p>During change, it is important to be as transparent as possible. If stakeholders do not have the information they need, they may be frustrated and unprepared for the change. A natural reaction to this lack of control will be resistance as individuals may feel threatened and will fill information gaps with fear-based assumptions.</p>	<p>Maintaining Engagement: To-date, the Mill Assessment Study has involved significant opportunities for stakeholder consultation, providing valuable insight to the study. This engagement should ideally continue through planning, proposal refinement, and through implementation. It will be important to continue to consult stakeholders throughout all stages of the implementation process. This will help prevent future roadblocks to implementation and encourage a stronger foundation to build relationships with stakeholders in the future.</p> <p>Transparency and Communication: Establishing trust through transparency and communication can pave the way for a more collaborative environment, where stakeholders feel empowered to voice their concerns and offer constructive feedback. By actively listening and responding to stakeholders' needs and expectations, the implementation team can demonstrate their commitment to creating a more inclusive and effective change process.</p>

Topic	Challenge	Success Factors
<p>Divergent Viewpoints</p>	<p>In any complex project or initiative, stakeholder diversity is both a challenge and an opportunity. With a range of perspectives and interests at play, finding a universally satisfying proposal can be an elusive goal. While there may be consensus in certain areas, divergent viewpoints are bound to emerge as stakeholders bring their unique experiences, knowledge, and priorities to the table.</p> <p>However, through the SPM Roadmap and other collaborative efforts, stakeholders have demonstrated the ability to hear each other’s perspectives and work to agreements they can all support.</p>	<p>Embracing Diversity: Recognizing diversity is vital for a collaborative, inclusive decision-making process. Engaging stakeholders and facilitating open communication helps build shared understanding and mutual appreciation, fostering ownership and commitment. Finding common ground and focusing on shared goals builds trust and collaboration, while maintaining respectful dialogue enables constructive feedback and problem-solving.</p> <p>Conflict Resolution and Mediation: Addressing diverse perspectives requires conflict resolution and mediation mechanisms. These approaches help manage disagreements, prevent escalation, and promote understanding and compromise. This fosters a collaborative environment, ensuring smooth implementation and building lasting stakeholder relationships, essential for the SPM Roadmap’s long-term success.</p>
<p>Alignment with SPM Roadmap</p>	<p>The mill proposal and implementation of the mill proposal, including any review process, should be in alignment with the SPM Roadmap’s goals, actions, and “North Star.” As part of the SPM Roadmap, DPR, CDFA, and other agencies will be tasked with additional workload, responsibilities, and actions to further the development of safer, more sustainable pest management. It is important that DPR and appropriate funding needs are aligned with the SPM Roadmap.</p>	<p>Monitoring and Evaluation: Implementing a robust monitoring and evaluation (M&E) framework for the revised mill assessment will help ensure that the revised mill and the SPM Roadmap stay on track and achieve their intended outcomes. An M&E framework will enable DPR and other stakeholders to systematically track progress, identify challenges, and make data-driven decisions to improve the project’s effectiveness. Regularly reviewing and updating the M&E framework will also help maintain alignment with the evolving needs and priorities of the stakeholders, as well as any changes in the broader context.</p>
<p>Uncertainty with SPM Roadmap</p>	<p>One challenge with the implementation of the mill proposal is that there is still a level of uncertainty with the SPM Roadmap outcomes and timing. The Roadmap recommends that the state develop a plan, funding mechanisms, and programs to prioritize pesticides for reduction and to support the change necessary to transition to SPM. The Roadmap’s target for the plan, funding mechanisms, and programs to prioritize pesticides is set for 2025. The SPM Roadmap also identifies a goal that by 2024, relevant state agencies and departments (including DPR, CDFA, and others) have the funding, staffing, and mission to advance the goals of SPM. Though the SPM Roadmap outlines 2024 and 2025 as goals, implementation of these changes could depend on various outside factors that are difficult to predict.</p>	<p>Flexibility and Adaptability: Given the potential for uncertainty and changes in circumstances, it is essential for the mill proposal’s implementation strategy to remain flexible and adaptable. As new information becomes available or external factors change, it may be necessary to adjust the approach or timeline to accommodate these developments. A flexible and adaptable strategy will enable the implementation team to respond effectively to new challenges and maintain momentum towards achieving the SPM Roadmap’s goals.</p>

Appendix A: Methodology

The preliminary recommendations, options, and proposed implementation plan presented in this report reflect Crowe’s comprehensive examination of the mill assessment over the course of the last year. This Appendix details Crowe’s research, analysis, and stakeholder consultation that contributed to the successful outcomes of the following Mill Assessment Study milestones:

- Initial Interviews and Program Research
- Stakeholder Engagement and Consultation
- Mill Alternatives Concept Paper
- Stakeholder Input on Concepts
- Workload Analysis
- Preliminary Recommendations and Implementation Plan
- Final Recommendations and Implementation Plan.

A. Initial Interviews and Program Research

In Spring to Summer 2022, Crowe performed the first project milestone, *Initial Interviews and Program Research*. The outcome of this milestone was the release of the July 2022 Update. Crowe performed comprehensive research and analysis to understand programmatic data that could potentially inform and support the study. Research and analysis included collection, review, and analysis of key data sources, as listed in **Exhibit 36**.

**Exhibit 36
Data Sources**

Area	Description of Data
Pesticide Usage Report (PUR) Data	<ul style="list-style-type: none"> • Key agricultural and non-agricultural pound usage data for Calendar Year (CY) 2018–20
Pesticide Illness Data	<ul style="list-style-type: none"> • Key Pesticide Illness Surveillance Program data for CY2019-21, including data relevant to (1) cases, (2) pesticides, (3) correlations, and (4) symptoms • Key agricultural and non-agricultural pounds sold and revenue data for CY 2018–21 recorded in MillPay
Organizational/ Budget Data	<ul style="list-style-type: none"> • Summary of actual revenues and expenditures for FY2017–18 through FY2020–21 and estimated revenues and expenditures for FY2021–22 through FY2022–23 • Current organizational charts, including County Agricultural Commissioners (CACs) • Approved BCPs over the past four (4) fiscal years and supporting workpapers • Confirmation of the flow into the DPR’s “3540 – Pesticide Programs” from (1) each Branch within the Pesticide Programs Division and (2) DPR’s support and administrative offices (as referenced in the DOF Budget Galley reports) • Breakdown of funding sources (e.g., mill fee revenues, license revenues, registration revenues, general fund, other, etc.) for the Pesticide Programs Division and the Mill Office from FY2016–17 to FY2020–21 • Funding California’s Pesticide Regulatory Program, report to the Legislature (2003) • Documentation on DPR’s function-based accounting methodology, including descriptions of key functions and activities

Area	Description of Data
County Agricultural Commissioner Data	<ul style="list-style-type: none"> • Annual Pesticide Activity Reports from CY2016–21, including activities, costs, and workload • Mill distributions to CACs from CY2016–21 • From CY2016–21, in each county, number of (1) licensed pest control dealers, (2) licensed agricultural pest control advisers, businesses, and aircraft pilots, (3) structural pest control operators providing notice of work, and (4) work hours expended by county personnel who are licensed, or working under the supervision of licensed county personnel, in pesticide regulation or environmental monitoring and investigation • From CY2016–21, in each county, total sum of (1) dollars expended relating to pesticide regulatory activities and (2) private applicator holders
CDFA Data	<ul style="list-style-type: none"> • Lab samples related to Agreement Number 19-C0010 for each relevant Branch, to include (1) number analyzed per year, (2) cost per sample, and (3) sample type
Tiered Assessment Documentation	<ul style="list-style-type: none"> • Calculation support, in Microsoft Excel, for the six (6) tiered mill scenarios documented in DPR Tiered Mill Scenarios PowerPoint
Registration and Licensing Data	<ul style="list-style-type: none"> • From CY2016–21, number of (1) licenses issued annually (agricultural vs non-agricultural), (2), renewals annually (ag vs non-ag), (3) new products with currently registered AI, (4) new CA-only products, (5) new AI-only products, (6) new structural pest devices, (7) product amendments, (8) emergency exemptions, (9) special local need, (10) research authorizations, (11) adverse effects, (12) on-going re-evaluations and risk assessments, (13) total new product submissions, determinations, restricted materials, and (14) average timeline to reach any final action

In addition to research and analysis, Crowe also engaged with stakeholders as part of the first project milestone. Crowe first met with DPR subject matter experts (SMEs) to understand the Pesticide Program’s emerging people, process, technology, and resource related priorities. Subsequently, Crowe met with a sample of stakeholders from various backgrounds in agriculture, industry, environment protection, and environmental justice. Lastly, Crowe met with representatives from the California Department of Food and Agriculture (CDFA) and selected County Agricultural Commissioners (CACs) on the Residual Mill Committee. In total, Crowe conducted nearly 30 initial interviews including both SMEs and stakeholders as part of the initial interviews.

Crowe conducted 12 initial interviews with departmental SMEs. The purpose of the interviews was to gain a comprehensive understanding of the department’s various branches and offices to understand their potential existing and future resource needs to continue to meet DPR’s mission while meeting emerging pressures from additional workload. The SMEs interviews covered the following areas:

- Fiscal, Audits, and Business Services Unit
- Mill Office
- Information Technology Branch
- Enforcement Headquarters Branch
- Enforcement Regional Offices Branch
- Human Resources Branch
- Worker Health and Safety Branch
- Pesticide Evaluation Branch
- Pesticide Registration Branch
- Environmental Monitoring Branch
- Human Health Assessment Branch
- Integrated Pest Management Branch

Crowe conducted 15 interviews with a sample of stakeholders from the various groups as illustrated below. The objective of the interviews was to obtain their perspective on how to appropriately update the existing mill fee to meet DPR's ongoing and long-term needs.

- Agricultural Council of California
- American Chemistry Council
- California Association of Pest Control Advisers
- California Department of Food and Agriculture
- California Farm Bureau Federation
- Californians for Pesticide Reform
- California Institute of Biodiversity
- Community Alliance of Family Farmers
- County Agricultural Commissioners
- Household and Commercial Products Association
- Mosquito and Vector Control Association of California
- National Resources Defense Council
- Pesticide Action Network North America
- Western Plant Health Association

B. Stakeholder Engagement and Consultation

In Summer to Fall 2022, Crowe performed the second project milestone, *Stakeholder Engagement and Consultation*. The outcome of this milestone was the release of the October 2022 Update. Crowe's methodology for this project milestone focused on stakeholder consultation.

As part of the stakeholder consultation, Crowe conducted one-on-one consultation sessions with DPR stakeholders that represented diverse groups including, agricultural, environmental, environmental justice, registrants, applicators, regulatory partners, and others. The objectives of the consultation sessions conducted in July 2022 through September 2022 were to provide an update to stakeholders on the progress of the study and to obtain input on potential mill alternatives. Stakeholders a part of the consultation sessions included:

- Almond Alliance
- American Chemistry Council
- Bayer
- California Agricultural Commissioners and Sealers Association / County Agricultural Commissioners
- California Association of Pest Control Advisers
- California Association of Winegrape Growers
- California Citrus Mutual
- California Department of Food and Agriculture
- California Farm Bureau Federation
- California Rural Legal Assistance Foundation
- California Specialty Crops Council
- Californians for Pesticide Reform
- Center for Biological Diversity
- Central California Environmental Justice Network
- Community Alliance with Family Farmers
- Corteva
- CropLife
- Environmental Working Group
- Household and Consumer Products Association
- Leadership Counsel for Justice and Accountability
- Marrone Bio
- Pesticide Action Network North America
- Reckitt Benckiser
- Syngenta
- University of California, Integrated Pest Management
- Western Plant Health Association

C. Mill Alternatives Concept Paper

In Fall 2022, Crowe performed the third project milestone. The outcome of this milestone was the release of the Mill Alternatives Concept Paper. Crowe utilized research, analysis, stakeholder consultation, and outcomes from the previous project milestones to inform the development of the Mill Alternatives Concept Paper.

- **Research:** Crowe utilized extensive research conducted as part of the first project milestone to develop the Mill Alternatives Concept Paper. In addition, Crowe conducted research on best practices for funding pesticide programs, including but not limited to: benchmarking USEPA and other state and countries' pesticide funding frameworks, reviewing DPR's 2003 report to the legislature, and reviewing the Government Accounting Office's (GAO) various studies and best practices on setting user and regulatory fees. Crowe also reviewed various scientific periodicals and papers on agricultural production, pesticide policies, and regulatory structures.
- **Program Analysis:** At the inception of the Mill Assessment Study, Crowe conducted 14 interviews with DPR's subject matter experts (SMEs) to understand and document the department's overall existing program priorities and needs. Crowe analyzed DPR's historical program data, including but not limited to: pesticide sales data (MillPay), pesticide usage data (Pesticide Use Report (PUR)), and registration and licensing data. Crowe also analyzed DPR's fiscal data (e.g., detailed historical expenditures and revenues by program) and conducted a detailed Workload Analysis to understand and identify the department's existing and future resource needs by program to continue to meet its mission. Crowe evaluated CAC funding over the last eight (8) workload years, conducted a survey of CACs to obtain a general understanding of current and future program needs and conducted several group and one-on-one meetings with CACs.
- **Outreach:** Since the inception of the Mill Assessment Study, Crowe has conducted over forty interview sessions with DPR's stakeholders. The objectives of these interview sessions were to provide stakeholders with an update on the Mill Assessment Study progress, to obtain stakeholders' various priorities and perspectives related to DPR's mission, pesticide regulatory activities, and sustainable pest management activities, and to obtain their input on potential mill assessment evaluation criteria. Crowe utilize the stakeholder interviews and outcomes to help inform and shape development of the Mill Alternatives Concept Paper.

D. Stakeholder Input on Concepts

In Fall 2022 to Winter 2023, Crowe performed the fourth project milestone, *Stakeholder Input on Concepts*. The outcomes of this milestone were the Public Webinar on Mill Alternatives Concept Paper and release of the February 2023 Update. Crowe’s methodology for this project milestone focused on stakeholder consultation. Crowe conducted a public webinar on December 6, 2022, to provide an update on the study and discuss their approach to identifying potential mill assessment alternatives, as detailed in the Mill Alternatives Concept Paper.

Following the release of the Mill Alternatives Concept Paper and the public webinar held in December 2022, Crowe conducted five (5) cross-sector focus group sessions with interested stakeholders from various backgrounds, including agricultural, environmental, environmental justice, registrants, applicators, regulatory partners, research entities, and others. The objectives of the focus group sessions were to obtain additional feedback from interested stakeholders on proposed mill design, usage, and implementation considerations detailed in the Concept Paper, provide a venue for stakeholders across different industries and interest groups to hear other’s perspectives and ideas, and to inform Crowe’s refinement of mill recommendations. Below is a list of focus group session participants:

- Agricultural Council of California
- Almond Alliance
- Almond Board
- American Chemistry Council
- Blue Diamond
- California Agricultural Aircraft Association
- California Agricultural Commissioners and Sealers Association / County Agricultural Commissioners
- California Association of Pest Control Advisers
- California Association of Winegrape Growers
- California Certified Organic Farmers
- California Rural Legal Assistance Foundation
- California Specialty Crops Council
- California Women for Agriculture
- Californians for Pesticide Reform
- Center for Biological Diversity
- Citrus Mutual
- Community Alliance with Family Farmers
- CropLife
- Environmental Working Group
- Household and Consumer Products Association
- Pesticide Management Advisory Committee
- Reckitt Benckiser
- Syngenta
- University of California, Agriculture and Natural Resources
- University of California, Cooperative Extension
- University of California, Department of Biological and Agricultural Engineering
- Western Wood Preserve Institute
- Western Plant Health Association

In addition to the focus group sessions, Crowe also invited interested stakeholders to provide written feedback on the Concept Paper. As of January 2023, Crowe received nine (9) letters and four (4) email submissions representing over forty (40) stakeholders from a broad range of backgrounds, many of which had also attended the focus group sessions. The written feedback largely mirrored the feedback shared by stakeholders during the focus group discussions.

E. Workload Analysis

In Fall 2022 to Winter 2023, Crowe performed the fifth project milestone. The outcome of this milestone was the release Workload Analysis Report. Crowe utilized the outcomes from the initial interviews with DPR's subject matter experts (SMEs) at the beginning of the study process to identify and understand the department's programmatic needs to carry out its mission, mandates, and authorized functions.

Building on the initial round of interviews, Crowe continued to meet with SMEs and other representatives within the branches throughout Summer and Fall 2022 to further identify DPR's overall programmatic needs with a focus on the identification of unbudgeted core and sustainable pest management (SPM) related workload.

We compiled the workload data from DPR Divisions and Branches into a customized Excel workload model. We tied the workload data to state pay scales by classification for roughly 70 classifications across the 13 Divisions and Branches. We included allocations by major activity groups and then calculated workload needs by mill, registration, and licensing and certification programmatic functions.

Crowe also performed program research to meet this project milestone. Crowe's objective with conducting program research was to understand and identify the various programmatic and fiscal data elements that could aid in our examination of DPR's current programmatic needs. Specifically, we reviewed and assessed the following:

- *Funding Environmental Regulation*, report by the Legislative Analyst Office (1995)
- *Funding California's Pesticide Regulatory Program*, report to the Legislature (2003)
- Documentation on the department's function-based accounting methodology²², including descriptions of key Pesticide Programs and Administration related functions and activities
- Authorized positions, including limited term and vacant positions, from FY2014/15 through FY2022/23
- Authorized and actual department-wide revenues and expenditures from FY2014/15 through FY2022/23
- Authorized and actual Department of Pesticide Regulation Fund related revenues and expenditures from FY2014/15 through FY2022/23, including:
 - Mill related authorized and actual revenues and expenditures for mill related workload from FY2014/15 through FY2022/23
 - Registration related authorized and actual revenues and expenditures for mill related workload from FY2014/15 through FY2022/23
 - Licensing and certification related authorized and actual revenues and expenditures for mill related workload from FY2014/15 through FY2022/23
- Budget change proposals (BCPs) over the past four (4) fiscal years and supporting workpapers
- FY2022/23 authorized budgetary details, including personal services, and operating and equipment expenditures (OEE) related expenditures for the department's organizational units.

Together, the SME interviews along with program research, provided a foundation for Crowe's examination of DPR's current programmatic needs, and the development of the Workload Analysis Report.

²² Function-based accounting focuses on the costs and performance of specific program functions rather than those of organizational units.

F. Preliminary Recommendations and Implementation Plan

This report represents the outcome of the sixth project milestone. We developed the report using research, analysis, and stakeholder feedback from all previous project milestones. In this report, we describe Crowe's preliminary recommendations for mill design, usage, and implementation and detail a proposed implementation plan based on those recommendations. We developed our preliminary recommendations and implementation plan in consideration of the following:

- Program research and initial interviews with DPR SMEs and stakeholders as described in the first project milestone
- Consultation sessions with stakeholders as described in the second project milestone
- Mill Alternatives Concept Paper's mill design, usage, and implementation considerations
- Workload Analysis Report findings on DPR's current and future programmatic needs, including preliminary estimates for DPR's initial mil-related responsibilities associated with implementing recommendations included in the Sustainable Pest Management Roadmap for California
- Stakeholder feedback on the Mill Alternatives Concept Paper through the focus group sessions and written comments
- Additional research and analysis of:
 - County Agricultural Commissioner's Funding, as detailed in **Appendix C**
 - Tiered funding models, as detailed in **Appendix D**
 - Current and Future Pesticide Mill Revenues based on trends in pesticide sales and the sustainability of mill revenue, as detailed in **Appendix E**.

After the release of this report, Crowe plans to engage with stakeholders to solicit additional feedback, explain recommendation justifications and rationale, and inform the development of final recommendations.

G. Final Recommendations and Implementation Plan

Throughout Spring to Summer 2023, Crowe will perform the seventh and last project milestone. The outcome of this milestone will be the release of the Final Recommendations & Implementation Plan. Crowe will use the outcomes from all the previous project milestones to inform the development of the Final Recommendations & Implementation Plan, focusing on stakeholder feedback gathered as part of the Preliminary Recommendations & Implementation Plan project milestone.

Appendix B: Funding Authority

Appendix B summarizes DPR's funding authority for its Pesticide Programs and Administration. The State's pesticide use laws are primarily codified within the California Food and Agricultural Code (FAC) Divisions 2, 6, and 7; the regulations are in Title 3, California Code of Regulations (3 CCR) Division 6. The laws and regulations include the requirements that support certification and licensing of individuals who make agricultural use recommendations, apply pesticides using an aircraft, or apply or supervise the application of restricted pesticides; as well as the licensing of Pest Control Dealers and Brokers and Pest Control Businesses.

Exhibit 37 provides a summary of DPR's key mandates and legal authorities supporting funding for DPR's Pesticide Programs and Administration.

**Exhibit 37
Key Mandates and Legal Authorities**

Codification	Name/Topic Area	Description
General		
FAC §11456	DPR's General Powers	Sets forth the general powers of the director to adopt regulations necessary to carry out the provisions of the code, conduct inspections, and issue licenses and certificates of registration.
FAC §11501	DPR's Statutory Purpose	Sets forth DPR's statutory purpose: to provide for the proper, safe, and efficient use of pesticides essential for production of food and fiber and the protection of public health and safety; to protect the environment by regulating and ensuring proper stewardship of pesticides; to regulate worker safety; to issue licenses and permits for pesticide use; to protect consumers; and to develop and encourage the use of integrated pest management.
FAC §11501.1	DPR's Authority over Pesticide Registration, Sale, and Use	Provides that DPR has authority over the registration, sale and use of pesticides and preempts any local regulation.
FAC §11501.5	DPR and County Agricultural Commissioners (CACs) Pesticide Enforcement Authority	Gives the DPR and the commissioner of each county under the direction and supervision of DPR the authority to enforce pesticide laws and regulations.
2 FAC §2281	County Agricultural Commissioners (CACs) Responsibilities	Provides that the county agricultural commissioners are responsible for the local administration of the pesticide enforcement program under the instructions and recommendations of the DPR's director.
FAC §12841.2	DPR Outreach	Requires DPR to create a program to conduct outreach and education activities for worker safety, environmental safety, school safety, and proper pesticide handling and use (relates to environmental justice).
Product Registration		
FAC §12811	Pesticide Registration	Requires all products to be registered following the requirements set forth in statute and regulation before they can be offered for sale in California.
FAC §12824	Pesticide Evaluation	Requires the director to evaluate pesticides using specified criteria set forth in statute and regulation prior to registration, and to develop an orderly program for the continuous evaluation of all pesticides registered.
FAC §12825	Pesticide Cancellation, Refusal	Provides authority to the director to cancel or refuse to register any pesticide after a hearing on the grounds specified.
Environmental and Human Health Risk Assessment		
FAC §11454.1	Pesticide Risk Assessment	Requires DPR to conduct pesticide risk assessment as appropriate to carry out its responsibilities under the code and requires the Office of Hazard Assessment to provide a scientific peer review as required by the Health and Safety Code.
FAC §13121-13135	Birth Defect Prevention Act	Gives DPR the authority to require registrants of new or already registered pesticides to submit specified studies related to birth defects and other health effects and to evaluate those studies and take appropriate action (cancellation, suspension, refusal to register).

Codification	Name/Topic Area	Description
FAC §13141-13152	Pesticide Contamination Prevention Act	Gives DPR the authority to require specified information about the potential of a pesticide to move to ground water, conduct ongoing monitoring, and establishes a process to evaluate and mitigate the use of any pesticide found to have polluted ground water as a result of legal agricultural use.
FAC §14004.5	Restricted Materials Criteria	Requires the director to evaluate and designate particularly hazardous pesticides as restricted materials based upon certain criteria.
FAC §14021-14027	Toxic Air Contamination (TAC statute)	Requires DPR to evaluate the health effects or pesticides emitted into the air and to determine if they should be listed as a toxic air contaminant and to then determine the need and degree of control measures. For TAC's already listed, to make a determination of the need and degree of control measures after the completion of a risk assessment. Control measures must be implemented within two years of the determination, or a report submitted to the legislature providing the reasons why this obligation has not been met.
Licensing and Certification		
FAC §11502 and 11502.5	Pest Control Licensing, Certification, and Continuing Education	Gives the director the authority to adopt regulations to govern the conduct of the business of pest control and to pass regulations related to minimum requirements, continuing education, and renewal.
Pesticide Use Reporting		
FAC §12979	Pesticide Use Reporting (PUR)	Requires the use of pesticides to be reported to the agricultural commissioner or to DPR as prescribed by the director (regulations and other sections require use reporting to the commissioner for all agricultural and structural pesticide use).
Restricted Material Use and Permitting		
FAC §14001	Restricted Materials	Requires DPR to regulate the use of restricted materials.
FAC §14005-14006	Restrict Material Authority	Gives the director the authority to adopt regulations to govern the possession and use of restricted material pesticides to protect the environment and human health
FAC §14006.5-14009	Restrict Material Permitting	Requires a permit from the commissioner before any application of an agricultural use restricted material pesticide and sets forth the process of issuance and the process to challenge the issuance or refusal to issue.
FAC §14010-14015	Restrict Material Safe, Purchase, and Use	Sets forth other requirements on sale, purchase and use of restricted materials.
Monitoring and Surveillance		
FAC §12532 and 12534	Pesticide Residue Monitoring Program	Requires DPR to conduct a pesticide residue monitoring program to prevent public exposure to illegal pesticide residues.
FAC §12824	Pesticide Evaluation Program	Requires DPR to develop an orderly program to continuously evaluate all registered pesticides. (3 Cal. Code Reg. section 6220-6226.)
FAC §12825.5	Pesticide Registrant Reporting	Requires registrants to report evidence of any adverse effect or risk of a pesticide to human health and the environment.

Codification	Name/Topic Area	Description
Mitigating Human Health Risks		
FAC §12824	Pesticide Restrictions	Requires DPR to eliminate from use any pesticides that endanger the agricultural or nonagricultural environment, to place restrictions on use, and to set up a program to continuously evaluate registered pesticides. It also provides the authority to request applicants and registrants to perform and submit studies needed to evaluate the specific pesticide product.
FAC §12981	Pesticide Worker Safety	Requires DPR to adopt regulations protecting worker safety, basing regulations related to health effects on the recommendations of the Office of Health Hazard Assessment (related sections include 12980-12988).
FAC §13129	Birth Defects Prevention Act Studies	Requires DPR to review health effects studies for possible birth defects or other health effects related to pesticide exposure and act if there is a significant adverse health risk (from Birth Defects Prevention Act, sections 13121-13135).
FAC §14005	Restricted Materials Use Conditions	Requires DPR to establish conditions for the use of restricted materials to mitigate the effects on human health and the environment (related section 14006.5 requires a permit before use).
FAC §14024	Pesticide Emission Control Measures	Requires DPR to develop control measures for pesticides designated as toxic air contaminants to reduce emissions so the public will not be exposed to levels that may cause significant adverse health effects.
Pesticide Management Programs		
FAC §13183	Voluntary Adoption of Integration Pest Management (IPM) Programs for School sites	Requires DPR to promote and facilitate the voluntary adoption of integrated pest management (IPM) programs for school sites (related sections include sections 13180-13188).
FAC §13185	IPM Training in Schools and Day Cares	Requires DPR to establish an IPM training program for schools and day care facilities.
FAC §13186	Pesticide Use Reports by Schools	Requires the submission of pesticide use reports by schools (not applied by commercial applicators).
FAC §13186.5	IPM and Safe Use of Pesticides at School Sites Training	Requires any individual applying pesticides at school sites (school personnel and commercial applicators) to receive a training course in IPM and specific training unique to applying pesticides at school sites.
Illegal Residue		
FAC §12581	Illegal Pesticide Residue Inspection Authority	Grants DPR the authority to inspect produce packed, shipped, or sold in California for illegal pesticide residue.
FAC §12671	Excess Pesticide Residue	Prohibits the packing, shipping, or sale of any product carrying excess pesticide residue.
General Enforcement		
FAC §12991	Pesticide Sale, Purchase, and Handling	Generally, sets forth the unlawful acts related to the sale, purchase, and handling of pesticides (Division 7).
FAC §12996-13000.1	Pesticide Enforcement Violations	Sets forth the enforcement options for violations of Division 7 provisions and implementing regulations (criminal, civil, administrative) generally investigated and initiated by DPR at the state level.
FAC §12999.4	Pesticide Enforcement Violations	In lieu of civil prosecution, this section grants authority to DPR to administratively enforce violations for the sale of produce with illegal residues, misbranded pesticide products, and unregistered pesticide products.

Codification	Name/Topic Area	Description
FAC §11791 and 11792	Pesticide Use Violations	Generally, sets forth the unlawful acts related to pesticide use violations (Division 6).
FAC §11891-11894	Pesticide Enforcement Violations	Sets forth the enforcement options and penalties for violations of Division 6 and implementing regulations (criminal, civil, and administrative) generally investigated and initiated by the Commissioners at the local level.
FAC §12999.5	Pesticide Enforcement Violations	In lieu of civil prosecution, this section grants the commissioners the authority to administratively enforce pesticide use violations.
Product Compliance and Mill Assessment		
FAC §12841	Mill Assessment	Gives DPR the authority to collect a mill assessment on the first sale of a pesticide into or within California (related sections include 12841.1-12847).
FAC §12881-12885	Misbranded Pesticides	Defines what constitutes a misbranded pesticide (sale of which is a violation per section 12992).
FAC §12992	Misbranded Pesticides	Provides that it is unlawful to sell a misbranded pesticide product.
FAC §12993	Unregistered Pesticides	Provides that it is unlawful to sell an unregistered pesticide product.
FAC §12995	Unregistered Pesticides	Provides that it is illegal to possess or use a product that has not been registered by DPR.
Structural Pest Control		
FAC §15201	Structural Pest Control Board (SPCB) Authority	Gives joint responsibility to regulate activities or structural licensees to the Structural Pest Control Board, DPR, and the commissioners under the direction of the DPR.
BCP §8616 and 8614 (Business and Professions Code)	Inspections and Disciplinary Action	Designates DPR and the commissioners as the agents to conduct inspections and take any enforcement and disciplinary actions for violations as described in sections 8616.5, 8616.6, 8616.7, 8616.9, 8617.
BCP §8662	Disciplinary Review Committee	Sets up the Disciplinary Review Committee consisting of one member from DPR, one member from the Structural Pest Control Board, and one member from industry to hear appeals from structural administrative civil penalty actions taken by the commissioner.

Appendix C:

County Agricultural Commissioners Funding Analysis

An objective of the study is to examine current and future funding needs for DPR while also considering County Agricultural Commissioners' (CAC) funding associated with mill-related responsibilities. To meet this objective, Crowe examined CACs' funding for mill related responsibilities to identify recommended options to support current and future programmatic needs. In the remainder of this Appendix, we summarize key findings, background, and analysis supporting our recommended proposal option to support CACs programmatic needs for mill related responsibilities.

A. Key Findings

We recommend a proposal option that maintains the existing mill allotment criteria pursuant to FAC Section 12844 and CCR 6393, which generates nearly \$35.0 million per year to support local pesticide usage enforcement programs and up to approximately \$10.2 million that provides "as-needed" funding (separate from the existing mill allotment criteria) to support County's authorized needs (e.g., project, personnel, stakeholder consultation support, other funding, etc.) for local pesticide usage enforcement workload activities and administration priorities.

Our recommended proposal option is based on feedback from CACASA/CACs along with an examination of the following:

- **Statewide Total Programmatic Funding Mix** – Mill revenues account for approximately 20 percent of the CACs' statewide total programmatic funding, excluding funding for weights and measures programs.
- **Pesticide Usage Enforcement Programmatic Funding Mix** – Mill revenues account for approximately 40 percent of CACs' statewide total pesticide usage enforcement (PUE) programmatic funding.

Our examination indicates CACs must balance mill assessment revenues generated from the current allotment criteria, County General Funds, and other sources to receive UGT funds due to FAC Section 224(a)(2). Additional mill funding may offset PUE expenditures previously covered by a portion of the County General Funds required to be spent to qualify for UGT allocation. This would require CACs to increase PUE expenditures in proportion of the mill increase to meet annual financial statement requirements. An increase to mill funding could potentially cause a decrease in the other funds available to CACs, which is why we recommend a proposal option separate from the existing mill allotment criteria to avoid this scenario.

B. Background

DPR oversees and partners with CACs' enforcement of state pesticide laws and regulations at the local level. CACs pesticide usage enforcement programmatic activities include, but are not limited to:

- Enforcement of county and state laws and regulations concerning use, storage, and handling of pesticides; licensed agricultural pest control businesses; licensed structural pest control operations; agricultural pest control advisers; pest control dealers; growers/property operators; farm labor contractors and others
- Evaluation of requests for restricted material permits, notices of intent, preapplication site inspections, and issuances or refusals
- Review of pesticide use reports for accuracy and completeness
- Application inspection activities as related to the proper and safe use of pesticides
- Records inspections (including use reports) related to the proper and safe use of pesticides
- Investigation of complaints, illnesses, injuries, damages, or losses resulting from applications of pesticides
- Regulatory activities involving examination of licensee and certificate applicants
- Registration of pest control operators, pilots, pest control advisers, farm labor contractors; issuance of operator identification numbers and structural pest control operator notifications
- Collection, preparation, and submission of enforcement samples for laboratory analysis
- Pesticide regulatory training, outreach activities, and meetings with interested groups and individuals
- Cooperation in policy analysis and evaluation
- Collection, preparation, and presentation of evidence at administrative hearings and prosecutions, preparation of compliance/enforcement actions, and conducting administrative hearings
- Preparation and promulgation of county pesticide regulations authorized under authority of the Food and Agricultural Code
- Other administrative support time specific to the Pesticide Use Enforcement program.

CACs receive funding from the following sources to support PUE programmatic activities: 1) mill assessment pursuant to FAC Section and 12841 CCR 6393, 2) unclaimed gas taxes (UGT) pursuant to FAC Section 224(a), 3) County General Funds, and 4) other sources.

Mill Assessment

Mill funds are apportioned to CAC for specifically PUE programmatic use. According to FAC Section 12841, CACs are entitled to "an amount equal to the revenue derived from 7.6 mills (\$0.0076) per dollar of sales for all pesticide sales for use in this state," in which the total revenues generated are allocated between the state's 58 counties for reimbursement of specific pesticide regulatory and administration costs. CCR Title 3 Chapter 6 further specifies "the criteria to be used in allocating pesticide mill assessment funds to counties based upon each county's costs, pesticide regulatory activities, workload, and performance, pursuant to FAC Section 12844." **Exhibit 38** summarizes CACs' existing reimbursement criteria items and apportionment, as described in FAC Section 12844 and CCR 6393.

**Exhibit 38
Summary of Criteria Items and Apportionment
Pursuant to FAC Section 12844 and CCR 6393**

Criteria Item	Apportionment	Description
1. Inspections	3 percent	The total number of Pesticide Use Enforcement Program inspections completed in accordance with the prioritization plan agreed upon by the Director and the commissioners and the commissioner's negotiated work plans.
2. Lic/Reg/ID	3 percent	The total number of licensed pest control dealers located in each county; licensed pest control advisers, pest control businesses, pest control aircraft pilots, and farm labor contractors registered in each county; structural pest control operators providing notice of work in each county; active operator identification numbers in each county; and any additional similar workload activities approved jointly by the Director and the commissioners.
3. Private Applicator	3 percent	The total number of private applicator certificate holders certified in each county.
4. Work Hours	3 percent	Work hours expended on pesticide related activities that are agreed upon by the Director and the commissioners, provided the work hours are expended by persons holding a Pesticide Regulation and/or Investigation and Environmental Monitoring license or by unlicensed persons qualified to apply for a Pesticide Regulation and/or Investigation and Environmental Monitoring license who are closely supervised by persons holding a Pesticide Regulation and/or Investigation and Environmental Monitoring license.
5. Expenditures	3 percent	Expenditures reported by each county for pesticide-related activities that are agreed upon by the Director and the commissioners.
6. Lbs. of Pesticides	3 percent	The total pounds of pesticides used in the county that have been reported pursuant to Food and Agricultural Code section 12979.
7. Permits/Notice of Intent	21 percent	The total number of restricted materials permits, and permit amendments issued by each county; sites identified on all restricted materials permits and permit amendments issued by each county; and notices of intent reviewed by each county.
8. Lbs. of Non-Ag Pesticides	21 percent	Based on the total pounds of nonagricultural-labeled pesticides sold in this state in relation to each county's population. Pounds of pesticide sold data shall be derived from mill assessment collection information provided to the department. Population data shall be based on the most recent U.S. census information.
9. PUR Data Records	40 percent	Based on each county's pesticide use report data records in relation to the total number of pesticide use report data records submitted to the department by all counties.

Unclaimed Gas Tax (UGT)

According to the Motor Vehicle Fuel Tax Law (MVFT) Section 8352.5 there shall be “money deposited... to the department of Food and Agriculture Fund [for] the portion of receipts in the Motor Vehicle Fuel Account... that were attributable to agricultural off-highway use of motor vehicle fuel.” This funding is then further distributed to support CACs’ programs, including PUE programmatic needs. Of the total UGT funds distributed to CACs, FAC Section 224(a) guarantees that “nine million dollars (\$9,000,000) is hereby appropriated... for payment to the counties for pesticide use enforcement programs supervised by the Director of Pesticide Regulation.” The \$9.0 million is “apportioned to counties in relation to each county’s [net] expenditures to the total [net] amount expended by all counties for the preceding fiscal year for pesticide use enforcement programs,” adjusted to zero when net PUE expenditures are negative.

County General Funds

A significant portion of PUE program revenue also comes from County General Fund dollars as FAC Section 224(a)(2) requires counties to “maintain county general fund support for agricultural commissioner services at least equal to the average amount expended for the five preceding fiscal years” to be eligible for receiving UGT Funds.

Other Sources

Additional revenue sources available to CACs include miscellaneous payments from DPR (primarily assessments for service), State General Funds, and funds from CAC-imposed assessments and penalties.

C. Funding Analysis

The data used in the analysis of CACs’ current funding for mill-related responsibilities was supplied to Crowe by DPR and CACs. The data sets used in the analysis are as follows:

- **CACs Annual Financial Statement Data (FY2018/19 to FY2020/21)** – This data provides statewide total revenue, reimbursements, and expenditures of CAC programs excluding revenues, reimbursements, and expenditures to support its weights and measures programs.
- **Mill Distributions Data (FY2017/18 to FY2020/21)** – The data provides annual mill allotments pursuant to FAC Section 12844 and CCR 6393.
- **DPR Pesticide Use Enforcement Activities 224(a) Distributions (FY2017/18 to FY2021/22)** – This data provides annual PUE program revenues, expenditures, and UGT distributions along with total statewide PUE programmatic revenues, expenditures, and UGT distributions.

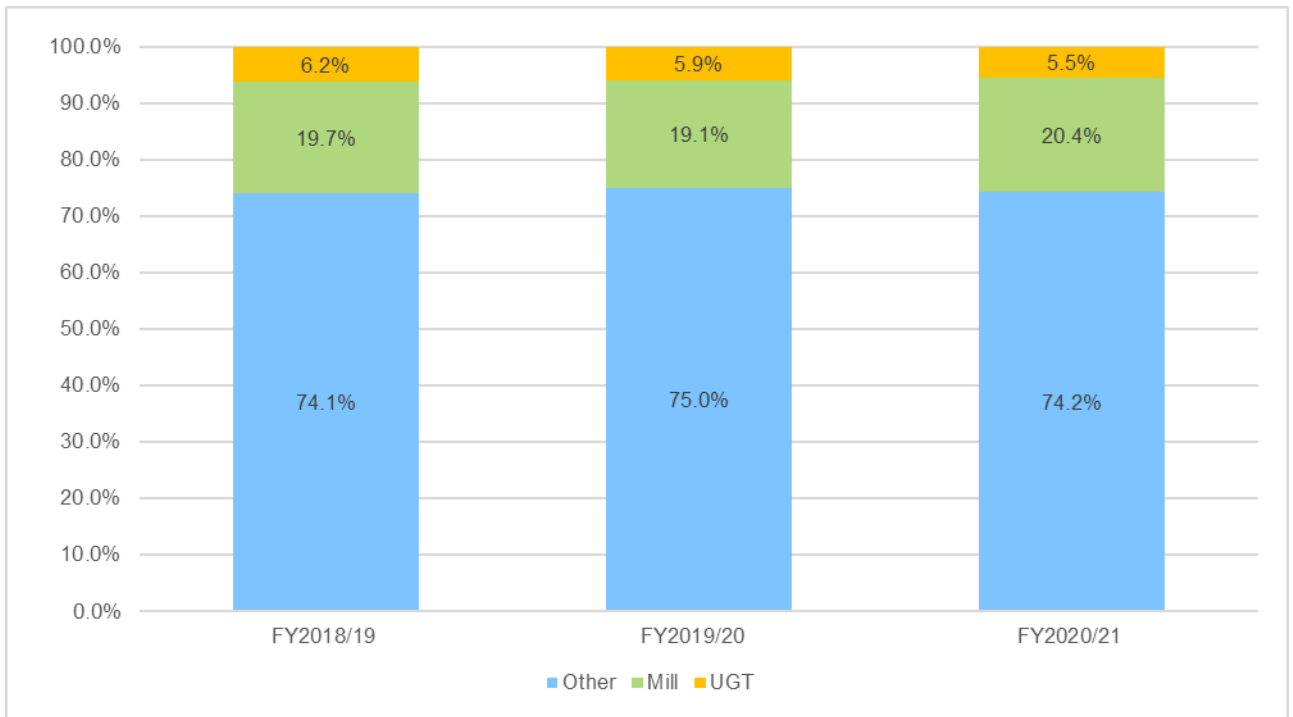
Total Statewide Programmatic Funding Mix

In addition to pesticide use enforcement activities, CACs all perform an array of programmatic workload including, but not limited to:

- Pest Exclusion
- Pest Detection
- Pest Eradication
- Pest Management
- Seed Certification
- Nursery Inspection
- Fruits, Nuts and Vegetables Standardization
- Egg Inspection
- Apiary Inspection
- Crop Statistics

In **Exhibit 39**, we provide total statewide programmatic funding mix prior to County General Fund appropriations in FY2018/19, FY2019/20, and FY2020/21. We distinguish mill and PUE-related UGT funds from all other available programmatic funds, which we grouped into “Other.” Total statewide funding mix includes approximately: 74 percent other funds, and 20 percent mill funds, and six (6) percent UGT funds for pesticide use enforcement activities.

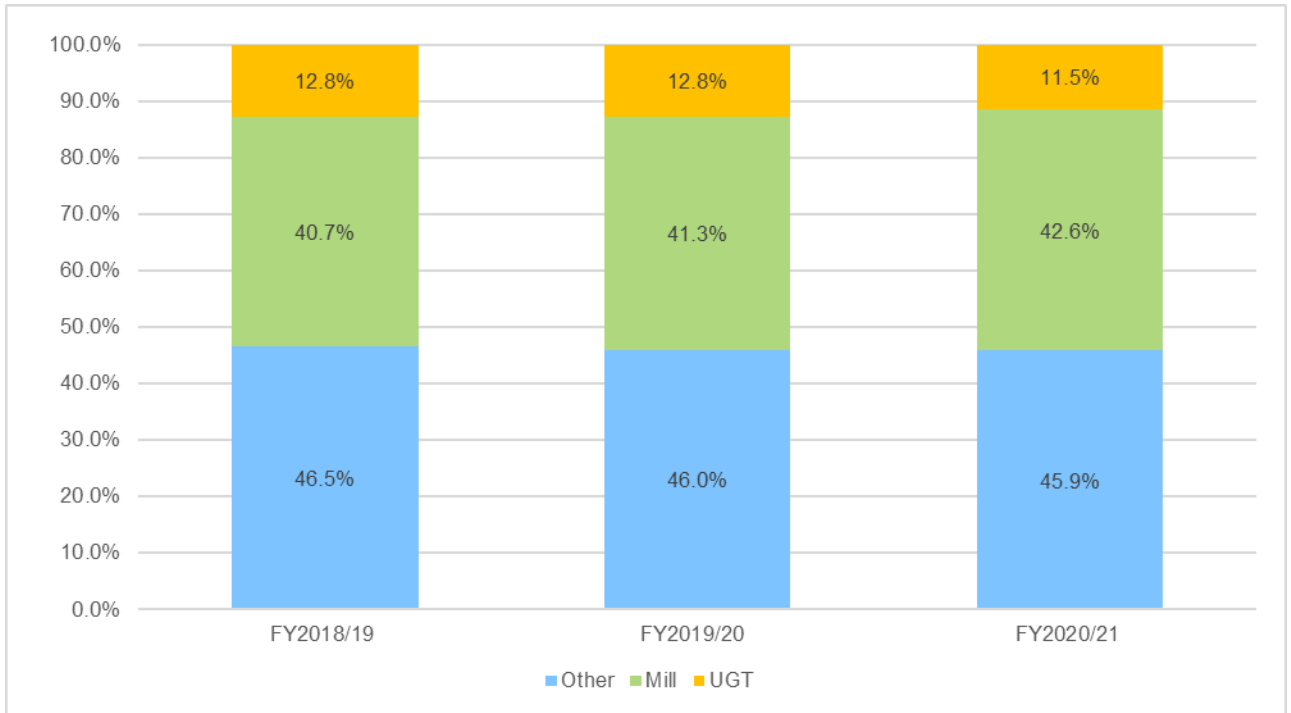
Exhibit 39
Total Statewide Programmatic Funding Mix – FY2018/19, FY2019/20, and FY2020/21



Total Statewide Pesticide Usage Enforcement Programmatic Funding Mix

In **Exhibit 40**, we provide total statewide PUE programmatic funding mix (from other, mill, and UGT sources) in FY2018/19, FY2019/20, and FY2020/21. Total PUE statewide funding mix includes approximately: 46 percent other funds, 42 percent mill funds, and 12 percent UGT funds. UGT funds within this graph are for PUE programmatic activities only.

Exhibit 40
Funding % of Total PUE Programs Revenue



Appendix D: Funding Models Analysis

Two related objectives of the study are to (1) examine detailed options that incentivize the use of safer sustainable pest management practices across the State of California and (2) examine incentivization options, including “tiering the mill assessment,” to incentivize the use of safer pest management. To meet these objectives, Crowe first proposed three (3) funding models for consideration within the Concept Paper: 1) a flat rate model based on the current mill assessment, 2) a tiered rate model based on levels of pesticide category workload, and 3) a tiered rate based on levels of pesticide product workload. Following the release of the SPM Roadmap in January, we proposed a fourth model, a tiered rate based on Priority Pesticides to be identified through the process outlined in the SPM Roadmap. This appendix provides Crowe’s analysis of the four (4) models and summarizes our key findings.

Based on our analysis, we recommended that DPR initially maintain a flat rate model with an option to utilize a tiered rate model based on Priority Pesticides once they have been identified. The analysis in this Appendix focuses on the structure of the mill assessment rather than the level.

A. Key Findings

Currently, we recommend the continued use of a flat rate model to support the programmatic needs as identified in the recommended proposal options in *Section 2*. A tiered model may be feasible once criteria for Priority Pesticides are confirmed through the process identified in Appendix 9 of the SPM Roadmap. Once Priority Pesticides are confirmed, DPR could consider a tiered assessment with a higher mill assessment on the Priority Pesticides to support the use of safer, more sustainable pest management. This assessment differential would be an educational tool, signal a policy preference for alternatives to Priority Pesticides, and generate revenue that could be utilized to support research and development for alternatives. However, based on economic analyses, the higher mill assessment alone would likely not result in an economic incentive to shift to safer alternatives.

Below we provide our justification for a flat rate model until tiers can be systematically defined, potentially as part of the prioritization process to develop Priority Pesticides defined in the SPM Roadmap process:

- **Administrative simplicity:** A flat rate model can be easily implemented and managed in the interim while tiers are being systematically defined. This allows for immediate action and a straightforward option for DPR and its stakeholders to administer.
- **Allows time to identify Priority Pesticides:** While a flat rate model is in place, it provides time to conduct the process outlined in Appendix 9 of the SPM Roadmap to identify Priority Pesticides and potentially develop a tiered model based on Priority Pesticides.
- **Predictable revenue generation:** A flat rate model can provide a predictable revenue stream to support DPR and its partners during the development of tier classifications. This revenue can be used to support research and administration costs associated with creating a more comprehensive tiered model potentially aligned with Priority Pesticides.
- **Transitional framework:** Implementing a flat rate model initially allows DPR to set a rate necessary to support the recommended funding level proposal options while allowing time for a systematic development of tiers.

Exhibit 41 provides pros and cons of a flat rate model that can be implemented immediately. **Exhibit 42** provides pros and cons of a tiered rate model once tiers are defined within the context of Priority Pesticides. While the option for a tiered mill based on Priority Pesticides is viable, there are numerous complexities that would need to be weighed and addressed should such a proposal be implemented.

Exhibit 41
Flat Rate Model - Pros and Cons

Model Type	Pros	Cons
<p>Flat Rate</p>	<ul style="list-style-type: none"> • Simplicity: A flat mill rate is easier to administer and understand, as it applies a uniform rate to all pesticides, regardless of their risk level. • Revenue predictability: A flat mill rate offers a more predictable revenue stream for regulatory agencies, as it does not depend on fluctuations in the use of specific pesticides within different tiers. • Transparency: Without a robust mechanism to identify tiers in place at this time, a flat mill rate is more transparent. • Quick implementation: An increased flat rate can be implemented quickly and efficiently, as it does not require the extensive research and analysis needed to develop appropriate tier classifications. • Lower compliance and administrative costs: With a flat rate, pesticide users and manufacturers face lower compliance costs since they would not need to track and report tier classifications or adjust to changes in tier assignments. Additionally, it postpones the need for MillPay system changes and monitoring that DPR could incur with a tiered rate. 	<ul style="list-style-type: none"> • Limited incentives for safer alternatives: A flat mill rate does not differentiate between the risk levels of various pesticides, thus there is no signal for users to switch to safer alternatives. • Does not capture the true cost: A flat mill rate does not account for the varying levels of DPR workload or negative externalities associated with different pesticides, potentially underpricing the true cost of more work-intensive or hazardous substances. • Less targeted: A non-tiered approach does not allow for targeted interventions to reduce the risks and impacts of specific high-risk pesticides or promote the adoption of safer pest management strategies.

Exhibit 42
Priority Pesticide-Based Tiered Rate Model - Pros and Cons

Model Type	Pros	Cons
<p>Tiered Rate</p>	<ul style="list-style-type: none"> • Potential comprehensive process to identify Priority Pesticides: The SPM Roadmap, Appendix 9, outlines a multi-year process for DPR to identify Priority Pesticides. The proposed level of rigor in this identification effort will provide a degree of objectivity and transparency needed for establishing a differential fee structure. • Encourages safer and sustainable alternatives: A tiered mill rate signals the policy preference of using safer pest management approaches by imposing a higher assessment on more harmful products or active ingredients (Priority Pesticides). To the extent sales of these products decrease (as intended) it could lead to reduced environmental and health risks associated with the use of Priority Pesticides. • Better reflects the true cost: By differentiating between the risk levels of various pesticides, a tiered mill rate could better capture the cost of the higher DPR workload and negative externalities associated with pesticide use, such as environmental damage, public health risks, and clean-up costs. • Supports risk reduction goals: A tiered mill rate could align with the SPM goal of reducing the risks and impacts of pesticide use on human health and the environment. • Flexibility: Tiered rates allow for more targeted policy interventions, such as focusing on specific high-risk pesticides or promoting the adoption of integrated pest management strategies. 	<ul style="list-style-type: none"> • Minimal impact to demand: Due to the inelasticity of pesticides, a higher assessment rate on Priority Pesticides would not significantly reduce the demand for Priority Pesticides. Therefore, the additional complexities and uncertainties related to a tiered rate may not be justified. • Complexity/Administrative burden: A tiered mill rate requires a more complex system for registrants to assign and pay different fees to different products. It may also require changes to MillPay and additional enforcement by DPR to accommodate and verify different fee levels. • Subjectivity: Even with the Priority Pesticide process, determining risk levels and assigning appropriate tiers may be retain a level of subjectivity, potentially leading to disputes or inconsistencies in classification. • Unintended consequences: A tiered system may lead registrants or pesticide users to make product choices that are counterproductive to other environmental policies such as packaging reduction goals. A commonly cited example is that using more concentrated (and potentially more hazardous) products is beneficial from the lens of reduced material use and reduced fuel required for shipping but problematic from a risk perspective.

B. Tiered Assessment Model Based on Levels of Pesticide Category Workload

Crowe conducted an in-depth analysis of pesticide categories and the implications of a tiered mill based on levels of pesticide category workload. **Exhibit 43** describes the tiered assessment based on pesticide category model and our rationale for including it as a potential mill assessment model for consideration within the Concept Paper.

As we describe below, there are challenges with this approach for several reasons. Primary among those reasons are: 1) a single pesticide product (with one or more active ingredients) may fall into multiple categories, making it difficult to assign a product to a fee level based on a single category, 2) among any given category there are products that require a high degree of work and those that require very little. This approach does not meet guiding principles for incorporating objective measures, transparency, aligning with workload, and minimizing administrative burden.

Exhibit 43 Tiered Assessment Based on Pesticide Category Workload Description and Rationale

Description	Rationale
Under this tiered assessment mechanism, pesticide categories that result in additional workload for DPR and CACs would be assessed a higher or differential mill assessment than other pesticide categories. Conversely, pesticide categories that require less workload would be assessed a lower mill assessment.	Our rationale for including this approach for consideration is that in general, certain categories of pesticides may require a higher (or lower) degree of focus by DPR, and thus more (or less) time and resources. By grouping pesticides using pesticide categories rather than individual pesticide products or active ingredients, it limits the number of potential tiers.

Crowe first evaluated registration data to determine how registered products could be grouped into categories for this model. DPR registers the following 23 pesticide categories (pesticide categories are based on the type of product and/or how it is used rather than impact):

- Adjuvant
- Algaecide
- Anti-Foulant (Marine)
- Antimicrobial
- Avicide
- Bactericide
- Defoliant
- Desiccant
- Disinfectant
- Fertilizer
- Fungicide
- Growth Regulator
- Herbicide
- Insect Growth Regulator
- Insecticide
- Miticide
- Molluscicide
- Nematicide
- Repellent
- Slimicide
- Special Activity
- Vertebrate Control
- Virucide

Exhibit 44 provides a breakdown of the number of pesticide categories per registered product. Each product has 0 up to 9 pesticide categories, with the most products having between one to five categories. Roughly 43% of products fall under two or more categories. The fact that almost half of the products fall under multiple categories and quite a few have no category identified makes it problematic to utilize categories as a basis for a fee structure. Furthermore, pesticide categories contain a vast range of products, and the workload for enforcing and monitoring these products varies significantly within each category. Consequently, using pesticide categories alone is insufficient to determine the appropriate tiered rate based on DPR workload.

Exhibit 44
Number of Registered Products per Number of Pesticide Categories

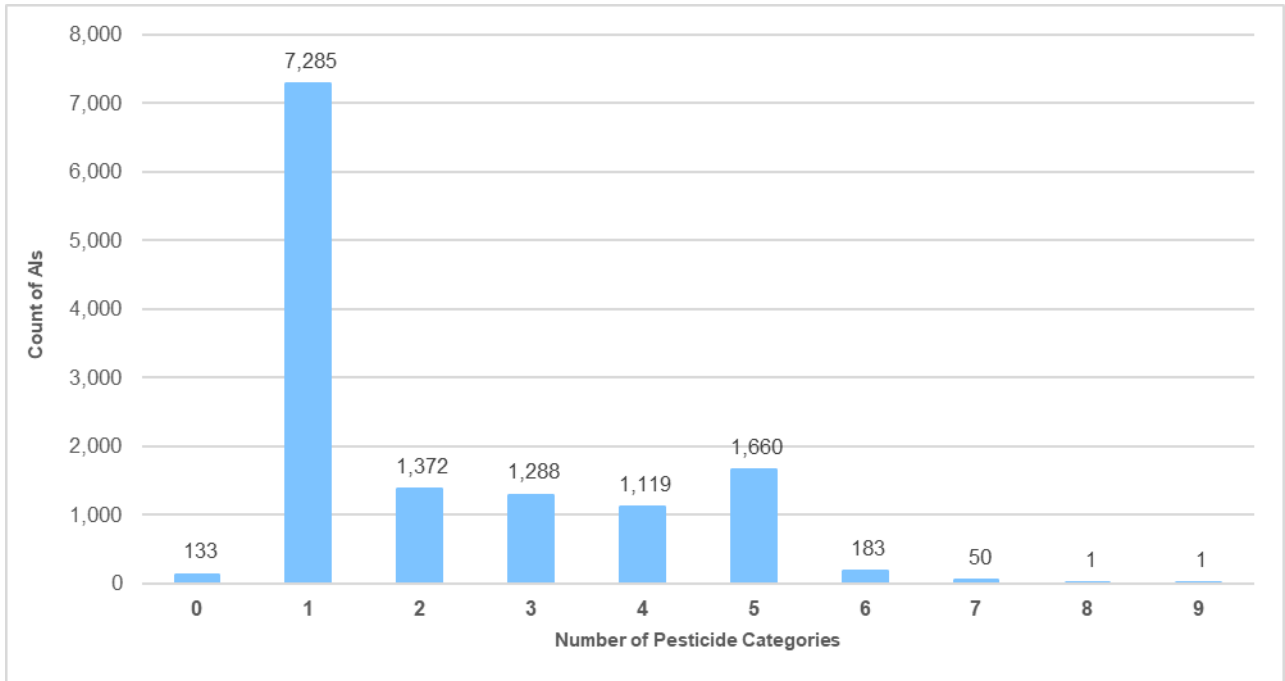


Exhibit 45
Tiered Assessment Based on Pesticide Category Workload
Recommendation and Justification

Model / Recommendation	Justification
<p>Tiered Assessment Based on Pesticide Category Workload</p> <p><u>Recommendation:</u> Crowe does not recommend implementing this tiered model.</p>	<ul style="list-style-type: none"> As shown in Exhibit 44, nearly half (43%) of 13,000 registered products have multiple categories, which creates a challenge for assigning a tiered rate to a specific registered product. For each pesticide category, there are dozens up to several thousand individual products (e.g., 3,967 fungicides, 3,139 insecticides) Within any pesticide category there are varying levels of workload associated with enforcing, monitoring, assessing registered products (e.g., neonicotinoids versus neem oil). Pesticide category is not a distinct enough criteria/identifier to determine level of effort (i.e., workload) on DPR's part to assign a tiered rate.

C. Tiered Assessment Model – Based on Levels of Pesticide Product Workload Activities

In **Exhibit 46**, we describe the tiered assessment based on pesticide product workload activities model and our rationale for including it as a potential mill assessment model in the Concept Paper. This tiered model would apply higher fees to pesticide products that require increased workload for DPR and/or CACs. The list of higher activity products would be reevaluated and updated every two to three years, with the additional revenue supporting research, policies, or programs including those identified in the SPM Roadmap. This approach is intended to align with DPR's workload, signaling users about products under greater focus and promoting safer, more sustainable pest management.

Exhibit 46
Tiered Assessment Based on Levels of Pesticide Product Workload Activities
Description and Rationale

Description	Rationale
<p>Under this tiered assessment mechanism, those pesticide products that result in additional workload for DPR and/or CACs would be assessed a higher mill assessment than other products. Based on Crowe's assessment, there are 61 AIs that would potentially incur the higher assessment. Because the focus on particular chemicals changes over time, every two to three years, DPR would reevaluate the list of higher activity products and active ingredients to prepare and publish a new list of products that would incur the additional assessment. The additional mill would be applied to the base mill for those products. For example, if the base assessment was 34 mills, the list of higher activity products would incur an assessment of 40 mills (+ 6 mills). The additional revenue would be targeted to support funding for specific positive incentives described in Section 4.</p>	<p>This approach is aligned with DPR's workload because pesticides that require more effort by DPR staff would pay a higher assessment. The additional assessment is not likely to incentivize users to change products; however, it does send a signal to users that this product is subject to additional focus, regulation, and concern by DPR. This approach also supports positive incentives for safer sustainable pest management, consistent with the study objectives.</p>

Crowe conducted an in-depth analysis of mechanisms by which higher-workload products could be identified. We identified a preliminary list of 61 AIs that fell into areas of higher workload and/or regulatory activities such as:

- Reregistration evaluations and consideration of label amendments
- Reevaluations, which can be initiated for one or more reasons, as identified in CCR Section 6221, triggering a multi-year review of existing and potentially new data to carry out the provisions of FAC Sections 12824, 12825, 12825.5, 12826, and 12827
- Toxic air contaminant monitoring for the evaluation and control of chemicals as toxic air contaminants
- Multi-agency coordination on human health and environmental exposure review
- Pesticides subject to data coordination and collaboration
- Development and oversight of mitigation measures when specific pesticide uses of concern are identified
- Environmental monitoring (surface water, groundwater, drinking water contaminants)
- Frequency of incidents report under the Pesticide Illness Surveillance Program (PISP)
- Restricted Materials requiring CACs to issue permits
- Pesticides identified in enforcement investigations and cases
- Pesticides subject to environmental fate reviews.

While this tiered model makes sense conceptually, it would be difficult to effectively implement. The various databases and sources of information that could be used to identify products and/or AIs do not cover consistent time periods and there is no systematic method of determining the extent to which or the amount of additional time these activities require. We can identify potential active ingredients and/or products requiring more DPR attention but there is not sufficient data to measure how much additional workload results in order to justify different assessment levels. This approach does not meet guiding principles for incorporating objective measures, transparency, and minimizing administrative burden and may not accurately align with DPR workload.

Exhibit 47 describes our recommendation and justification that DPR should not implement this tiered model.

Exhibit 47
Tiered Assessment Based on Levels of Pesticide Product Workload Activities
Recommendation and Justification

Model / Recommendation	Justification
<p>Tiered Assessment Based on Pesticide Category Workload</p> <p><u>Recommendation:</u> Crowe does not recommend implementing this tiered model.</p>	<ul style="list-style-type: none"> • Quality, scope, and the varying time periods of the workload data (monitoring data, pesticide illness data, etc.) make it difficult to objectively identify a list of products and/or AIs that require a higher workload. • Even if a list of higher-workload products/AIs could be identified through an objective and consistent process, there is no systematic approach to determining the amount of additional time DPR and CAC staff spend on a particular product and/or AI. There is not workload data to transparently and consistently provide the information needed to justify an assessment differential.

Appendix E: Detailed Analysis of Current and Future Mill Revenues

An objective of the study is to examine long-term, sustainable funding that allows DPR to continue to fulfill its mission. To meet this objective, Crowe examined historical mill revenues generated from pesticide product sales at the existing rate along with other factors that may potentially impact future mill revenues. In the remainder of this Appendix, we summarize key findings, background, and detailed analysis to support our findings.

A. Key Findings

The findings and detailed analysis presented in this Appendix supports our overall finding that for the next five to ten years, at a minimum, we expect the mill assessment to be a stable funding source to support the recommended proposal options. However, the long-term implications of transitioning to safer and sustainable pest management and the implementation of the SPM Roadmap on mill revenue are uncertain at this time. Our key findings are based on:

- **Short-term revenue increases, unclear long-term trend:** Considering the factors provided equally, we could see an overall increase in pesticide sales revenue going forward for the next five to ten years. Several of the factors that contribute to downward trends in pesticide sales revenue will likely require a longer timeframe while those contributing to an upward trend in pesticide sales revenue are more immediate. For example, regulatory and policy changes related to the implementation of the SPM Roadmap reflect a long-term shift in approaches to pest management. Factors such as inflation and supply chain disruptions result in almost immediate upward price changes. Further analysis is provided in subsection B.
- **Increasing revenue with decreasing quantity sold:** Sales trends reveal increasing pesticide sales revenue and decreasing quantity (measured as pounds AI) sold over time. Despite reduced AI pounds sold (0.98 to 0.67 billion), overall pesticide sales revenue increased (\$3.3 billion to \$4.4 billion). This indicates that decreasing pesticide content per quantity sold does not correlate with lower sales revenue. This provides evidence that if pesticide content decreases over time, it does not equate to lower sales revenue to DPR and other factors are at play such as manufacturers selling newer products at higher prices despite lower pesticide content.

From 2015 to 2022, pesticide sales revenue rose 33%, active ingredient (AI) pounds sold dropped 31%, and overall price per pound of AI increased 94%. On average, pesticide sales revenue increased 5% per year, AI pounds sold decreased 4% per year, and the price per pound of AI increased 13% per year. Further analysis is provided in subsection C.

- **Macro-economic factors:** Pesticide sales revenue grew by 4.7% annually from FY2014/15 to FY2021/22, likely influenced by the 6.1% annual growth in producer price index (PPI) for all commodities, 3.4% annual CPI growth, and 0.4% annual population growth in California. Growing costs of consumer goods and services, including pesticides, contribute to sales revenue growth. Further analysis is provided in subsection C.
- **Evolving pesticide landscape:** The relationship between sales revenue and AI pounds sold reflects California's evolving pesticide landscape. Factors to consider include more effective formulations, potentially higher prices for new products, increased demand for alternative, potentially safer pesticides, and changing pest resistance patterns. Further analysis is provided in subsection C.
- **Priority Pesticides impact to revenue:** The price of alternative products to Priority Pesticides would likely increase with increased demand. The price increases of alternatives could decrease or negate the sales revenue impact of the elimination of Priority Pesticides in the short-term. For the longer term as the state transitions to SPM, it is unclear how alternatives, including alternative approaches that do not utilize pesticides, will impact sales revenue.

B. Potential Factors Impacting Pesticide Sales Revenue

The SPM Roadmap aims for SPM adoption by 2050 as the de facto pest management system in California. The long-term impact on pesticide sales revenue to DPR will depend on the success of this transition, development of new and safer products and practices, and continued support for SPM practices across the state. As product alternatives to Priority Pesticides become available, it is likely that the market will adapt and continue to generate revenue for DPR through the sale of these safer and more sustainable pesticide options. The level of revenue generated through alternatives will depend on the degree in which the alternative is a chemical or non-chemical. It is important to state that the long-term impacts on sales are uncertain at this point. DPR will gain more clarity as the SPM Roadmap plays out to understand how and to what extent the transition to safer pest management approaches will impact mill revenue.

A variety of factors impact the supply and demand of pesticide products. Regulatory changes such as the implementation of the SPM roadmap, consumer preferences, population shifts, climate change, and economic indicators all play a role in determining the volume and types of pesticides sold. Additionally, unexpected events such as pandemics or supply chain disruptions can impact sales revenue for pesticide manufacturers and regulatory agencies. Understanding the factors that influence pesticide sales is essential for effective regulation and management of these chemicals, as well as for generating revenue to support regulatory agencies like DPR.






Exhibit 48 provides the abovementioned list of factors along with an expanded description and short-term trend related to pesticide sales revenue. The summary provides a factor-by-factor analysis, treating each factor individually and not combined with other factors or considerations such as timing. The weight of each factor is not measured against each other. Some factors indicate an increasing trend for sales revenue. Some factors indicate either an increase or decreasing trend for sales revenue. Other factors indicate a decreasing trend. This comparison indicates a likely increase to sales revenue in the short-term.

Considering the factors provided equally, we could see an overall increase in pesticide sales revenue going forward for the next five to ten years. Several of the factors that contribute to downward trends in pesticide sales revenue will likely require a longer timeframe while those contributing to an upward trend in pesticide sales revenue are more immediate. For example, regulatory and policy changes related to the implementation of the SPM Roadmap reflect a long-term shift in approaches to pest management. Similarly, consumer demand for organic and sustainably produced foods are longer-term trends. Factors such as inflation and supply chain disruptions result in almost immediate upward price changes.

Overall, our analysis indicates that an increase to sales revenue is likely for the short-term, but longer-term trends, as influenced by the success of the SPM Roadmap, are unclear. As the SPM Roadmap is being implemented, DPR will have an opportunity in the future to better assess potential sales revenue trends.

Exhibit 48
Potential Factors Impacting Pesticide Product Sales

Factor	Description	Short-Term Trend of Sales Revenue
<p>1. Regulatory Changes (including SPM Roadmap)</p>	<p>Changes in pesticide regulations, such as new restrictions on certain products or increased reporting requirements, can potentially affect the demand for pesticides and impact sales. For example, the chlorpyrifos cancellation for agricultural use as of 2020 and the proposal to add regulatory restrictions on the use of neonicotinoids to protect bees.</p> <p>Related to the SPM Roadmap, the state aims to eliminate the use of Priority Pesticides over time. In the short-term, it may not decrease pesticide sales revenue immediately due to increased demand of alternatives. In the longer-term, the direction of pesticide revenue is unclear as the SPM Roadmap is implemented. Non-chemical pest management approaches are described within 5. Innovation in Pest Management Practices.</p>	<p style="text-align: center;">↓ ↑</p>
<p>2. Price Elasticity of Demand of Pesticides</p>	<p>Pesticide price elasticity of demand (PED) from a meta study covering 31 studies resulted in a median of -0.28. These results indicate changes in pesticide price yield an insignificant change in demand (inelastic). In other words, pesticide prices can increase with minimal impact to demand. Inelasticity of pesticides indicate that farmers continue to rely on pesticides to protect their crops and maintain their yields despite increasing prices. As a result, an increase in pesticide prices has not led to a significant reduction in pesticide use and pesticide sales may continue to rise.</p> <p>However, as more effective pest management tools and practices become available, farmers will have more choices to secure their livelihoods and ensure the protection of their crops from pests and diseases. With the SPM effort, the pest management landscape is evolving.</p>	<p style="text-align: center;">↑</p>
<p>3. Consumer Demand for Organic and Sustainably Produced Foods</p>	<p>Increased preference for organic and sustainably produced foods are growing. Between 2012 and 2019, the number of organic operations grew by 55% (2,713 to 4,208), organic acreage grew by 58% (679K to 1.07M), and sales of organic products increased by over 200% (\$3.1B to \$10.4B) (Department of Food and Agriculture). This growing trend will lead to a reduction in pesticide demand.</p>	<p style="text-align: center;">↓</p>
<p>4. Population Changes</p>	<p>Food supply demand, antimicrobial use, and construction of new buildings are linked to population changes. If population increases, the demand for food supply, antimicrobials, and new housing/buildings would increase. California's population increased 2.9% between FY2014/15 and FY2021/22, an average of 0.4% per year. According to the department of Finance, California's population is projected grow an additional 9.7% through 2050.</p>	<p style="text-align: center;">↑</p>

Factor	Description	Short-Term Trend of Sales Revenue
<p>5. Innovation in Pest Management Practices</p>	<p>The development of new pest management practices, such as integrated pest management (IPM) and precision agriculture, will likely reduce the need for pesticides and decrease sales revenue. IPM combines various pest control methods, prioritizing biological and cultural practices. This holistic approach minimizes pesticide use by addressing pest problems only when necessary, reducing reliance on chemicals.</p> <p>Precision agriculture employs advanced technologies to optimize crop management, enabling efficient, targeted pesticide application. By using data-driven insights, farmers apply pesticides only when and where needed, reducing consumption, costs, and environmental impact. Disruptive agricultural technology promises long-term improvements in sustainability and efficiency for farming, but near-term impact may be limited by factors such as development, manufacturing, costs, and adoption rates. Understanding the state of technology, its potential benefits, and challenges in implementation helps us prepare for the future of agriculture.</p>	
<p>6. Weather / Climate Change</p>	<p>Weather can affect both pest populations and the effectiveness of pesticides. For example, a wet year may lead to increased fungal or bacterial diseases, which may require growers to apply more fungicides or bactericides, leading to higher pesticide use. Whereas a drought could decrease crop yield and therefore decrease pesticide use. Additionally, climate change may alter pest life cycles and impact the establishment of different types of pests.</p>	
<p>7. Crop Value</p>	<p>If commodity values increase, it will increase the willingness a grower would have to protect the commodity. Pesticide use may increase with increased commodity value, this factor would amplify the inelasticity of pesticides. In response to demand, when crop values increase, then pesticide prices would tend to increase.</p>	
<p>8. Consumer and Producer Prices</p>	<p>Since pesticide sales are subject to inflation, prices of active ingredients will likely rise. The CPI for western urban consumers increased 24% between FY2014/15 and FY2021/22 (US Census Bureau).</p> <p>A rise in the Producer Price Index (PPI) for all commodities signifies higher production costs, affecting pesticide manufacturing. In response, manufacturers may increase pesticide prices. Despite this, as previously mentioned in the price elasticity of demand, pesticide purchase will continue, potentially leading to increased sales. The PPI for all commodities rose 42% between FY2014/15 and FY2021/22, averaging a 6.1% yearly increase (St. Louis FRED). If this trend persists, pesticide sales are likely to grow.</p>	
<p>9. Pandemic of Infectious Disease</p>	<p>Should we experience another pandemic involving an infectious disease, such as COVID-19, we expect a significant spike in the demand for antimicrobial pesticides. In FY2020/21, DPR's overall pesticide sales increased roughly 12% compared to the prior year, which was largely driven by increased non-agricultural activities (particularly due to increased antimicrobial use and prices).</p>	




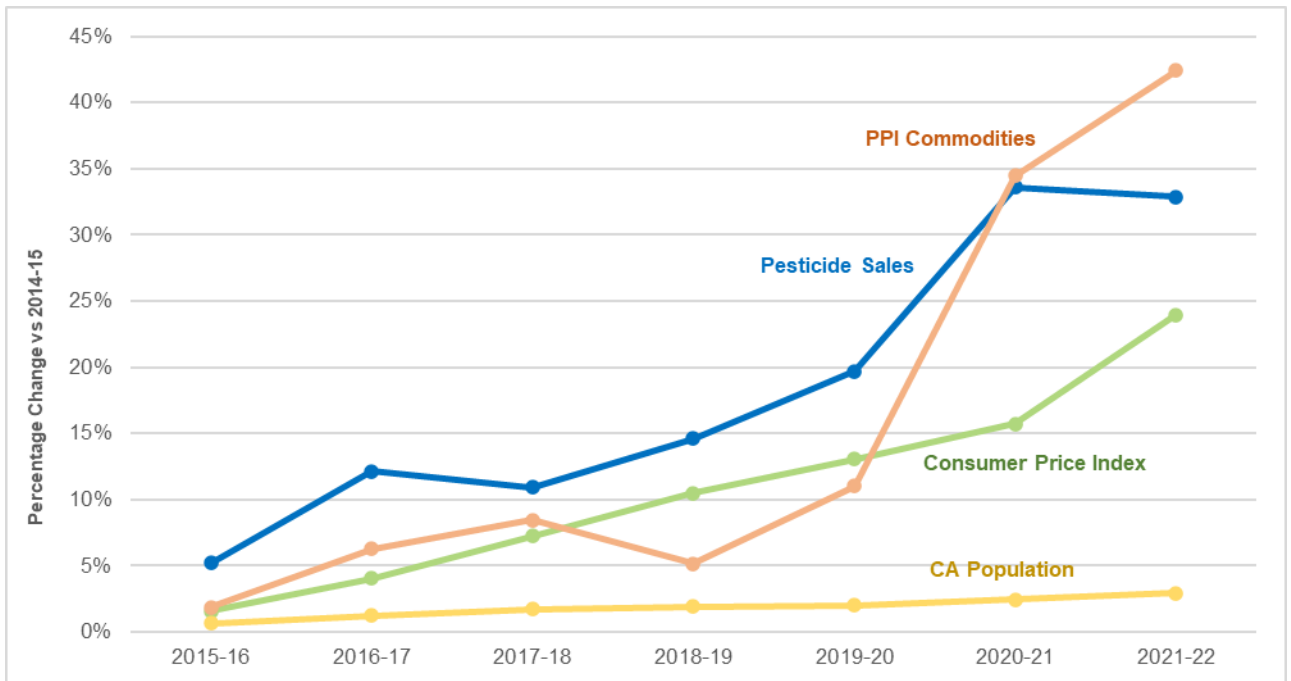
Factor	Description	Short-Term Trend of Sales Revenue
10. Invasive Pests	<p>A 2021 study estimated that invasive species have cost the U.S. \$26 billion per year since 2010 (Crystal-Ornela, R. et al. 2021). Due to California’s Mediterranean climate, access to the largest ports in the nation, and a top travel destination, invasive pests are likely to continue to cause economic impact to the state.</p> <p>Establishment of invasive pests necessitates long-term control programs, often involving pesticides. Regulators and property owners must manage these pests to prevent spread, yield loss, marketability decline, property value reduction, native species and environmental disruption, and interference with critical equipment and water channels. Invasive pests compel the state and citizens to allocate resources continuously toward pesticide usage.</p>	
11. Global Conflicts / Supply Chain Disruption	<p>Global conflicts, like the Russian-Ukraine war, can disrupt the pesticide supply chain. Conflicts may lead to restricted supplies and elevated prices for some products, such as fertilizers and certain pesticides. Users often have no choice but to pay higher prices due to the necessity of pesticides. From 2015 to 2022, the PPI for fertilizer manufacturing rose by 65% (St. Louis FRED).</p>	
12. Free Market Forces	<p>Pesticide prices are unregulated, allowing manufacturers to set prices based on supply and demand. High-demand pesticides may see price increases, while priority pesticides might experience decreases. Related to the SPM Roadmap, prices for non-priority pesticides may be increased due to increased demand and prices for priority pesticides may decrease.</p>	

Exhibit 49 compares the cumulative percentage change since FY2014/15 pesticide sales revenue against CPI for western urban, PPI for all commodities, and California population. Crowe identified these metrics due to their potential impact to pesticide sales revenue, public availability of the data, and general acceptance of the published indices. Pesticide sales revenue experienced an 4.7% average annual growth over the seven years. The increase in sales revenue was likely influenced by the factors listed below:

- PPI Commodities: 6.1% average annual growth. This suggests that the rising cost of raw materials and intermediate goods used in pesticide production likely contributed to the increase in pesticide sales revenue.
- CPI: 3.4% average annual growth. The growing costs of various consumer goods and services, including pesticides, likely contributed to the growth in pesticide sales revenue.
- Population: 0.4% average annual growth. An increasing population drives higher demand for food supply and agricultural products and consequently, likely contributes to the demand for pesticides. Food supply demand, antimicrobial use, and construction of new buildings are linked to population changes. If population increases, the demand for food supply, antimicrobials, and new housing/buildings would increase.

Exhibit 49
Cumulative Percentage Changes
Pesticide Sales Revenue, PPI, CPI, and Population (FY2014/15 to FY2021/22)



C. Trends in Pesticide Product Sales

Approximately 13,000 pesticide products are registered in California. Over one thousand manufacturers produce pesticides, and each have one or more pesticide products registered in California. DPR's mill revenue is generated from each dollar of pesticide sold in the state. We provide detailed highlights:

- **Exhibit 50** compares pesticide sales revenue, and pounds of active ingredient sold²³ between CY2015 to CY2022. Despite reduced active ingredient (AI) pounds sold (0.98 to 0.67 billion), overall pesticide sales revenue increased (\$3.3 to \$4.4 billion), showing that decreasing pesticide use does not correlate with lower sales revenue. The trend reveals increasing pesticide sales revenue and decreasing quantity sold over time.
- **Exhibit 51** provides an eight-year history of the price per pound of active ingredients between CY2015 to CY2022. Due to increased sales revenue and decreased pounds sold, the price per pound of AI increased. Products may be sold at similar or higher prices with less AI, indicating a growing price per pound of AI over time.
- **Exhibit 52** compares the percentage change compared to CY2015 for pesticide sales revenue, pounds of active ingredient sold, and the price per pound of active ingredient. From 2015 to 2022, pesticide sales revenue rose 33%, AI pounds sold dropped 31%, and price per pound of AI increased 94%. On average, pesticide sales revenue increased 5% per year, AI pounds sold decreased 4% per year, and the price per pound of AI increased 13% per year. We illustrate these differentials in **Exhibit 53**.

These results provide a summary of the dynamics between pounds sold, price per pound, and pesticide sales revenue. These comparisons make it clear that both price and pounds, and not just one or the other, should be considered when thinking about overall pesticide sales revenue and resulting revenue generated by the mill assessment.

The decrease in active ingredients in pesticides sold while overall sales revenue continues to increase, thus increasing average price per pound, could be attributed to several factors:

- **Development of more effective formulations:** Pesticide manufacturers are continuously researching and developing new formulations that require lower quantities of active ingredients while maintaining or improving their effectiveness. As a result, the total amount of active ingredients sold may decrease, but the value-added nature of these new formulations can lead to higher sales revenue.
- **Higher prices for newer products:** As newer, more effective, and safer and sustainable pesticide products enter the market, they may command higher prices compared to older, less effective formulations. This can lead to an increase in overall sales even if the total amount of active ingredients sold is decreasing.
- **Increasing demand for biopesticides and other alternatives:** Biopesticides and products with potentially less impact to the environment and public health may have lower active ingredient concentrations, but their demand is increasing as consumers and regulators push for safer and sustainable agricultural practices. The higher sales of these products can contribute to the overall increase in pesticide sales, even though the active ingredient content is lower.
- **Changes in pest resistance patterns:** As pests develop resistance to certain pesticides, there is a need for new products with different active ingredients or modes of action. This can lead to an increased demand for alternatives that may have lower active ingredient content but still result in the same or higher sales.

These factors indicate that the decrease in active ingredients in pesticides can be due to more effective pesticides, safer and more sustainable formulations, and the higher or similar prices for these products compared to pesticides with higher application rates, and the increasing demand for alternatives. These factors contribute to the overall increase in sales revenue despite a decrease in active ingredient content.

²³ Data is based on information obtained from a system of self-reporting.

Exhibit 50
Pesticide Sales Revenue (Dollars) and Pounds of AI Sold (CY2015 to CY2022)

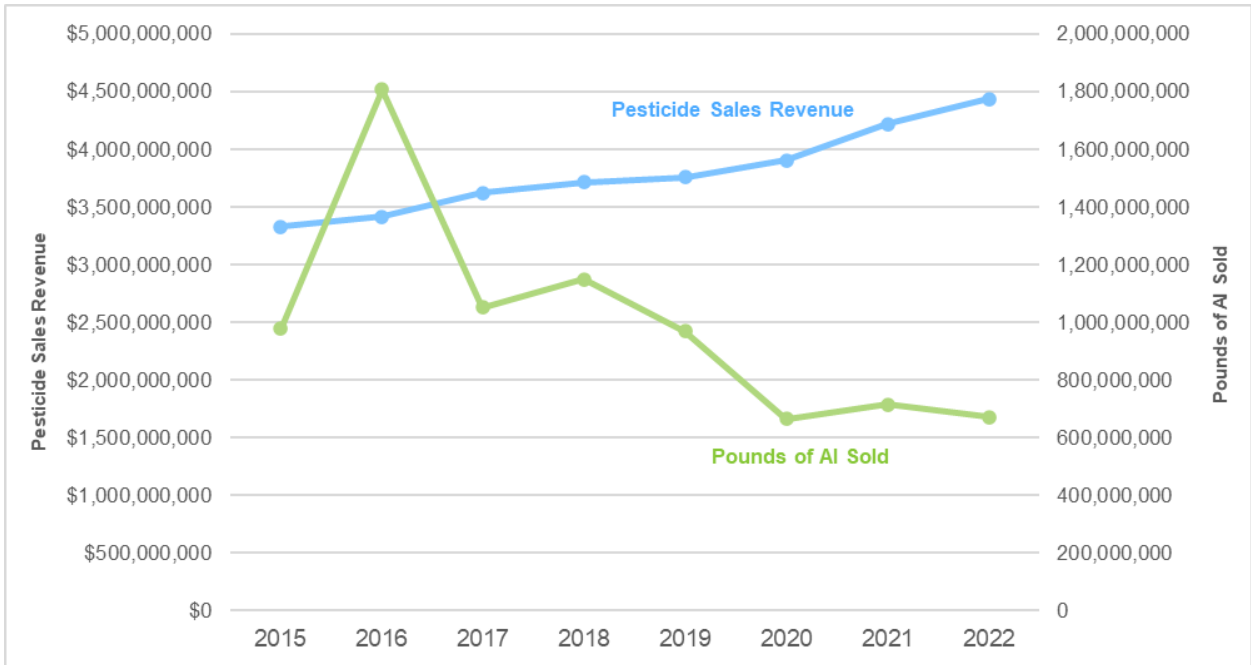


Exhibit 51
Price per Pound of Active Ingredient (CY2015 to CY2022)

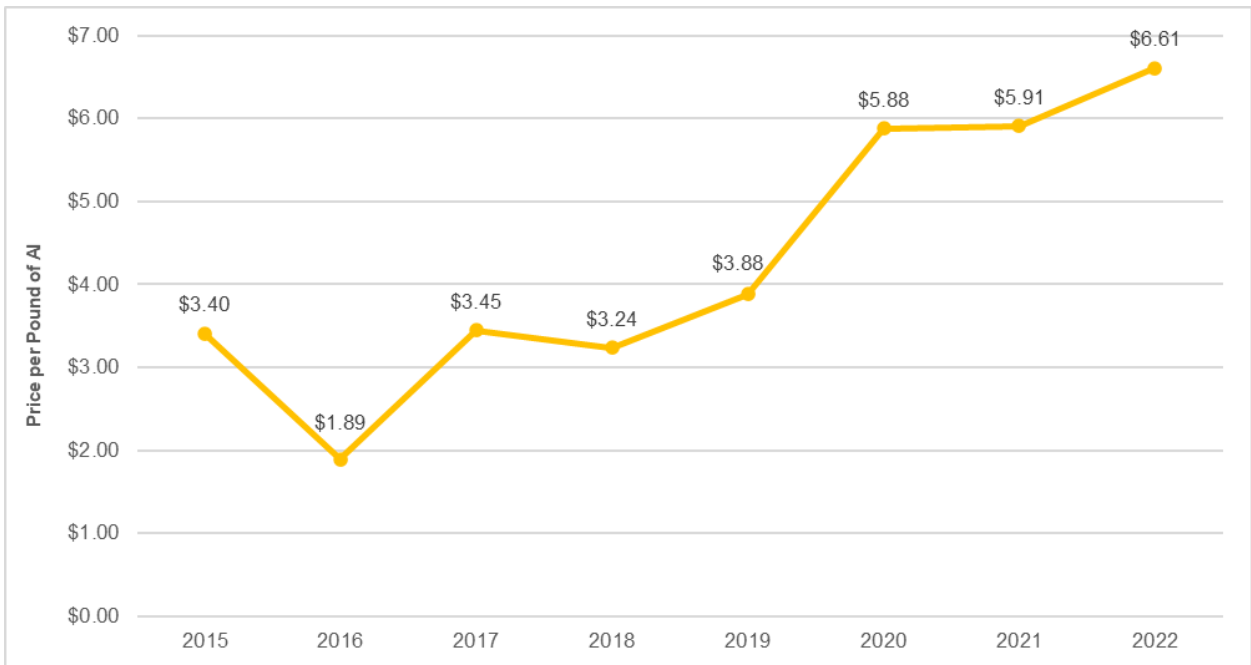


Exhibit 52
Pesticide Sales Revenue, Pounds of AI Sold, and Price per Pound of AI (CY2016 to CY2022)
Percentage Change Versus CY2015

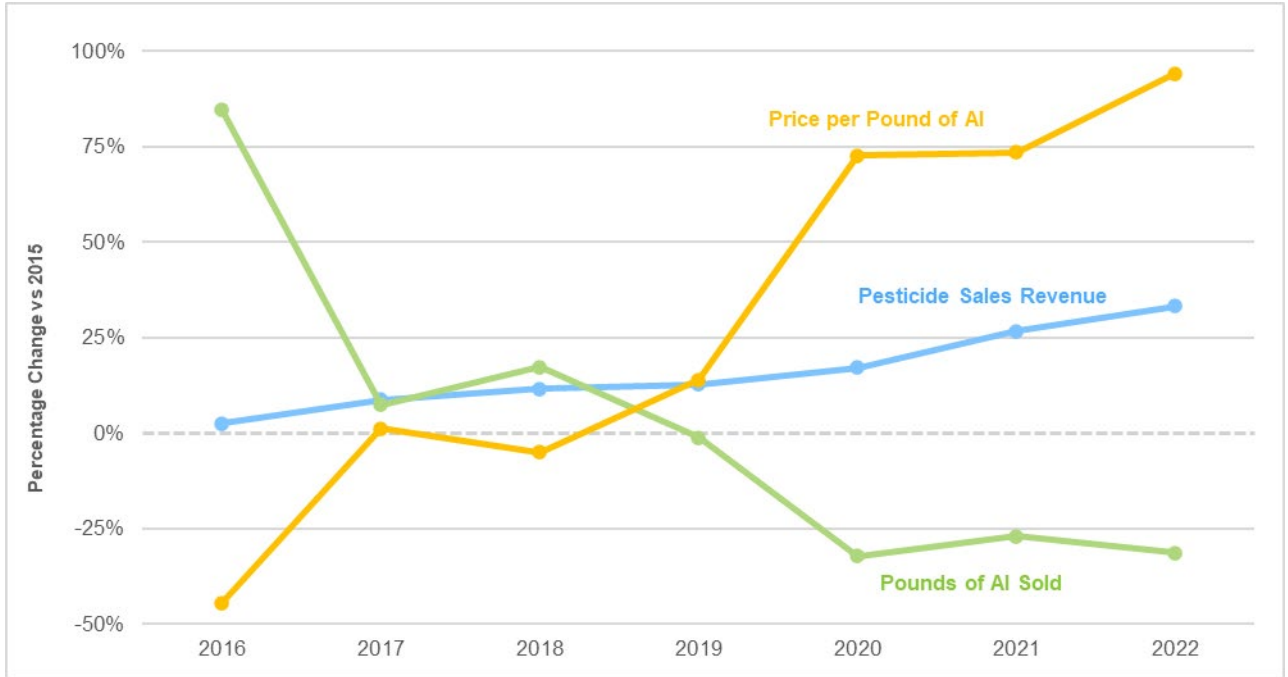
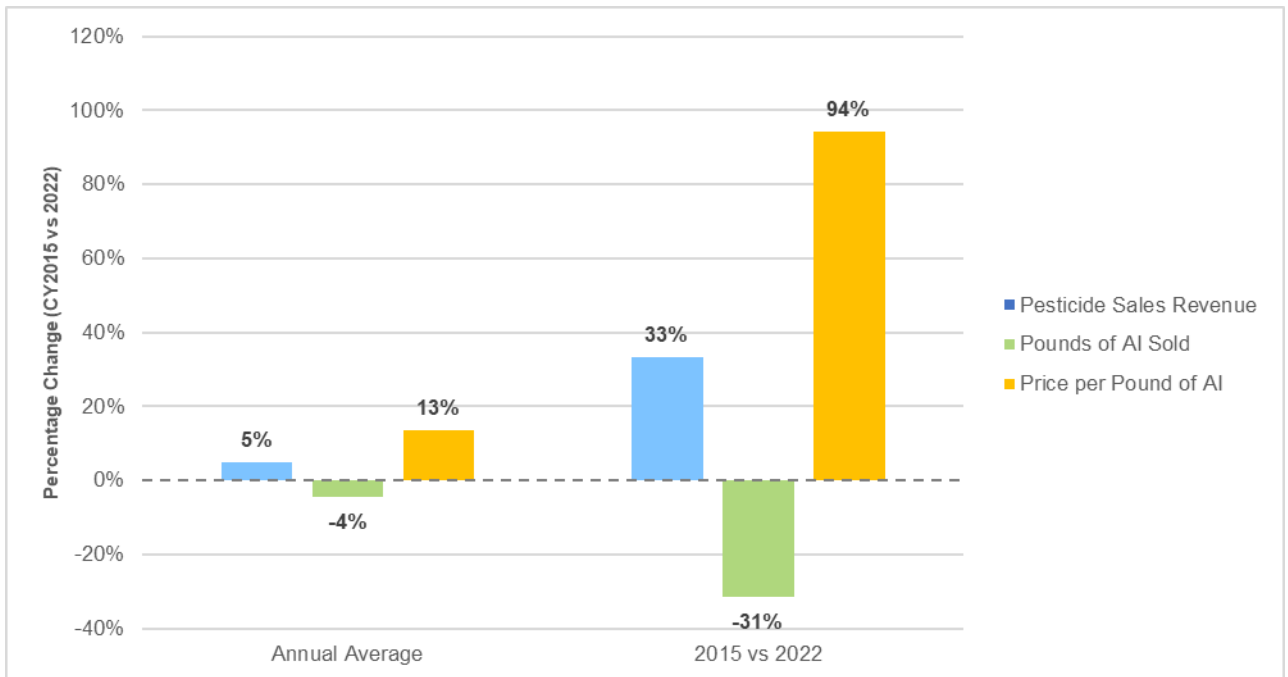


Exhibit 53
Pesticide Sales Revenue, Pounds of AI Sold, and Price per Pound of AI (CY2015 to CY2022)
Average Annual Change and CY2015 Versus CY2022



D. Price Elasticity of Demand for Pesticides

Price elasticity, in the context of pesticides, measures how sensitive the demand for pesticides is to changes in their prices. If the price elasticity of demand for pesticides is inelastic, it means that users are not highly sensitive to price changes and will continue to purchase pesticides even when prices increase. This is because, historically, pesticides have been viewed as an effective tool for protecting crops, maintaining yields, and ensuring farm productivity. In such cases, changes in pesticide prices have a limited impact on the quantity demanded, leading to relatively stable pesticide sales. One of the reasons that products are inelastic is a real or perceived lack of substitutes. As the state implements the SPM Roadmap, the knowledge and availability of alternatives could lead to greater elasticity (price sensitivity).

The effectiveness of increasing the mill assessment of all or certain pesticides depends on the price elasticity of demand for pesticides. Understanding the elasticity of pesticide demand can provide insights into the potential impact of increased mill assessments on pesticide sales under the DPR's regulatory framework. Below provides a summary of the results meta study covering 31 studies ranging from 1948 to 2012 that were conducted across Europe and North America.²⁴

- Pesticide demand is inelastic with a median price elasticity of -0.28. This means that changes in price have a limited effect on the quantity demanded, as farmers continue to use pesticides to protect their crops despite price increases. For example, the overall price of a product would need to increase by 100% to result in a 28% reduction in demand. However, because the mill currently represents only 2.1% of the price of a product, it would require a 50-fold increase to the mill to see demand drop by 28% (doubling the total price of a product). Further, if the goal is to reduce demand of a product by 50%, it would require a 90-fold increase in the mill assessment.
- Compared to other types of crops, the demand for pesticides for specialty crops is less elastic, indicating that price changes have an even smaller impact on pesticides used on specialty crops.
- The demand for herbicides is more elastic than for other types of pesticides, suggesting that changes in herbicide prices have a larger impact on the quantity demanded compared to other pesticide categories.
- Pesticides tend to be less elastic in the short-term, and more elastic over a longer term. In the short-term, the demand for pesticides might be inelastic due to factors such as crop cycles and existing contracts. Over the long-term, the demand may become more elastic as farmers can adjust their production practices or adopt alternative pest management strategies in response to price changes.
- More recent studies identify lower pesticide price elasticities of demand, indicating that the demand for pesticides has become less responsive to price changes over time.
- Peer-reviewed studies find more inelastic results compared to grey literature, suggesting that the demand for pesticides might be even less sensitive to price changes than previously thought.

Pesticides (and their price elasticity) are unique and cannot be equitably compared to other products. Below are key factors that make benchmarking against other products misleading:

- Unique market dynamics: Pesticides are effective tools for agricultural production, and their demand is closely tied to factors like crop yield, pest infestations, and weather conditions.
- Limited substitutes: Historically, pesticides often have few or no direct substitutes, as they are designed to target specific pests and diseases. However, through implementation of the SPM Roadmap, chemical and non-chemical substitutes are expected to be more widely available.
- Seasonality and regional factors: Pesticide demand is highly influenced by seasonal and regional factors such as climate, planting cycles, and local pest populations.
- Heterogeneity of pesticide products: Pesticides encompass a wide range of chemical formulations, each targeting different pests and serving different purposes.

²⁴ Böcker, T. G., & Finger, R. (2017). A Meta-Analysis on the Elasticity of Demand for Pesticides. *Journal of Agricultural Economics*, 68(2). <https://doi.org/10.1111/1477-9552.12198>