



CAL FIRE's 2024 FIREWORKS WORKLOAD ANALYSIS REPORT TO THE LEGISLATURE

PURSUANT TO HEALTH & SAFETY CODE 12556

**DEPARTMENT OF FORESTRY & FIRE PROTECTION (CAL FIRE)
OFFICE OF THE STATE FIRE MARSHAL (OSFM),
FIRE ENGINEERING & INVESTIGATIONS DIVISION**

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The California Department of Forestry and Fire Protection serves and safeguards the people and protects the property and resources of California.



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Executive Summary

This report presents a workload analysis pursuant to Health and Safety Code Section 12556 (c)(1), focusing on the resources required to improve life safety training for local fire and law enforcement personnel regarding the management of seized fireworks. This requirement was created by the chaptering of AB 1403 (Garcia, Ch. 368, Stats. 2023).

The analysis reveals a pressing need for improved training in several critical areas, including the safe seizure, collection, transportation, and storage of fireworks and illegal fireworks enforcement. The report highlights the challenges associated with fire and explosion-related incidents, which significantly burden emergency services and local communities throughout the State.

Additionally, the report addresses issues related to the collection and analysis of seized fireworks data, limited disposal facilities, and the rising national costs of fireworks disposal, all contributing to the ongoing challenges for public safety agencies within California.

Training requirements are identified in critical areas: proper identification and handling of seized fireworks, enforcement of illegal fireworks laws, conducting thorough investigations, and effective prosecution strategies.

The report identifies the additional funding and positions the Office of the State Fire Marshal (OSFM), within the Department of Forestry and Fire Protection (CAL FIRE), estimates are necessary to enhance public safety and effectively manage the risks associated with illegal fireworks by expanding specialized training, fostering partnerships for resource sharing, and developing a Statewide training curriculum to ensure consistent enforcement, seizure, collection, transportation, and storage practices across jurisdictions.

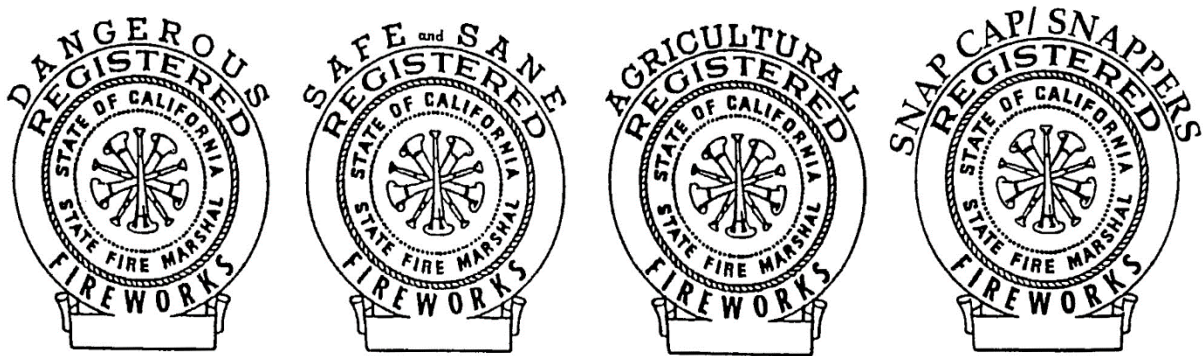
The report indicates a need for additional funding and position authority for four Arson and Bomb Investigators and one Division Chief to appropriately staff and oversee the OSFM's Arson and Bomb Unit. The need for a small appropriation to fund course development and materials is also identified. The increase in funding and staffing would allow the OSFM to provide additional Statewide training opportunities to local law enforcement and firefighting personnel, resulting in the timely training of all 1,382 local entities within five years.



Background

Under the Health and Safety Code (HSC), the State's Fireworks Laws give the CAL FIRE – Office of the State Fire Marshal (OSFM) authority to regulate fireworks in California. Seized illegal fireworks are received for collection and disposed of by the OSFM.

The OSFM classifies fireworks through laboratory analysis, field examinations, and the test firing of firework devices. Such classified fireworks include devices known as "Safe and Sane" or consumer fireworks, agricultural and wildlife fireworks, emergency signaling devices, party poppers and snap caps, and model, high-power, and experimental rocket motors.



Examples of State Fire Marshal Seals without the required registration numbers included

All pyrotechnic operators, fireworks manufacturers, importer-exporters, wholesalers, retailers, and public display companies must have a license through the OSFM to operate in California.

Pyrotechnic operators who discharge fireworks at public displays or while making a motion picture, or launch high-powered and experimental rockets, must also pass a written examination and provide evidence of relevant experience. In addition, those who import, manufacture, and sell fireworks must be licensed by the OSFM.

Current laws and regulations require seized fireworks to be disposed of by a federally approved hazardous waste disposal service once the OSFM determines that they have no further use or are unviable.

Although California's laws involving the possession and use of fireworks within the State are in place to protect the overall public and natural resources from the unique threat of wildfire associated with fireworks within California, this, combined with its strict environmental protection laws, has created, and requires CAL FIRE to manage, one of the most significant consumer and commercial explosives waste streams of any state.



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California does not currently have a federally approved explosives waste disposal facility available in-State; therefore, the OSFM must ship this waste out-of-State for disposal utilizing a federally approved hazardous waste hauler. A limited number of specialized facilities exist within the United States. The OSFM competes for disposal slots with the commercial explosives industry and the Department of Defense (DoD). The costs associated with this process continue to rise, with current costs doubling in the past year.

Seized fireworks fall into two general categories: Professional Grade Fireworks and Consumer Grade Fireworks.

In California, consumer-grade fireworks are further separated into Safe and Sane and Non-Safe and Sane fireworks. Non-Safe and Sane Fireworks are not permitted for sale or use in California. Many local jurisdictions in California also ban the sale and use of Safe and Sane fireworks due to high fire hazards in their jurisdictions.

The OSFM's "Safe and Sane" fireworks standards are designed to reduce the risk of personal injury and property destruction, including large-scale destruction from potential wildfire ignition. For example, Safe and Sane fireworks are limited to a 10-foot by 10-foot radius of possible activity. This means that in the case of a technical issue or user error, the specific device would only unexpectedly travel within that 10-foot radius. While nearby vegetation or other fuel can still be ignited within that radius, the risk is significantly reduced compared to illegal fireworks, which may travel larger distances or be out of sight.

Consumer Grade, Non-Safe and Sane fireworks are generally legal to purchase and use in other states. They are legally purchased in out-of-State retail stores and are illegally imported into California for sale or use year-round. These fireworks include skyrockets, bottle rockets, roman candles, aerial shells, firecrackers, and other types that explode, go into the air, or uncontrollably move on the ground.

Approximately 40% of seized fireworks are still in their DOT-approved packaging and are presumed commercially viable products. Of the other 60%, large amounts of consumer-grade fireworks are still in unopened consumer packaging when seized and are also assumed to be commercially viable products. No legal method exists to resell these consumer products back to the industry, and there is no other method for disposal.

The OSFM continues to convert seized fireworks to hazardous waste and dispose of them year-round to support local and State enforcement efforts and reduce public safety hazards at a significant financial cost.



Collection and Analysis of Data

CAL FIRE is required by HSC 13110.5 to gather statistical information on all fires, medical aid incidents, and hazardous materials incidents occurring within California. All fire agencies in the State must report fire incidents, while CAL FIRE is responsible for documenting and analyzing this data annually. The CAL FIRE Incident Reporting System (CALFIRS) serves as the Department's designated reporting system, managed by the California Incident Data and Statistics (CalStats) Program at the OSFM.

The National Fire Incident Reporting System (NFIRS) is a voluntary system that fire departments use to report information about incidents they respond to. In 2023, 23,499 Fire Departments across the United States reported over 32,788,713 incidents into NFIRS. The OSFM's CalStats Program manages the NFIRS data for California on behalf of the United States Fire Administration (USFA).

Pursuant to HSC 12556(b), this section reviews the collection and analysis of data relating to fires, damages, seizures, arrests, administrative citations, and fireworks disposal issues caused by the sale of dangerous illegal fireworks and safe and sane fireworks.

Through agency advancements, CAL FIRE has already improved data collection and analysis of fireworks-related incidents within the State. These include:

- Developing and implementing an enhanced digital Post Fire Damage Inspection (DINS) Application utilizing cloud-based Geographic Information Systems (GIS) technology with a centralized database. (January 2019)
- The OSFM Arson and Bomb Unit's increased utilization of the web-based Bomb Arson Tracking System (BATS), administered by the Bureau of Alcohol, Tobacco, Firearms, and Explosives (ATF), that provides free local, State, and national arson and explosives investigative information. (March 2021)
- The development and implementation of a new digital Statewide law enforcement record management system (RMS). (January 2023)
- The development and implementation of a new digital Statewide fireworks seizure reporting system utilized by all California fire departments and law enforcement agencies to report and comply with HSC 12723. (July 2023)
- Improved coding for fireworks-related incidents within the NFIRS, improving the CalStats Program data collected by the OSFM by implementing what is known as Plus-One Codes in NFIRS. The Plus-One Codes collect additional data for fireworks compared to the standard NFIRS data fields. (June 2024)
- Increased CAL FIRE Public Safety Announcements (PSAs) demonstrating the blast effects and injuries associated with actual illegal fireworks and explosives seized by the OSFM Arson and Bomb Unit. (June 2024)



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- The development and implementation of the CAL FIRE Strategic Plan 2024. Goal 5, is to Strengthen the Department's physical and digital infrastructure and streamline equitable access to information across core services, including five objectives. Goal 6, is to identify core capabilities and strengthen operational capacity. (September 2024)

Although CAL FIRE has developed its Strategic Plan 2024 towards goals that will strengthen its own data collection and analysis moving forward, it will rely heavily on the accuracy of local fire departments and law enforcement personnel reporting and the current limitations of the State and federal reporting systems they are required to use.

Fire and Damages

Table 1 shows all fireworks fires reported to the OSFM through NFIRS, where fireworks were reported as the heat source of the ignition. The data ranges from January 1, 2019, through September 30, 2024. Not all fire departments reported their data to NFIRS. The data below does not distinguish between types of fireworks (i.e., Safe and Sane, Non-Safe and Sane, Commercial). NFIRS has separate codes for other types of explosives (i.e., Model and Amateur Rockets, Munitions, Blasting Agents) that are not included in this report.

Table 1: All Fireworks Fires Reported to the Office of the State Fire Marshal

Year	2019	2020	2021	2022	2023	2024*	Total
Fireworks Fires	878	2,057	1,274	1,080	1,201	836	7,326
Property Loss (millions)	\$2.542	\$8.084	\$6.195	\$8.586	\$4.475	\$30.658	\$60.541
Content Loss (millions)	\$0.703	\$2.174	\$1.622	\$2.476	\$3.648	\$6.498	\$17.121
Fire Service Injuries	1	2	2	4	5	8	22
Fire Service Fatalities	0	0	0	0	0	0	0
Civilian Injuries	2	9	2	0	5	2	20
Civilian Fatalities	1	1	0	0	0	0	2
Acres Burned	743	3,202	550	4,934	1,123	3,961	14,513

* January 1 – September 30, 2024



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Note for Table 1: Incidents when mutual or automatic aid was given to a neighboring fire department are not included in counts. Fireworks Fires = NFIRS Incident Type codes 100-173, 561: Fire: Unauthorized burning AND NFIRS Heat Source Code 50; Explosives, Fireworks, other and 54; Fireworks, includes sparklers, paper caps, party poppers, and firecrackers OR CAL FIRE Incident Reporting System (CALFIRS) Wildfire Cause Subcategory codes: Fireworks. The statistics come from the OSFM CalStats database. Property and contents loss figures, if included herein, are estimates only. These emergency incident statistics, including injury and death counts, are based only upon information submitted to the OSFM by participating California fire departments. Please note that apparent variations in incident counts and associated losses shown in this report may be solely due to fluctuations in the amount of data submitted to the OSFM. While the incoming data is validated according to logical data rules, individual data elements are not always verified for accuracy.

A NFIRS Base Code is a standardized six-digit number corresponding to a specific incident. For example, the NFIRS code for a fireworks fire is "54." Additionally, NFIRS allows State-level plus-one codes. These additional codes are specific to a state or department and provide more information about a particular incident type.

CAL FIRE implemented California State-level plus-one codes to collect additional data for fireworks reported per AB 1403 on June 27, 2024. The goal of adding plus-one codes for fireworks was to collect further information on the type of fireworks. Table 2 shows the newly introduced plus-one codes for fireworks. The reporting agency is not required to use these plus-one codes. The plus-one codes are an option for reporting fire departments that would like a standardized way to document and report these types of incidents. As of September 30, 2024, no plus-one codes were used when reporting fireworks fire to NFIRS.

Table 2: California State-Level Plus-One Codes for Base/Parent Code 54 – Fireworks

Plus-One Code	Description
54D	Dangerous Illegal Fireworks
54S	Safe and Sane Fireworks

While additional coding was introduced to better report data for fireworks incidents, the overall system is not currently built to meet the needs and requirements of HSC 12556 related to fireworks.

The USFA, Underwriters Laboratories (UL), and Fire Safety Research Institute (FSRI) are moving towards a modernized approach to managing emergency response data and analytics nationwide. The National Emergency Response Information System (NERIS) Data Framework is being developed to replace NFIRS by January 2026. It is projected to be a giant leap forward in the capability to collect, understand, and leverage data to make informed decisions that enhance public safety.



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CAL FIRE and the OSFM are currently working with these organizations to leverage this new tool to meet the unique needs of California, including increased data collection regarding fireworks incidents. This inclusion will be critical, as NERIS will be the new national standard reporting system for over 996 California fire departments to report fireworks incident-related data. Without this inclusion, OSFM will continue to be unable to accurately collect data related to fireworks without additional development of regulations and statutes requiring it and a new framework in place to capture it.

As shown in Table 1, we have identified significant fires caused by fireworks in 2024. An example of this was the Hawarden Fire in Riverside County. Illegal fireworks caused this wildfire and injured two (2) public safety personnel, caused the damage and destruction of 13 residences, and caused the burning of approximately 527 acres of wildland. The Hawarden Fire started on July 21, 2024, well after the July 4th holiday. This single fire resulted in an estimated \$10 million in damages and \$1 million in response costs. Losses were financial and involved families whose homes were destroyed, including cherished memories and personal belongings. Impacting the emotional and mental well-being of those involved and the community at large from a single incident of illegal fireworks use in their community.

Next Steps

- CAL FIRE and the OSFM continue implementing the Strategic Plan 2024, strengthening data collection of fireworks and explosives-related incidents.
- Include fireworks and explosives NFIRS / NERIS training into the detailed projected workload analysis for HSC 12556(c)(1)(A) Training for seizure, collection, transportation, and storage of seized fireworks.
- Consider increasing or redirecting staffing within the OSFM Fireworks Program to further assist in the training of local fire and law enforcement personnel regarding the seizure, collection, transportation, and storage of seized fireworks, the enforcement of Statewide programs concerning illegal and dangerous fireworks, prosecution related to seized fireworks, and investigations of illegal and dangerous fireworks.

Arrests and Administrative Citations

This section will cover the arrests and administrative citations related to fireworks.

Arrests

The Department of Justice (DOJ) has statutory authority to collect arrest data under Penal Code (PC) Sections 13010-13012 and 13020-13021.



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The DOJ Criminal Justice Statistics Center (CJSC) collects information on arrests and citations (from now on referred to as "arrest(s)") as reported by law enforcement agencies throughout the State. The Monthly Arrest and Citation Register (MACR) data are reported monthly by law enforcement agencies throughout the State. Summary arrest counts are submitted to the Federal Bureau of Investigation's (FBI), Uniform Crime Reporting Program (UCR). Arrest data provides information on felony and misdemeanor level arrests for adults and juveniles and status offenses (e.g., truancy, incorrigibility, running away, and curfew violations) for juveniles. Arrest data includes aggregated arrest counts by reporting county, age, gender, and race/ethnic group of arrestees, while the Arrest Disposition data also includes the law enforcement disposition.

Several factors can influence arrest counts within jurisdictions. The following should be considered when using statistics for comparative purposes: variations in the composition of the population; population density and size of the locality; stability of population with respect to residents' mobility and commuting patterns; modes of transportation; economic conditions; cultural conditions; effective strength of law enforcement agencies; policies of law enforcement and other components of the criminal justice system (i.e., prosecutorial, judicial, correctional); and citizen attitudes.

Agency-specific data characteristics and limitations are also present each year, including full or partial-year data reporting and combined agency reporting in some areas. The DOJ CJSC provides another fourteen (14) limitations to consider when analyzing, interpreting, and using arrest data.

Current DOJ data sets are not collected and reported on for the use or possession of fireworks, with current crime statistics only covering Adult Probation Caseload & Actions, Arrest Dispositions, Arrests, Crimes & Clearances, Criminal Justice Personnel, and Domestic Violence-Related Calls for Assistance. These statistics include annual totals based on misdemeanors or felonies, violent crimes, property crimes, and arson. The possession and use of illegal fireworks are not included in any reported categories.

California crimes are reported into a DOJ legacy system and a newer California Incident-Based Reporting System (CIBRS) that law enforcement agencies are transitioning to. This was initiated in 2016 to transition from summary crime reporting to incident-based crime reporting, in alignment with the federal National Incident-Based Reporting System (NIBRS). Information reported under the legacy system was collected using the "Hierarchy Rule," where only the most serious offense within a criminal incident is counted for statistical purposes. As a result, if a robbery and a homicide occurred in the same incident, the legacy system only counts the homicide for statistical reporting purposes.



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In 2016, the FBI Director informed all state Statistical Analysis Centers (SAC) that the FBI Uniform Crime Reporting (UCR) Program would be transitioning to a NIBRS-only data collection by January 1, 2021. California State Universities and University of California law enforcement agencies utilize the UCR Program when reporting crimes on State property.

What this means for fireworks-related crimes, which are all currently coded as misdemeanors in California, is that these crimes would not have been reported when other crimes were associated, limiting the data available to OSFM historically.

Administrative Citations

Many local jurisdictions utilize administrative citations as a non-criminal approach to nuisance abatement and quality-of-life offenses by using fines (instead of arrest, incarceration, and criminal records) for people who violate municipal codes. Increasingly, illegal fireworks possession and use are enforced locally through administrative fines and citations. Social hosting ordinances have also been passed in several jurisdictions, increasing local enforcement.

In recent years, the OSFM has seen a dramatic increase in local jurisdictions using this method of enforcement towards fireworks violations, with many jurisdictions increasing fines for fireworks violations by double, triple, or even more.

Next Steps

- 1) CAL FIRE to work with the Department of Justice, Office of the Attorney General, and the FBI to further collect fireworks and explosives CIBRS and NIBRS data reported by law enforcement agencies within the State so OSFM can collect, understand, and leverage data to make informed decisions that enhance public safety.
- 2) CAL FIRE to include CIBRS and NIBRS training in the detailed projected workload analysis for HSC 12556(c)(1)(A) Training for seizure, collection, transportation, and storage of seized fireworks.

Fireworks Disposal Issues

Fireworks disposal issues caused by the sale of both Dangerous Illegal Fireworks and Safe and Sane Fireworks involve many factors.

Year-Round Problem

The dates, times, locations, and amounts of fireworks seized by local fire department and law enforcement personnel throughout the State are unpredictable.

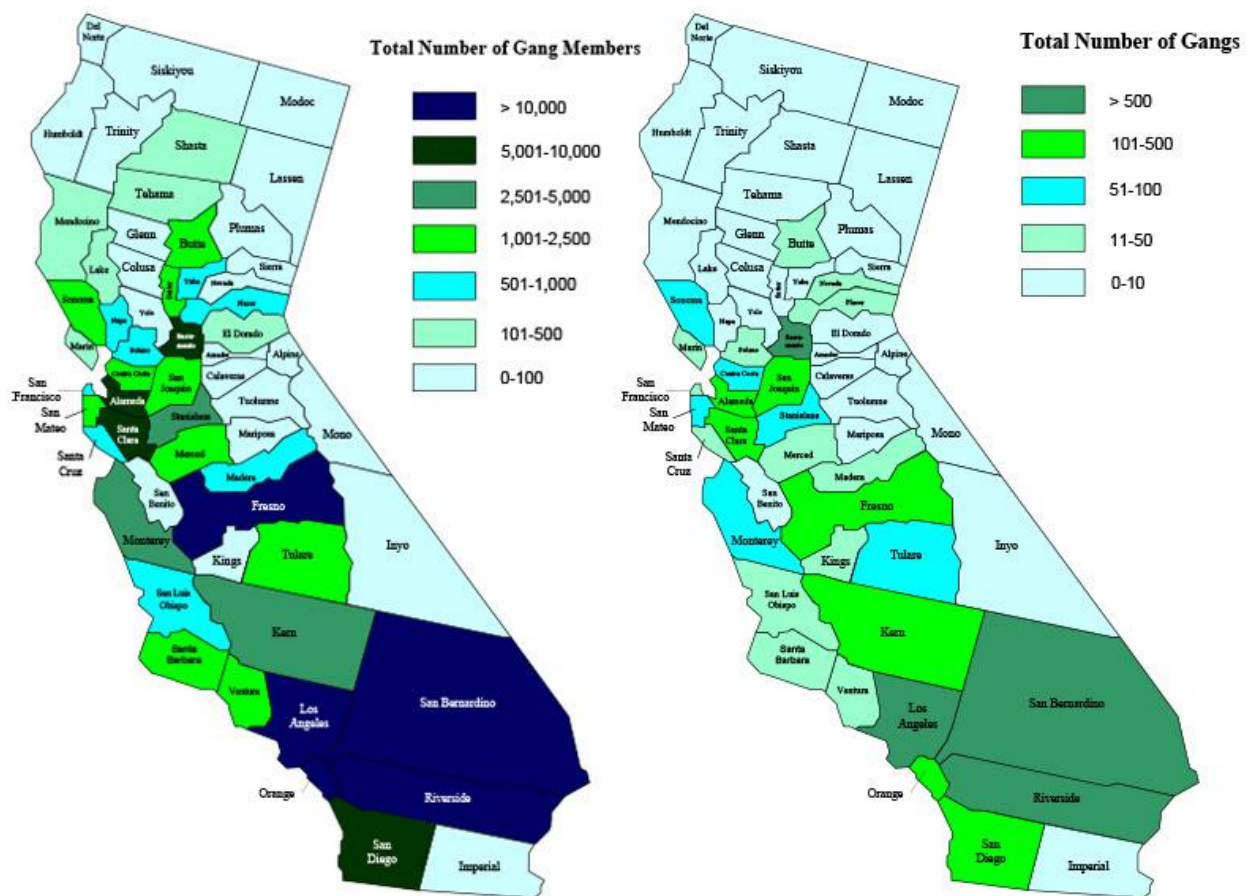


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Fireworks seizures are not limited to the 4th of July holiday season. While this is the time of year when the use and possession of both Dangerous Illegal Fireworks and Safe and Sane Fireworks increase dramatically, CAL FIRE, local fire departments, and law enforcement personnel throughout the State continue to seize fireworks throughout the year.

This is caused by legal consumers of Safe and Sane fireworks holding on to or stockpiling fireworks for their use during other times of the year (parties, birthdays, weddings, Christmas, New Year's Eve, etc.).

Often, Dangerous Illegal Fireworks are possessed and used for these same reasons but smuggled and sold within California in record amounts by organized crime and gangs for fundraising purposes.



An open-source assessment of California Gang numbers throughout the State, by county, shows an example of heavy saturation areas correlating with significant illegal fireworks seizures each year.



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On June 21, 2024, Gardena Police Department discovered and seized, with the assistance of the OSFM Arson and Bomb Unit, over 75 tons (150,000) pounds of illegal fireworks, with an estimated street value of between \$7 million to \$10 million, from a warehouse in Los Angeles County. This was the largest single seizure in California history, doubling the previous record of 32 tons in a South Los Angeles warehouse in 2021. Also discovered in this warehouse were over 2,200 illegal, destructive devices, and 10 pounds of bulk homemade explosives that agencies had to seize and destroy carefully.

CAL FIRE's discovery, through years of fireworks interdiction, is that organized crime elements and gangs within California continue to illegally smuggle and sell fireworks through a black market to fund drug and gun purchases. This is fueled by the acquisition of Dangerous Illegal Fireworks available from border states year-round that outperform Safe and Sane Fireworks, with aerial performances rivaling professional Public Display Fireworks shows conducted by OSFM-licensed Pyrotechnic Operators. The OSFM seizes 220,000 to 260,000 pounds of fireworks annually, which it estimates is a small fraction of what is illegally possessed and used within the State. The 2024 Gardena incident is an example of this, with only one seizure totaling more than the State's annual average. Local jurisdictions continually report increased illegal fireworks use each year.

Reporting of Explosives that are not Fireworks

Inaccurate identification and reporting by local fire department and law enforcement personnel is common and affects data collection accuracy.

The OSFM Arson and Bomb Unit must carefully take possession of every local seizure and use its training and expertise to identify, process, and dispose of what has been seized. The OSFM, as the gatekeeper for the final disposal of material being shipped, must thoroughly identify and sort the materials to remove dangerous items and non-fireworks from the shipment. This ensures safety and prevents catastrophic damage to the disposal facilities it contracts with.

Disposal shipments only include waste profiles for the Department of Transportation (DOT) classified 1.3G and 1.4G fireworks. It is estimated that well over 50% and as high as 90% of seizures collected by OSFM from local fire departments and law enforcement personnel include dangerous items and non-fireworks mixed into them.

This occurs both from inaccurate identifications and deliberate exclusions. These items have included small arms ammunition, riot control materials, self-defense chemicals, airbag inflators, road flares, marine aerial flares, military ordnance, detonators, pipe bombs, improvised explosive devices (IEDs), explosive powders like black powder and smokeless powder, precursor chemicals like perchlorate, cigarette lighters, propane



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torches, and many other hazards. These items are difficult to dispose of and create additional hazards and costs associated with the disposal of fireworks.

While many hazardous items are initially identified and removed from the seizure by OSFM Arson and Bomb Investigators, more significant single seizures (5,000 to 30,000 pounds) make this inspection impractical until a later date, when the OSFM Arson and Bomb Unit can safely identify, process, and dispose of the seized fireworks safely and efficiently.

This vital process is critical to the fireworks disposal process. The increased training, experience, and expertise of the OSFM Arson and Bomb Unit personnel is crucial to fireworks disposal issues to ensure safety, security, and operations continuity for all involved.

Reported Weight

The weights of fireworks seized by local fire department and law enforcement personnel are often inaccurately reported.

When fireworks are seized, the weights become crucial when determining prosecution of violations of the HSC and penalties assessed. Weights should include the original packaging whenever possible. Accurate weights are vital when determining seizure amounts and transportation, storage, and disposal needs, but many local jurisdictions do not have the appropriate equipment to weigh fireworks seizures accurately.

Fire departments and law enforcement agencies must report the estimated weight of the fireworks seizure through the OSFM Fireworks Seizure App. Often, agencies are not prepared to accurately weigh these items and adequately store them, so a rough visual estimate is reported to OSFM, enabling them to complete the reporting process for disposal. Several different weights are collected through the fluidity of the overall process, making accurate data collection difficult until the final disposal shipment occurs. Table 3 shows the estimated weight of seized fireworks collected by the OSFM.

Table 3: Seized Fireworks Collected by OSFM

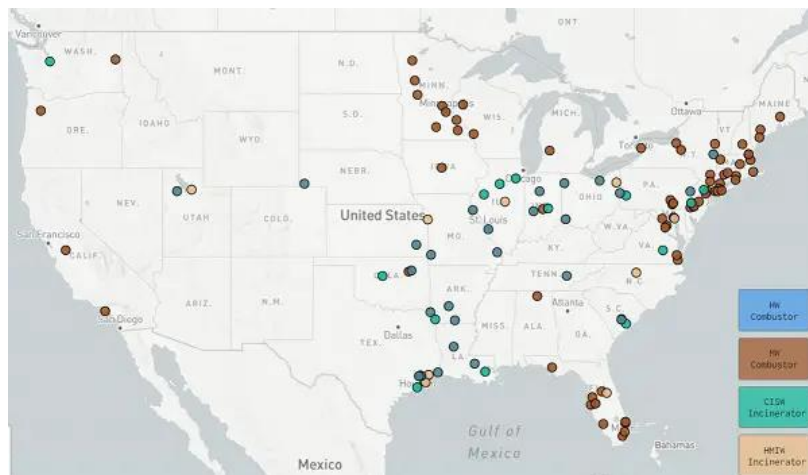
Fiscal Year	Pounds of Disposed Fireworks
2019-20	474,300
2020-21	288,206
2021-22	106,977
2022-23	260,000
2023-24	288,428

The weights listed are the estimated weights reported by the agencies responsible for the seizures. These weights may vary from the final OSFM weights upon collection.



Limited Disposal Facilities

The number of permitted facilities in the United States to incinerate commercial explosives through thermal treatment is minimal. As of September 2024, there were 22 permitted facilities through the U.S. Environmental Protection Agency (EPA), with only a few in the western half of the United States.



An open-source image of the hazardous waste incinerator locations throughout the United States.

Fireworks Disposal Costs

In the past year, fireworks disposal costs associated with transporting and disposing of explosive hazardous waste have significantly increased for CAL FIRE. The expenses related to disposal have nearly doubled from the previous contract, with the cost-per-pound for fireworks moving from \$10 to \$19. Associated transportation costs have risen from \$12,000 to \$23,250 per load transported, in addition to the rate per pound. Labor and material costs associated with each load have also increased.

Current funding is insufficient to address the current disposal costs. The current budget provides no funding for facilities to store fireworks or support equipment (i.e., forklifts) to meet OSFM's statutory obligations for fireworks disposal within the State. Additionally, no legal method exists to resell these consumer products back to the industry, or otherwise require the industry to dispose of seized fireworks, and there is no other method for disposal.

Table 4 shows the annual number of pounds of seized fireworks disposed of as hazardous waste and the costs associated with disposal. In fiscal year 2023-24,



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CAL FIRE and the OSFM diverted funds to cover the cost of storage and disposal of 271 tons of seized fireworks. Due to funding and logistical constraints, the rate of seized fireworks continues to outpace the rate of disposed fireworks. As the disposal cost continues to increase, CAL FIRE does not anticipate being able to continue to cover the costs in the future, resulting in a need for additional funding for storage and disposal in order for the OSFM to meet the statutory requirements.

Table 4: Seized Fireworks Disposal Costs

Fiscal Year	Pounds of Disposed Fireworks	Costs in Dollars
2019-20	386,505	\$2,111,000
2020-21	397,543	\$2,111,000
2021-22	215,900	\$2,109,599
2022-23	145,508	\$2,753,399
2023-24	76,562	\$1,231,113

Notes for Table 4: the weights listed are not the actual weight of seized fireworks collected by the OSFM. The weights in Table 4 are the overall disposal shipping weight. During processing of seized fireworks, the OSFM Arson and Bomb Unit removes unnecessary packaging to reduce the disposal costs.



Training

Pursuant to 12556(c)(1)(A), this section covers the training for the seizure, collection, transportation, and storage of seized fireworks.

WORKLOAD FOR TRAINING ENFORCEMENT PERSONNEL

Internationally, it is recognized that explosives are not discarded as general or household waste. Explosive waste should be disposed of in a designated area with facilities appropriate to the type and quantity of explosives to be destroyed. It is crucial that a safe system of work is put in place and that the people involved in the disposal of explosives are competent in the roles that they will undertake. Those not experienced in the disposal of explosives should seek expert assistance.



On June 30, 2021, an LAPD Bomb Squad explosion involving illegal fireworks and explosives disposal destroyed an entire neighborhood in Los Angeles, CA. The OSFM assisted with response and mitigation post-incident.

Despite a general decline in the size of the explosives industry, explosive substances and articles continue to have a wide range of uses. Their uses range from prominent ones, such as warheads for weapons, blasting explosives, and accessories for mining, fireworks, and flares, to lesser-known applications, such as components of firefighting systems and vehicle safety restraint systems. Given that explosives will continue to be



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used in a wide range of applications, there will be a continuing requirement for the disposal of explosive substances and articles.

The seizure, collection, transportation, and storage of fireworks involve the common issues or precursors associated with explosive hazards leading to fire and explosion. These include but are not limited to:

- Friction
- Impact
- Ignition by flame
- Ignition by spark
- Ignition by heat
- Ignition by radio frequency energy (RADHAZ/HERO)
- Electrostatic discharge
- Inadequate procedures
- Inadequate supervision
- Inadequate identification and labeling
- Poor maintenance
- Ignition of solvent vapor, dust, or reaction by-product
- Chemical incompatibility
- Exudation / Sublimation and consequential contamination
- Lack of knowledge of the presence of explosive material
- Lack of knowledge of the properties of explosive materials
- Inappropriate confinement
- Poor control of equipment

In addition to these hazards, State and federal environmental regulatory measures must be known and applied to the overall process.

Resources needed to further assist in the training of local fire department and law enforcement personnel regarding the seizure, collection, transportation, and storage of seized fireworks have been identified as:

- Re-establish the OSFM Arson and Bomb Unit Bomb Squad Certification through the FBI and National Bomb Squad Commanders Advisory Board (NBSCAB). The OSFM lost federal certification in 2009 due to minimum staffing levels not being met, but it has since rebuilt the Unit and expanded operations. Certification is critical to delivering this training to all levels of public safety, ensuring the Arson and Bomb Unit can provide its expertise in fireworks and pyrotechnics to specialized teams within California. Fireworks and pyrotechnics have historically killed more Certified Bomb Technicians nationwide than any other type of hazard.



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- Develop training to include local fire department and law enforcement personnel to further promote teamwork and joint operations regarding the seizure, collection, transportation, and storage of seized fireworks within their respective jurisdictions.
- Develop training to include standards for the transportation, storage, and handling of fireworks and pyrotechnic articles per Title 19, California Code of Regulations (CCR), Division 1, Chapter 6, commencing with Section 979 and the National Fire Protection Association (NFPA) 1124: Code for the Manufacture, Transportation, Storage, and Retail Sales of Fireworks and Pyrotechnic Articles of 2013.
- Develop training to include recognition of explosive materials and isolation procedures per Title 19, CCR, Division 1, Chapter 10, commencing with Section 1550, and the NFPA 495: Explosive Materials Code of 2013.
- Develop training to include recognition of commercial, consumer, and illegal fireworks per Title 19, CCR, Division 1, Chapter 6 (commencing with Section 979), and the NFPA 1124: Code for the Manufacture, Transportation, Storage, and Retail Sales of Fireworks and Pyrotechnic Articles of 2013.
- Develop training to include HSC Division 11 Explosives (Sections 12000 – 12761).



On March 16, 2021, an Illegal fireworks explosion killed two in Ontario, CA, and required the search and disposal of involved fireworks over 80 neighborhood properties. OSFM assisted with initial response and mitigation post-incident and guiding FBI-certified Bomb Squads.



Training for the Enforcement of Illegal and Dangerous Fireworks

Resources are needed to further assist in training local fire department and law enforcement personnel regarding enforcing the Statewide program for illegal and dangerous fireworks.

- Develop training to include local fire department and law enforcement personnel to further promote teamwork and joint operations regarding enforcement, as well as State and federal laws and regulations associated with fireworks and explosives.
- Develop specialized training to include compliance with HSC Section 12723. Notifications to OSFM shall not be more than three days following the date of seizure, and they must state the reason for the seizure and the quantity, type, and location of the fireworks.
- Develop specialized training to include local compliance with HSC Section 12706 – 65% deposit of all fines and forfeitures imposed by or collected in any State court. These funds shall be distributed to the State Fire Marshal Fireworks Enforcement and Disposal Fund.
- Train local fire department and law enforcement personnel for successful prosecution strategies.

Training for Prosecution Related to Seized Fireworks.

Resources are needed to further assist in training the local fire department and law enforcement personnel regarding the prosecution of fireworks seized.

- Develop training, with the assistance of the California District Attorneys Association (CDAA), to be delivered to all 58 county District Attorney's Offices, focused on State and federal fireworks and explosives laws, including prosecution of hazardous materials, interstate commerce, and other associated laws.
- Develop training for local fire department and law enforcement personnel regarding seizure reporting, documentation, sampling, report writing, evidence, case management, disposal, and other associated tasks.

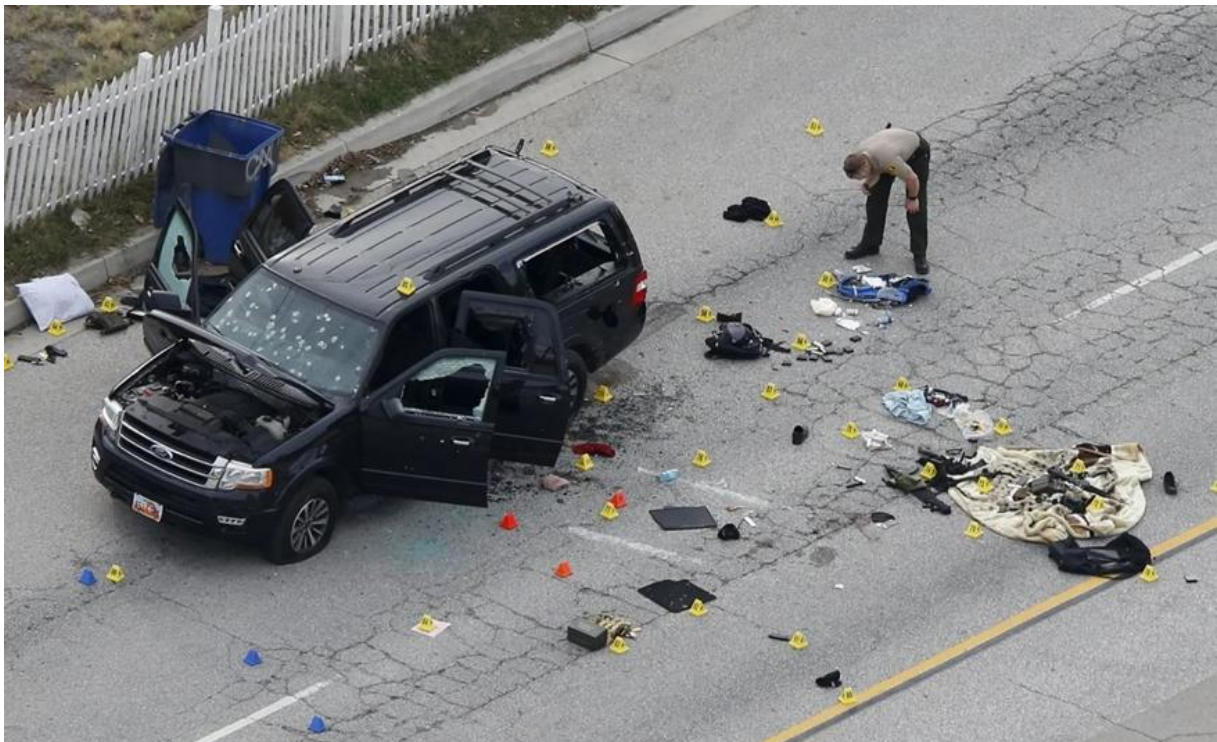
Training for Investigations of Illegal and Dangerous Fireworks

Identified resources needed to further assist in the training of local fire department and law enforcement personnel regarding the Investigations of illegal and dangerous fireworks include:



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- Develop training for local fire department and law enforcement personnel to further promote teamwork and joint operations regarding investigating illegal and dangerous fireworks within their respective jurisdictions.
- Develop specialized training for sworn peace officers within local fire departments and law enforcement agencies to further provide investigative resources to specialized teams within these agencies, including but not limited to Arson Units, Special Weapons and Tactics (SWAT) Teams, Bomb Squads, Warrant Teams, Riot Control Teams, Narcotics Teams, and Surveillance Teams.
- Develop specialized training for crime scene investigators (CSI) and evidence technicians to assist in evidence collection involving fireworks and explosive evidence.



On December 2, 2015, a terrorist attack consisting of a mass shooting and an attempted bombing occurred in San Bernardino, CA. Consumer fireworks were used to make the explosive devices.

Next Steps

- Consider increasing or redirecting funding and position authority to support four (4) Arson and Bomb Investigator positions to coordinate directly with the Fireworks Program to develop and administer Statewide training to over 996 fire departments and over 531 law enforcement agencies within California, employing more than 135,000 law enforcement and firefighting personnel combined.



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- Consider increasing or redirecting funding and position authority to support one (1) Division Chief to oversee the Arson and Bomb Unit within OSFM. This management position previously existed when the Unit was staffed at these comparable levels and would provide needed managerial oversight over fireworks disposal and training at a Statewide level, meeting the intent of HSC Section 12556, helping balance the span of control for the Unit and within the Division.
- Consider appropriating or redirecting \$400,000 one-time, and \$200,000 ongoing, for contracted course development for professional presentations and materials. Additionally, the OSFM would contract with a current or former district attorney to co-teach portions of the courses with OSFM staff.
- The OSFM should deliver twenty (20) regional trainings to local fire departments and law enforcement agencies, annually. Classes would be strategically held throughout the State, better enabling local jurisdictions to attend the training.
- It is estimated, based on this staffing and delivery model, that OSFM could provide training to all 1,382 agencies in five (5) years, with classes set to thirty (30) students and limited to two (2) representatives from each agency.
- The increased staffing and class deliveries would allow the OSFM to adequately meet an acceptable timeline for completing the safety training for all agencies.

Table 5: Workload Measure

Workload	BY	BY+1	BY+2	BY+3	BY+4
Development of Training	1250	-	-	-	-
Maintaining and Update of Training	-	400	400	400	400
Provide Training and Engagements with Agencies	850	1700	1700	1700	1700
Attend Meetings/Conferences/Training	900	900	900	900	900
Emails	638	638	638	638	638
Phone Calls	570	570	570	570	570
Develop Bulletins and Guidance Documents	300	300	300	300	300
Reports and Case Management	400	400	400	400	400
Analyze Current Data and Trends	482	482	482	482	482
Liaison with local agencies on enforcement	1000	1000	1000	1000	1000
Firework Enforcement and Disposal	1000	1000	1000	1000	1000
Managing and supervising staff	950	950	950	950	950
Strategic planning, reviewing budgets, contract administration	550	550	550	550	550
Total	8890	8890	8890	8890	8890



Conclusion

This report reveals a pressing need for improved training in several critical areas, including the safe seizure, collection, transportation, and storage of fireworks and illegal fireworks enforcement. The report also highlights the challenges associated with fire and explosion-related incidents, which significantly burden emergency services and local communities throughout the State.

The issues related to the collection and analysis of seized fireworks data, limited disposal facilities, and the rising national costs of fireworks disposal all contribute to the ongoing challenges for public safety agencies within California.

Enhancing public safety and effectively managing the risks associated with illegal fireworks by increasing or redirecting funding and staffing would allow for specialized training, fostering partnerships for resource sharing, and developing a Statewide training curriculum to ensure consistent enforcement, seizure, collection, transportation, and storage practices across jurisdictions.