

# CASE STUDY

## DECODING PEST PATTERNS: INSIGHTS FROM SPRAGUE'S 3-YEAR PEST TREND STUDY

With a service footprint spanning 10 states, Sprague Pest Solutions' pest professionals encounter a wide array of pests. Understanding seasonal pest pressures and localized pest behaviors is essential for staying ahead of infestations.

Sprague's Regional Entomologist, Edna Alfaro Inocente, BCE, recently completed a three-year pest trend data study (2022–2024) analyzing pest pressures in and around commercial properties. The study examined recent pest activity data across multiple regions, highlighting key patterns and their implications for effective pest control strategies.

For example, Sprague analyzed rodent activity, exterior versus interior risks, and peak periods of pest pressure. With this information, Inocente uncovered actionable insights to help clients protect their facilities, products, and brands. The findings also informed Sprague's route manager training programs, ensuring team members are equipped with the skills needed to deliver world-class service and results.

This case study demonstrates how a data-driven approach to pest management can lead to measurable improvements in pest prevention and client satisfaction.

### What did the study reveal about pest activity?

Inocente reported that pest capture activity in 2024 was higher compared to the previous year, with increased activity starting in the spring and peaking in the summer months of July and August.

The largest increases in pest pressure were observed among stored product pests and occasional invaders, such as earwigs (Order Dermaptera), silverfish (Order Zygentoma), stink bugs (Family Pentatomidae), centipedes (Class Chilopoda), and boxelder bugs (Genus Boisea).

"Warmer winter temperatures and milder climate conditions allowed these pests to thrive," said Inocente. "Combined with human behaviors—such as leaving doors open, not installing door sweeps, and poor sanitation and product storage practices—this led to an increase in pest sightings."

Inocente noted that pressure from traditional pests, including rodents, ants, and cockroaches, remained steady over the three-year span. Rodent activity peaked in July. Cockroach activity, however, was not influenced by weather conditions, as they are indoors and move through sewers.

"Conditions in sewers, where cockroaches thrive, do not change dramatically," Inocente explained. She added that cockroach captures were consistently high in California, reflecting the variety of cockroach species present in the region.

The study also found that pressure from flies, both small and large, as well as stinging insects, decreased over the three years. For small flies, which are mainly a concern inside commercial facilities, Inocente credited improved sanitation and cleaning practices.

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Sprague Pest Solutions

For large flies and stinging insects, early population increases in the spring enabled Sprague's route managers to proactively adjust pest control programs, effectively eliminating populations before they could reproduce.

Which commercial properties are experiencing increased pest pressure? According to Inocente, apartment complexes recorded the highest number of cockroaches captures. Both apartments and restaurants experienced ant pressure, while rodents were found mostly in grain and seed storage facilities and food processing plants.

## Key Rodent Activity Insights Across States

The pest that most commercial property owners and managers, especially those in the food, seed, grain processing and storage industries, are concerned with are rodents.

Sprague's service area is home to several types of rodents, including Norway rats (*Rattus norvegicus*), roof rats (*Rattus rattus*), pack rats (*Tribe neotomini*), house mice (*Mus musculus*), and deer mice (*Genus Peromyscus*). Each species has unique traits and behaviors that must be considered when creating an effective rodent control plan. And this includes studying rodent trend data.

Here's a breakdown of Sprague's rodent capture data from 2022 – 2024 across its service areas.

### States with Minimal Rodent Activity

- Wyoming: Rodent captures remain consistently low, with the most captures in May.
- Montana: Similarly low activity, peaking in July. These states require less intensive control efforts compared to others.

### States with Significant Activity Spikes

- Idaho: Experiences a dramatic surge in rodent captures during the summer, with a 3-fold increase in captures from May to July. The rodent pressure was so significant that it was featured in local news outlets. This makes Idaho a key focus for heightened control measures during the warmer months.
- Washington: Notable increases occurred in October and November - one of the highest peaks across all states.

### Seasonal Activity Patterns

- Bimodal Peaks: California, Colorado, and Idaho display two distinct periods of rodent activity—early summer and late fall. These patterns suggest rodent behavior is influenced by seasonal climate changes and food availability.
- Interior vs. Exterior Captures: States like California, Idaho, and Oregon show higher capture rates inside food-processing and storage facilities, emphasizing the importance of interior monitoring and prevention efforts, especially leading up to peak months.

What does this mean for clients? By aligning pest control efforts with these seasonal trends and prioritizing interior monitoring in high-risk states, Sprague can help clients stay ahead of rodent challenges. Preparing route managers with targeted training ensures readiness for peak activity periods, delivering the proactive and effective pest management you can count on.

## Why Pest Trend Data Matters

Sprague understands the critical role data plays in safeguarding commercial properties from pests. Our pest management experts and clients use our proprietary Online Logbook to streamline data collection and reporting processes.

The Logbook enables our technical team and route managers to gather, store, and share real-time data on pest management activity within clients' facilities. This system helps to continuously evaluate the program and adjust it when needed to prevent pest-related risks and protect food, property, and brands.



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Sprague Route Manager Jeremy Hundley, BCE, explained that, in addition to being part of annual client reviews and risk assessments, he uses pest trend data for gap analyses to enhance and improve clients' pest control programs.

Hundley shared an example where pest trend data helped him adjust a client's program and deliver measurable results. The client, an 80,000 sq. ft. food packaging plant, had an insect light trap (ILT) that Sprague serviced monthly, alongside weekly pest control services.

In January, Hundley noticed the traps were capturing unusually high numbers of insects—between 1,000 and 2,000 per week—despite it not being a peak time for flying insect activity. The facility, an older structure, had numerous openings and poorly sealed exterior doors that employees often left open.

After reviewing the data, Hundley collaborated with the facility's QA staff to develop a plan. They added more ILTs near high-risk entry points, sealed openings, and implemented training to change employee habits regarding open doors.

Thirty days later, the data showed a significant reduction in insect captures. The team also adjusted the trap service schedule to twice a month for more effective monitoring.

"If we didn't study the data and change the service frequency, the traps would have remained full for three weeks, rendering them ineffective in reducing pest pressure," said Hundley.

### What advantages does pest trend data offer clients?

For clients, pest trend data provides multiple benefits, including early detection of pest problems, mitigating risks to customers, employees, and products, cost savings, and continuous improvement of their pest control program.

"Clients can see a wealth of information about pest activity and their program through their Logbook portal," said Brent Schafer, Branch Manager in Pasco, WA for Sprague. "The data gives them a snapshot of their entire pest control story."

The information shared includes the volume and location of specific pest captures, device activity, and photos or videos (if allowed) of pest-conducive conditions, such as exterior doors left open or missing door sweeps. This data can help clients adjust internal cleaning, sanitation, maintenance, and employee training protocols, supporting a more effective pest control program.

"It is a call to action for both the client and the pest control service provider to take a closer look at an issue or make adjustments to the tactics being used," added Schafer.

Pest trend data recently helped Schafer address an account where internal sanitation and cleaning protocols were not being followed. As a result, there was an increase in rodent and stored product pest activity, as well as an incident where a product was returned due to pest damage.

Initially, the client was resistant to making the recommended changes. However, when Schafer and Sprague presented the hard data collected over several months, the client finally implemented the necessary adjustments. Once these changes were made, a significant decrease in pest pressure was observed.

"Clients need to regularly review the pest trend data available to them and use it to their benefit," Schafer concluded.



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Route Manager  
Sprague Pest Solutions



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### Brent Schafer

Branch Manager / Pasco, WA  
Sprague Pest Solutions