



UNITED STATES BOMB DATA CENTER (USBDC) ARSON INCIDENT REPORT

2021

The Annual Arson Incident Report (AIR) reviews arson-related incidents from data reported to the United States Bomb Data Center (USBDC) through the Bomb Arson Tracking System (BATS).

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EXECUTIVE SUMMARY

OPERATING HIGHLIGHTS

(U) The 2021 *Arson Incident Report* (AIR) is an informational product prepared by the United States Bomb Data Center (USBDC), using incident data reported in the Bomb Arson Tracking System (BATS) by its nearly 1,861 interagency partners and more than 9,000 registered users. This report examines the total number of fire-related incidents reported in BATS for calendar year 2021 and includes Incendiary (Arson), Undetermined, Accidental, Threats, Natural, and Wildland fire incidents. It is important to note that BATS is a real-time dynamic incident management system that is strictly user dependent; therefore, it is possible that the data represented in this report may differ slightly from previously reported data due to updates or changes made by the owner of individual records. The reader should also be aware that when compared to the data reflected in the Uniform Crime Report and/or National Fire Incident Reporting System, the number of incidents reflected in BATS captures approximately 20 percent of the annual incendiary (arson) fires reported. Due to this limited dataset, the USBDC cautions the use of this report for analytical purposes.

STRATEGIC HIGHLIGHTS

(U) From January 1, 2021, through December 31, 2021, BATS captured a total of 22,893 fire-related incidents. Of these, there were 6,465 incidents reported as “Incendiary or Arson,” which accounted for 28 percent of all the fires reported. The total amount of damages for all fire types was estimated at \$2,272,127,757 with 966 injuries and 562 fatalities associated with the 22,893 reported fire-related incidents. “Available Combustibles” was identified as the most widely utilized incendiary fire Subtype, while “Residential” was identified as the most targeted property type.

LOOKING AHEAD

(U) In 2022, the United States Bomb Data Center’s two sections, Bomb Arson Tracking System (BATS) Section and Arson and Explosives Information and Analysis (AEIA) Section, continue to work to collect, analyze and disseminate information regarding arson and suspected criminal misuse of explosives to increase situational awareness to detect, deter and prevent criminal acts.

James M. Watson
Director, USBDC

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FIRE TYPES – 2021

(U) From January 1, 2021, through December 31, 2021, BATS captured a total of 22,893 fire-related Incidents. Of those 22,893 fire-related incidents, 7,788 were listed in BATS as “Accidental,” 6,465 were listed as “Incendiary or Arson,” 107 as “Natural,” and 1,838 were “Under Investigation.” There were 71 incidents entered as “Threat – Arson” and 145 listed as “Wildland.” There were also 5,914 fires listed as “Undetermined,” which included the final determination/classification of the investigation, along with fires pending further investigative activities and/or laboratory examination.¹

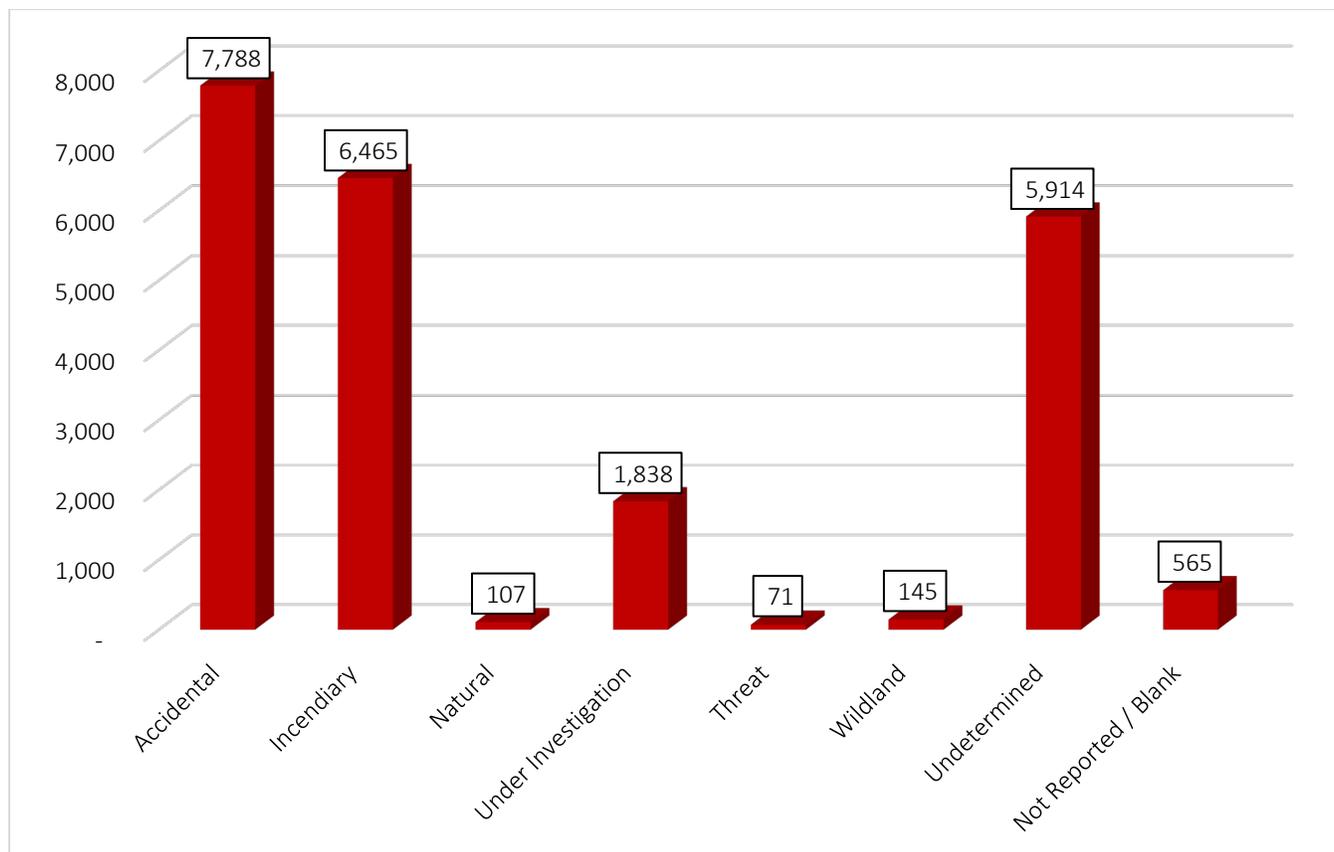


FIGURE 1. Fire Types as Reported in BATS

¹ The number of incidents listed above only accounts for the number of fire/arson incidents reported in BATS and not the total number of fire/arson related incidents reported in the United States during calendar year (CY) 2021.

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FIRE INJURIES AND FATALITIES – 2021

Injuries					
	Fire Service	Law Enforcement	Victims	Suspects	Total
Accidental	62	10	300	0	372
Incendiary	42	5	96	24	167
Natural	0	0	0	0	0
Under Investigation	21	8	60	1	90
Undetermined	92	5	238	2	337
Total	217	28	694	27	966

FIGURE 2. Fire Injuries

(U) Victim injuries accounted for 72 percent of all injuries reported in CY 2021 and were the highest population reported for “Incendiary” and “Accidental” incidents.

(U) Of the 167 injuries associated with “Incendiary” incidents, “Victims” were reported as the highest population at 57 percent.

Fatalities					
	Fire Service	Law Enforcement	Victims	Suspects	Total
Accidental	1	0	159	0	160
Incendiary	0	0	62	12	74
Natural	0	0	0	0	0
Under Investigation	0	0	79	0	79
Undetermined	2	0	247	0	249
Total	3	0	547	12	562

FIGURE 3. Fire Fatalities

(U) Victim fatalities accounted for 97 percent of all injuries reported in CY 2021 and were the highest population reported for “Incendiary” and “Accidental” incidents.

(U) Of the 74 fatalities associated with “Incendiary” incidents, “Victims” was reported as highest population with 84 percent.

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FIRE DAMAGES – 2021

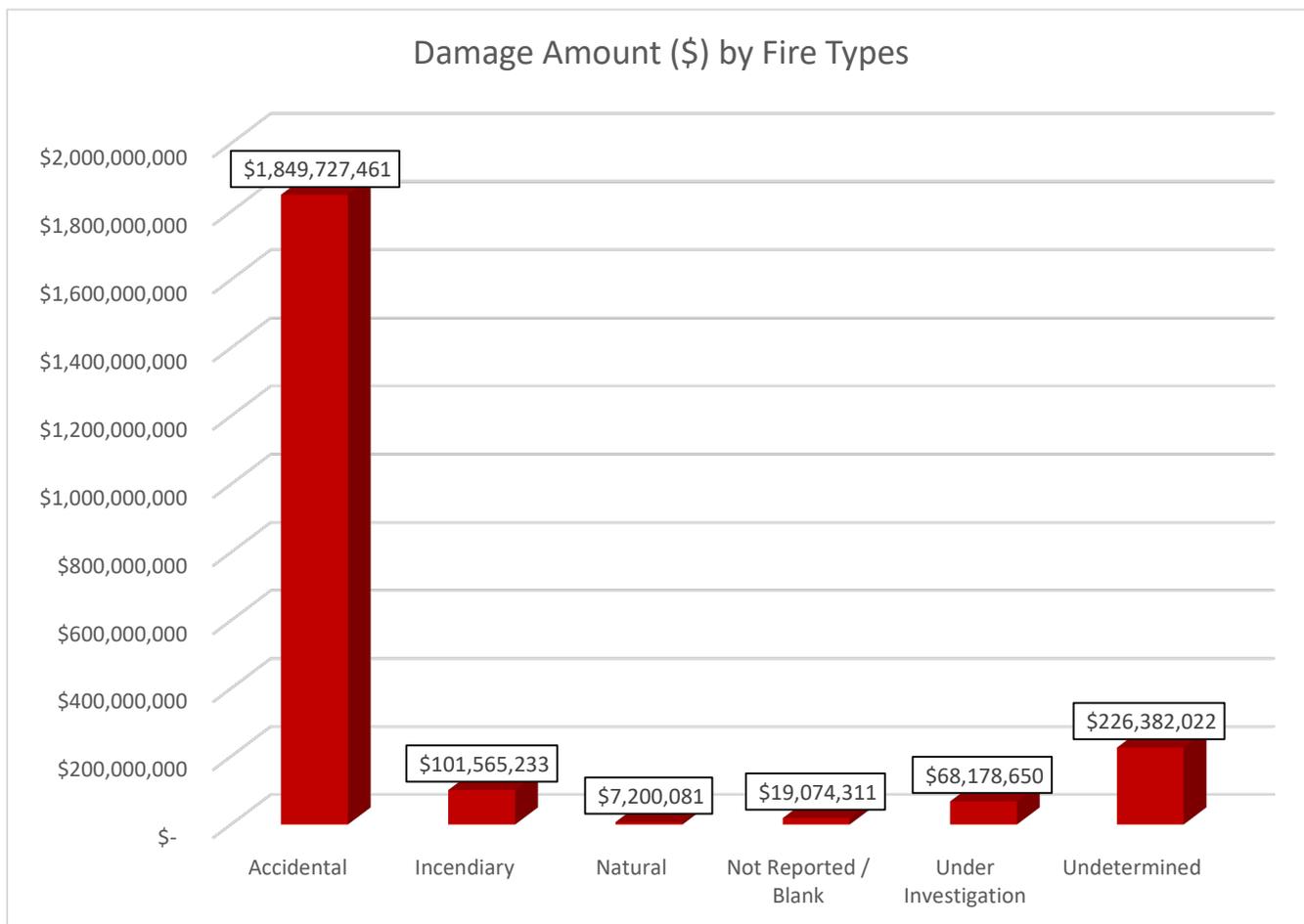


FIGURE 4. Damage Amount by Fire Type

(U) Damages associated with the 22,893 fire incidents reported in BATS totaled \$2,272,127,757 for calendar year (CY) 2021. Fires categorized as “Accidental” led the fire type category with \$1,849,727,461 in damages.²

² The number of incidents listed above only accounts for the number of fire/arson incidents reported in BATS and not the total number of fire/arson related incidents reported in the United States during calendar year (CY) 2021.

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INCENDIARY FIRE SUBTYPES – 2021

(U) Of the 6,465 Incendiary (Arson) fire-related incidents reflected in BATS, there were 1,486 Incendiary fires listed as involving an “Accelerant,” along with 2,947 fires involving “Available Combustibles” and 336 fires involving an “Incendiary Device.” There were 1,438 Incendiary fires listed as “Unknown” and 258 Incendiary fires with no information reported or left “Blank.”³ “Available Combustibles” accounted for 46 percent of all incendiary fires, while “Accelerant” and “Incendiary Device” were 28 percent combined.

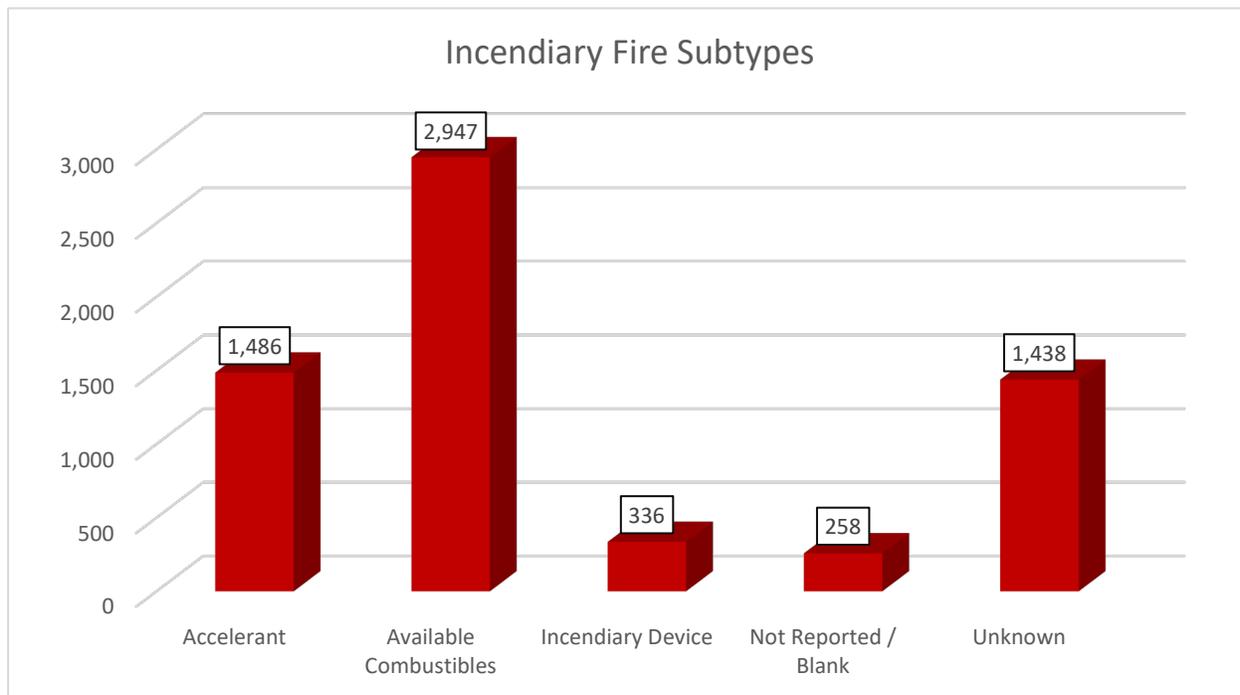


FIGURE 5. Incendiary Fires by Subtype

³ The number of incidents listed above only accounts for the number of fire/arson incidents reported in BATS and not the total number of fire/arson related incidents reported in the United States during calendar year (CY) 2021.

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INCENDIARY FIRES (STATE) – 2021

(U) A review of the 6,465⁴ incidents listed in BATS as “Incendiary or Arson” by location (State) revealed the highest number of incidents were reported in Illinois (1,116), followed by Texas (689), and then Florida (649). These three (3) States accounted for 38 percent of the total “Incendiary or Arson” fires reported in BATS during CY 2021 that had a State listed.⁵

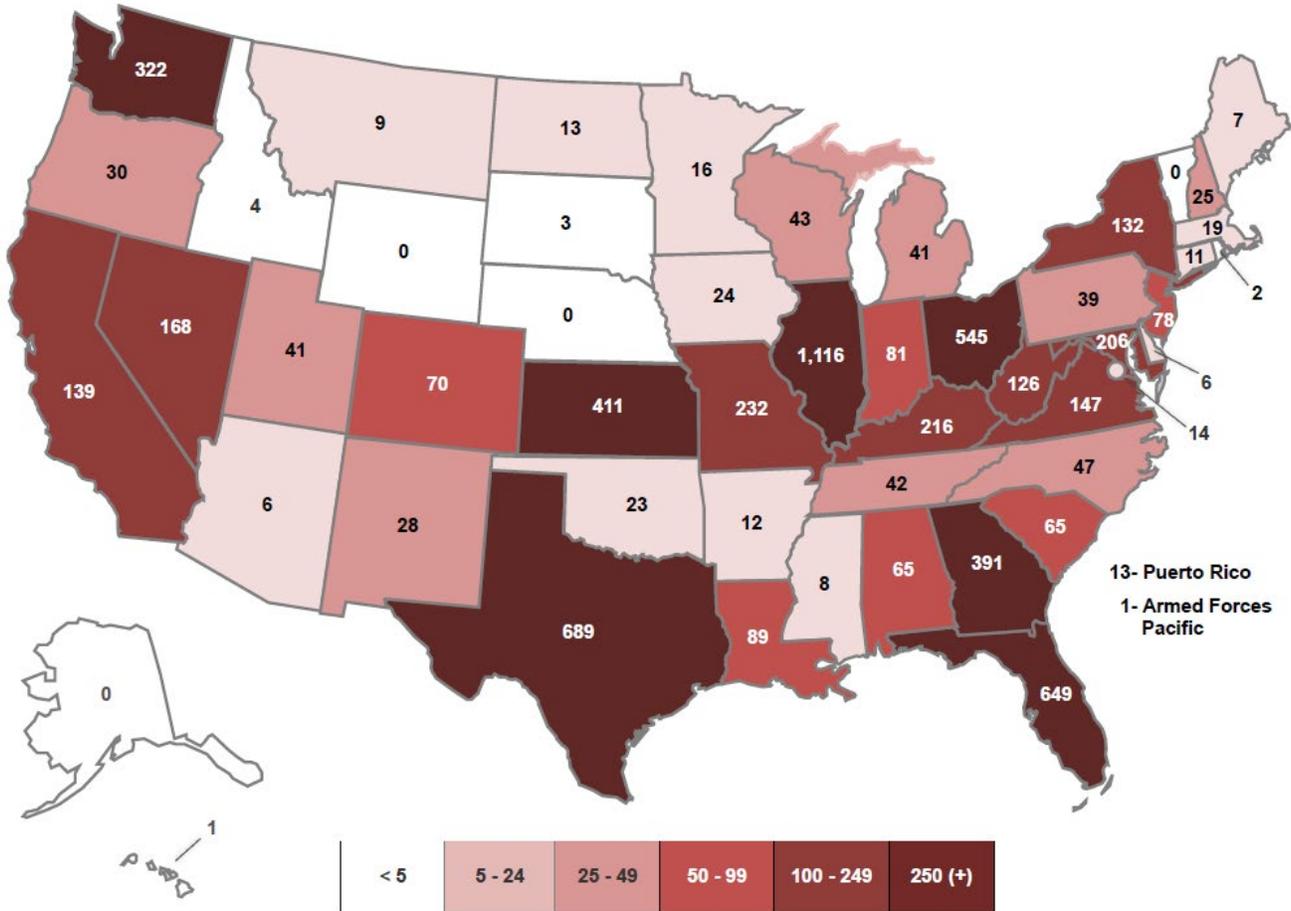


FIGURE 6. Incendiary Fires by State

⁴ Of the 6,465 incidents listed in BATS, 72 did not have the corresponding State. These incidents were manually updated to be included in the annual statistics. They were not updated in the BATS database.

⁵ The number of incidents listed above only accounts for the number of fire/arson incidents reported in BATS, and not the total number of fire/arson related incidents reported in the United States during CY 2021.

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INCENDIARY FIRES (FEMA REGIONS) – 2021

(U) A breakdown of the 6,465⁶ incidents listed in BATS as “Incendiary or Arson” by Federal Emergency Management Agency (FEMA) Regions revealed the highest number of incidents occurred in the following three regions: Region V (1,842) and Region V (1,483) followed by Region VI (841). These three regions accounted for 64 percent of the total “Incendiary” fires reported in BATS during CY 2021 that had a State listed.⁷

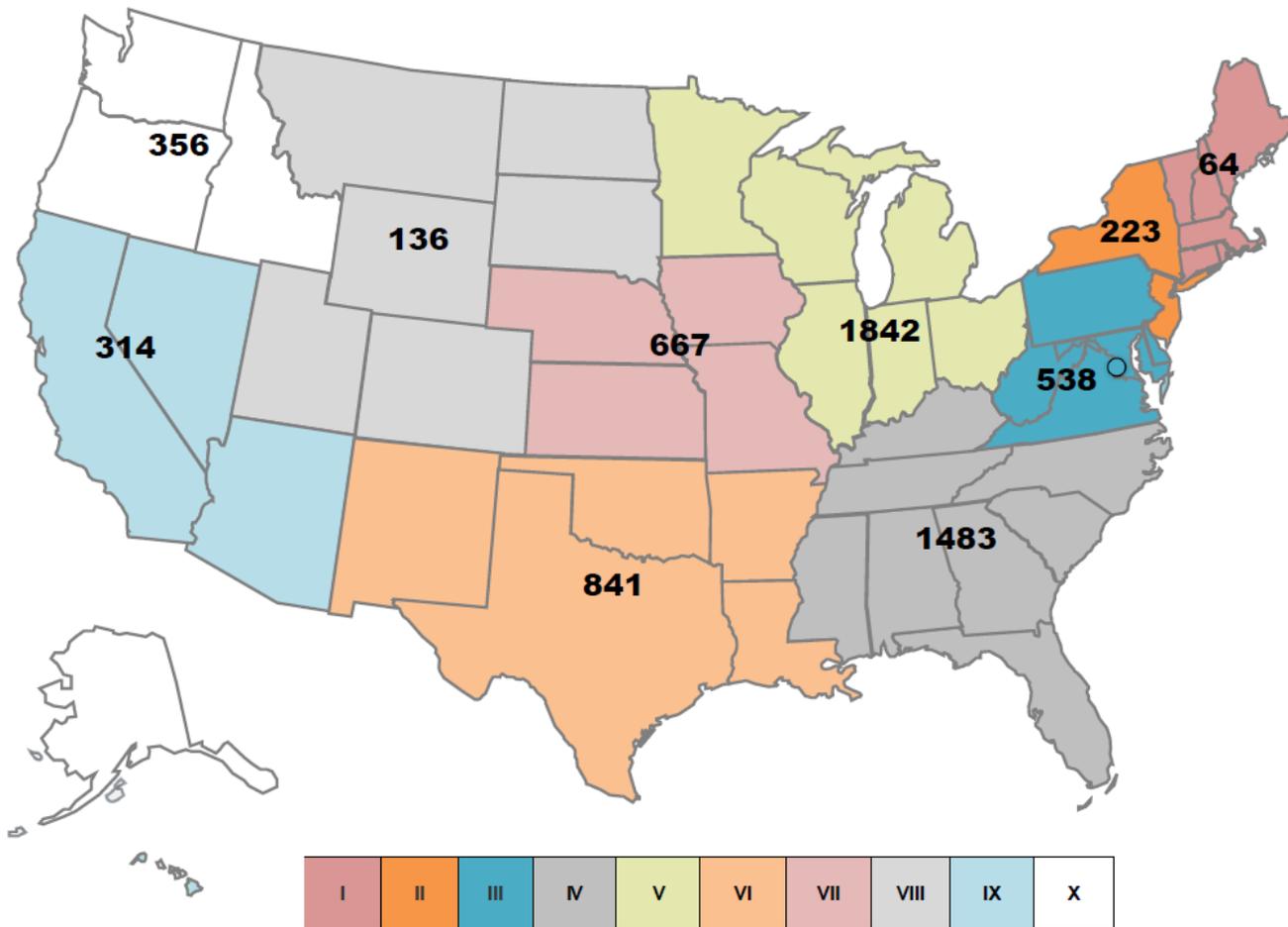


FIGURE 7. Incendiary Fires by FEMA Regions

⁶ Of the 6,465 incidents listed in BATS, 72 did not have the corresponding State. These incidents were manually updated to be included in the annual statistics. They were not updated in the BATS database.

⁷ The number of incidents listed above only accounts for the number of fire/arson incidents reported in BATS, and not the total number of fire/arson related incidents reported in the United States during CY 2021.

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PROPERTY TYPES – 2021

(U) There were 21 different “Property” types selected within BATS that involved “Incendiary” fires for 2021 (6,465 total incidents). Of the reported “Incendiary” incidents reported for 2021, “Residential” fires and “Vehicle” fires accounted for a combined 70 percent.^{8,9}

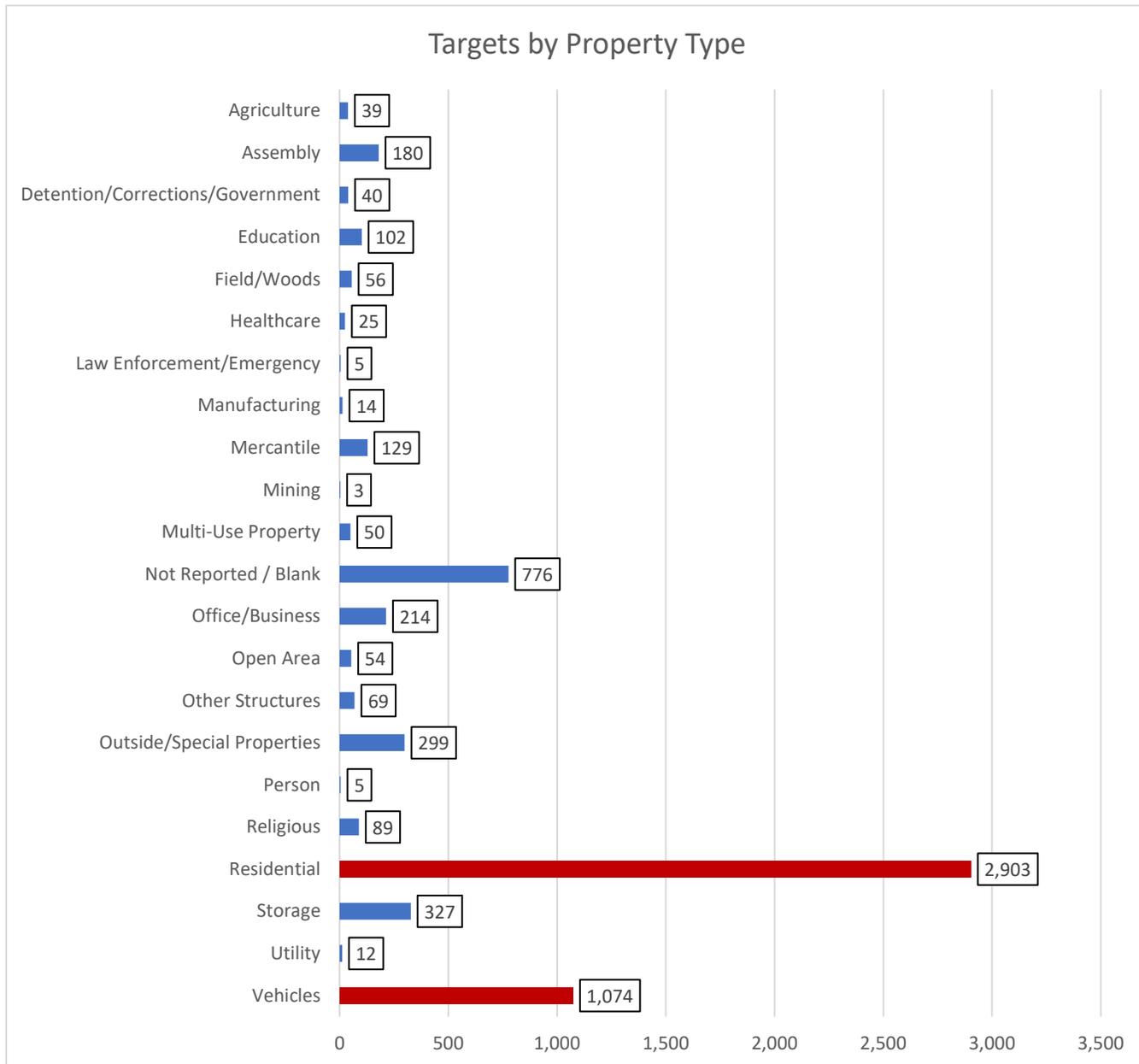


FIGURE 8. Incendiary Fires by Property Types

⁸ Not Reported/Blank incidents were excluded when calculating percentage.

⁹ The number of incidents listed above only accounts for the number of fire/arson incidents reported in BATS, and not the total number of fire/arson related incidents reported in the United States during CY 2021.

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TIME/DAY/MONTH OF OCCURRENCE – 2021

(U) A review of the time of day that “Incendiary” fires occurred showed a noticeable difference between the hours of daylight and darkness. Incidents of “Incendiary” fires occurring during the predominant hours of darkness (21:00 until 05:59) accounted for 45 percent of the incidents. On the other hand, the time period of 06:00 until 12:00 (early morning hours until noon) accounted for only 21 percent of incendiary fires reported in BATS during CY 2021.^{10,11}

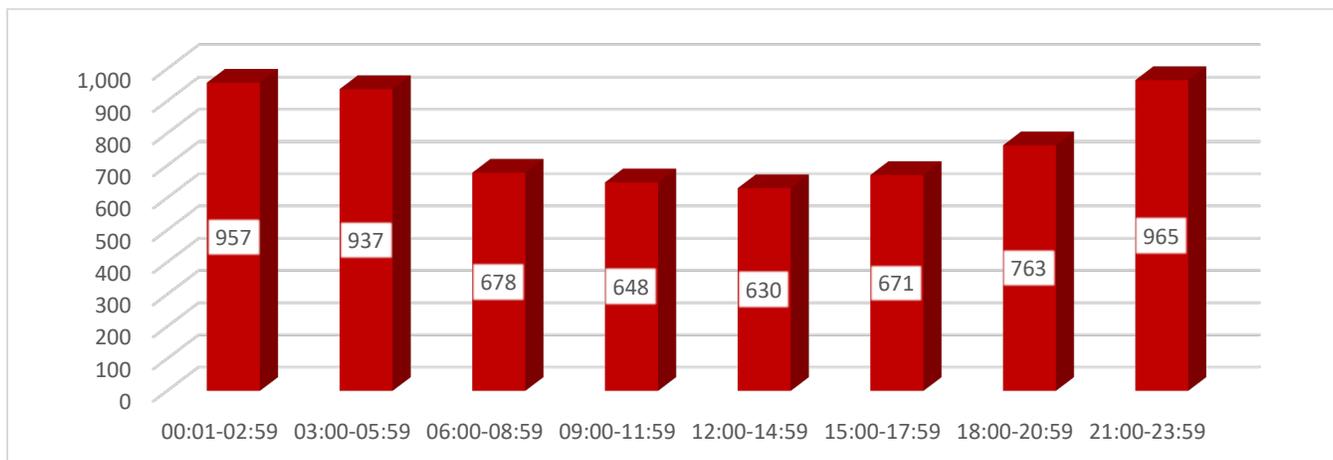


FIGURE 9. Incendiary Fires by Time of Day

(U) A review of the day of the week revealed that “Incendiary” fires occurred most prevalently during the first 3 days of the week. Incidents reported during these days accounted for 46 percent of all reported incidents when combined. Friday and Saturday were identified as having the lowest rate of occurrence of “Incendiary” fires.

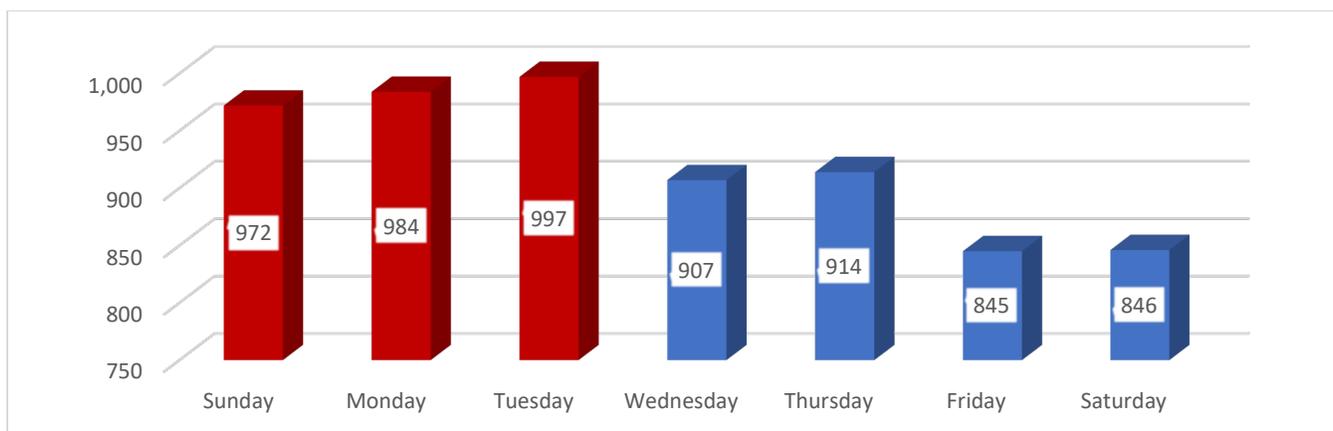


FIGURE 10. Incendiary Fires by Day of Week

(U) A review of the months that “Incendiary” fires occurred did not show any significant variation among the 12 months of CY 2021. February had the least number of incidents with 8 percent. Nine months of the year had a maximum of 9 percent in which an “Incendiary” fire occurred.

¹⁰ The number of incidents listed above only accounts for the number of fire/arson incidents reported in BATS, and not the total number of fire/arson related incidents reported in the United States during CY 2021.

¹¹ There were 216 incidents identified as occurring at 00:00 that were excluded from figure 9. The default settings in BATS enters 00:00 when users do not put a specific time.

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INCENDIARY FIRES (VEHICLES) – 2021

(U) During CY 2021, there were 1,073 incidents of incendiary fires associated with vehicles. Of those vehicle fires, 67 percent were associated with an “Automobile/Car,” 9 percent were associated with a “Truck (Pickup)” and 9 percent were associated with a “Sport Utility Vehicle (SUV).”¹²

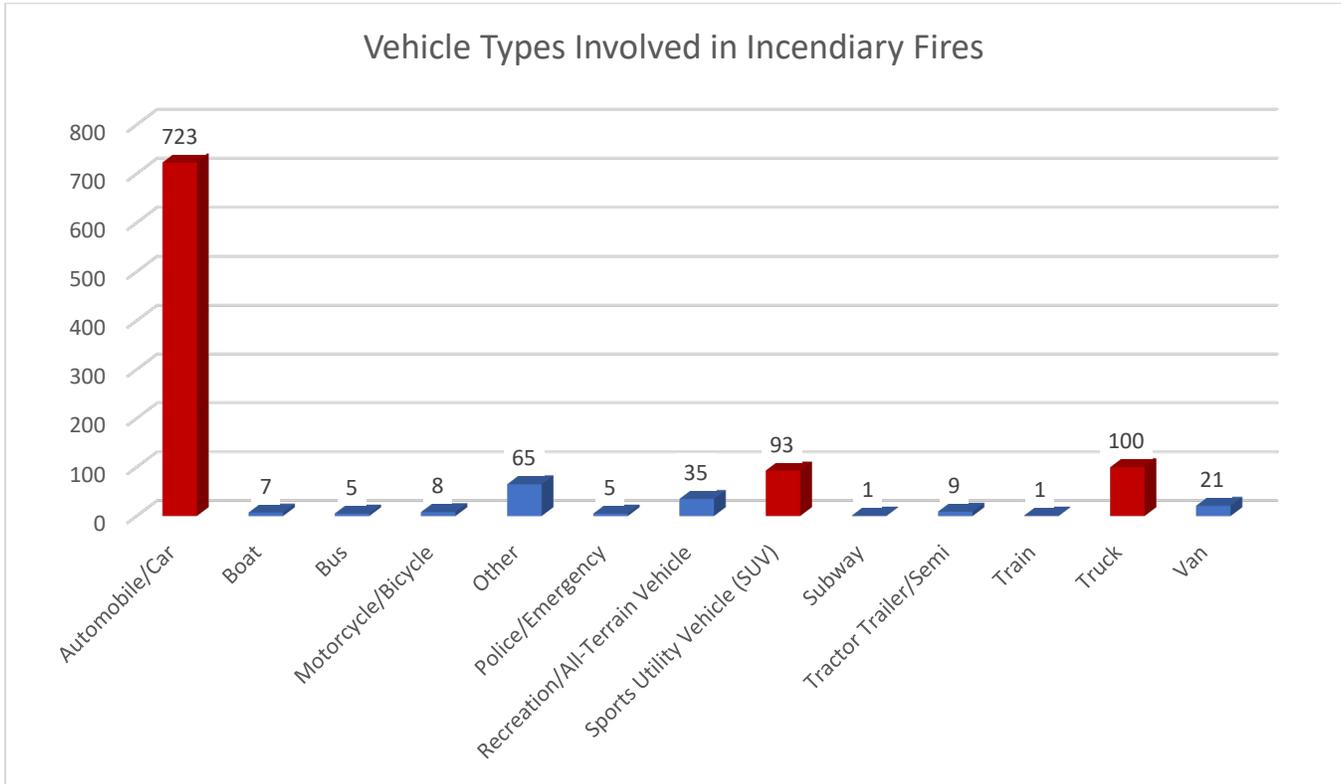


FIGURE 11. Incendiary Fires by Vehicle Type

¹² The number of incidents listed above only accounts for the number of fire/arson incidents reported in BATS, and not the total number of fire/arson related incidents reported in the United States during CY 2021.

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INCENDIARY FIRE DESCRIPTORS – 2021

(U) The top 3 “Fire Descriptors” identified for the 6,465 Incendiary fires reported in 2021 were “Ordinary Combustibles,” “Open Flame,” and “Ignitable Liquid.” Sixty-eight (68) percent of reported Incendiary fires did not identify any type of fire descriptors.¹³

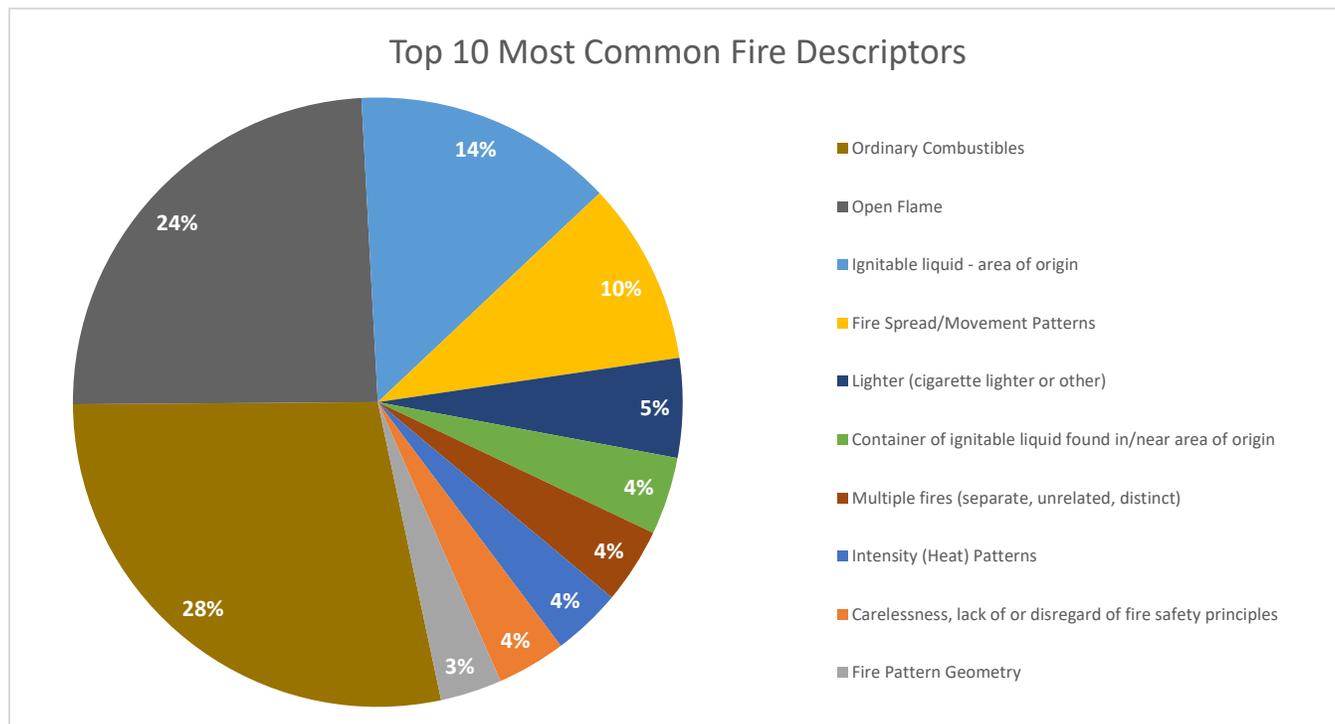


FIGURE 12. Fire Descriptors of Incendiary Fires

¹³ The number of incidents listed above only accounts for the number of fire/arson incidents reported in BATS, and not the total number of fire/arson related incidents reported in the United States during CY 2021.

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MOTIVES FOR INCENDIARY FIRES – 2021

(U) There were nine (9) types of motivation selected within BATS for an “Incendiary” fire. The top 3 types of known motivation selected for the 6,465 Incendiary fires reported in 2021 were “Revenge,” “Crime Concealment,” and “Excitement.”¹⁴

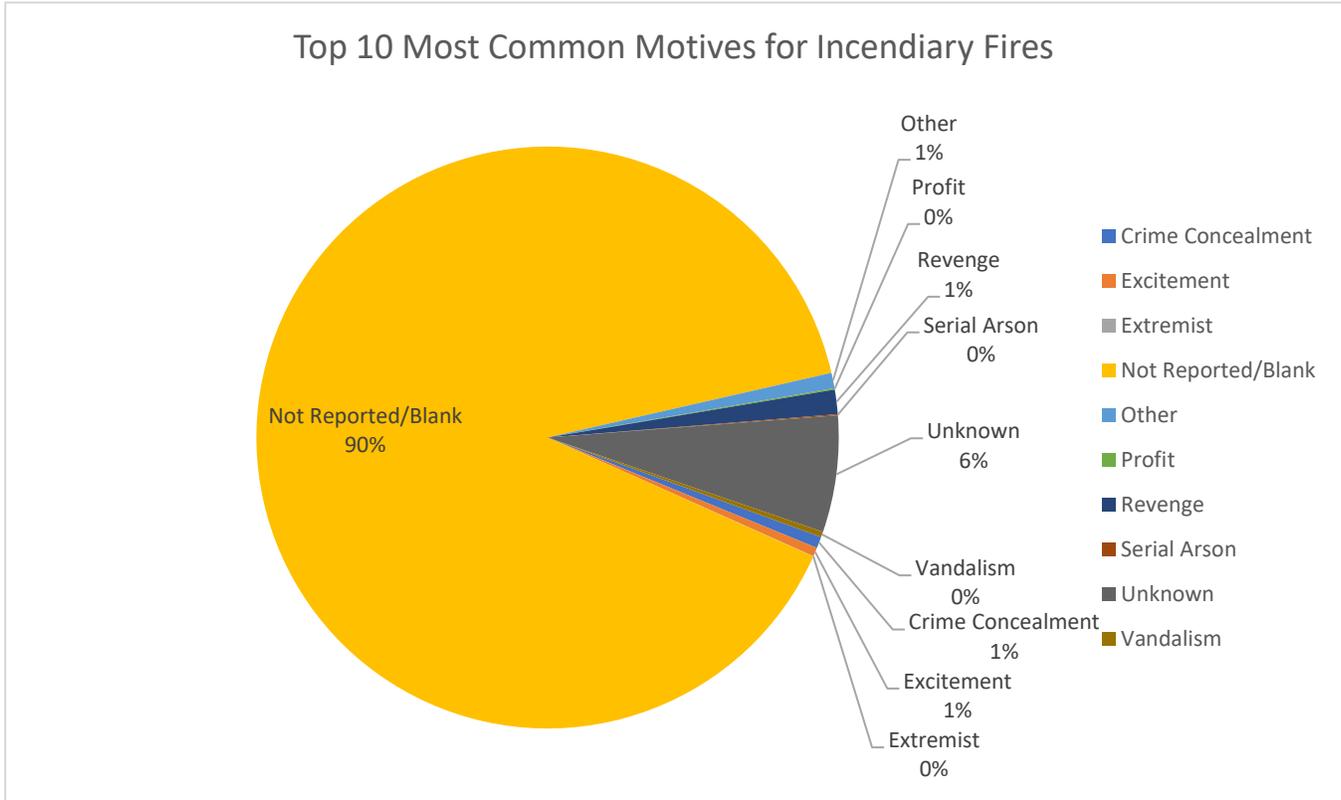


FIGURE 13. Motives for Incendiary Fires

¹⁴ The number of incidents listed above only accounts for the number of fire/arson incidents reported in BATS, and not the total number of fire/arson related incidents reported in the United States during CY 2021.

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JUVENILE OFFENDER FIRES – 2021

(U) There were 167 incendiary fires recorded in BATS during 2021 where the suspect was listed as a “Juvenile Offender” (3% of total incendiary fires). A review of the property type involved in those 167 incidents revealed the primary property target of juvenile offenders was “Residential” followed by “Education.” These 2 property types accounted for 96 incidents or 57 percent of the property types targeted by juvenile offenders during 2021.

(U) Excitement was established to be the number-one motivator for Juvenile incendiary fire incidents during CY 2021 with 31 incidents. Ninety-six (96) were either not reported or left blank.¹⁵

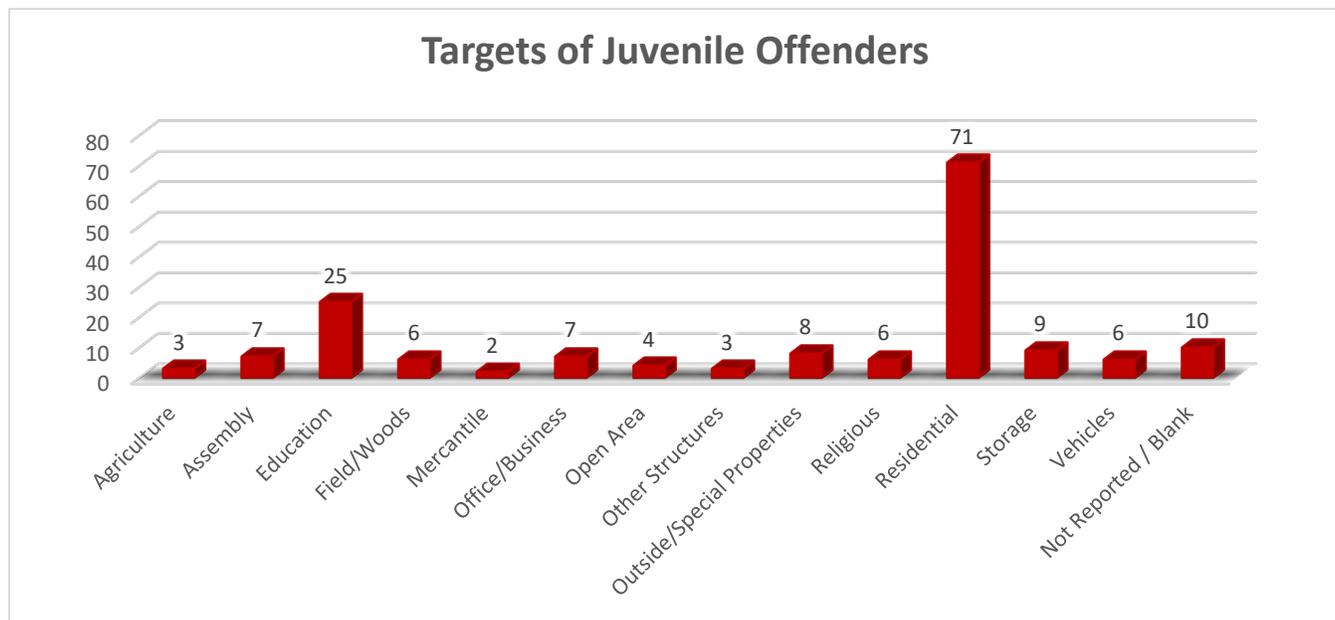


FIGURE 14. Property Type Targets of Juvenile Offender Fires

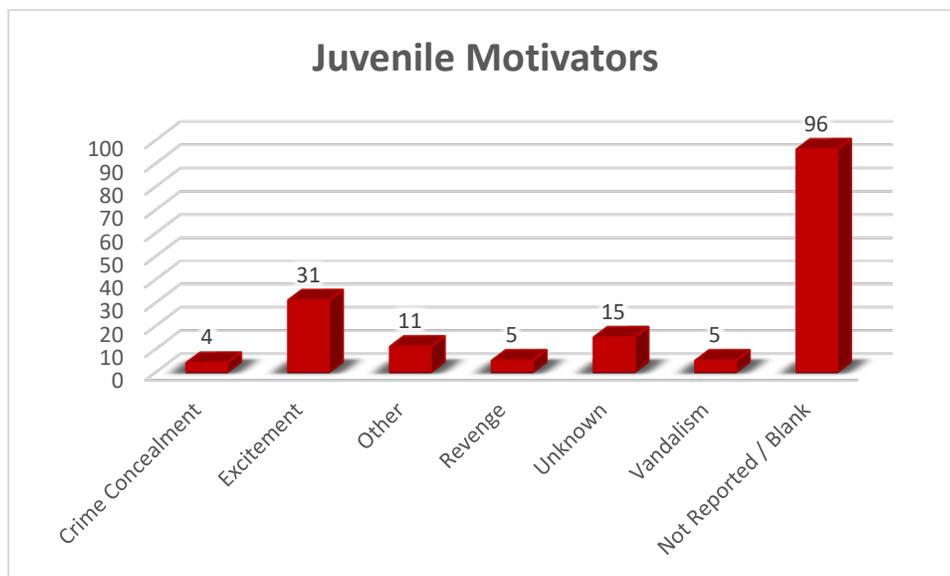


FIGURE 15. Motivators for Juvenile Offender Fires

¹⁵ The number of incidents listed above only accounts for the number of fire/arson incidents reported in BATS, and not the total number of fire/arson related incidents reported in the United States during CY 2021.

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AREAS OF ORIGIN – 2021

(U) The top 3 “Areas of Origin” identified for the 6,465 Incendiary fires reported in 2021 were “Transportation, Vehicle Areas,” “Function Areas,” and “Other.” Areas of Origin for 3,520 incidents were not reported or left blank.

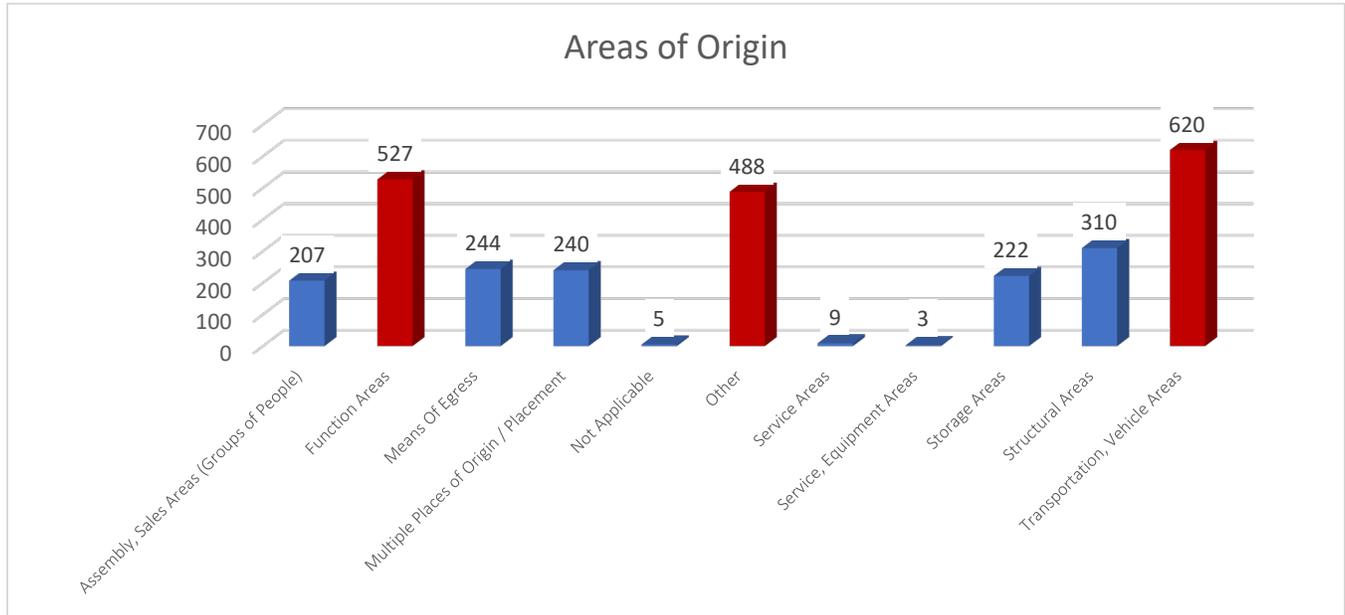


FIGURE 16. Areas of Origin for Incendiary Fires

(U) The top 3 “Areas of Origin” identified for the 2,916 “Residential” Incendiary fires reported in 2021 were “Function Areas,” “Structural” and “Multiple Places of Origin/ Placement.” (See figure 17.)

(U) The top 3 “Areas of Origin” identified for the 723 Incendiary fires related to “Commercial” use reported in 2021 were “Storage Areas,” “Other,” and “Structural Areas.”¹⁶ (See figure 18.)

Assembly, Sales Areas (Groups of People)	156
Function Areas	172
Means Of Egress	172
Multiple Places of Origin / Placement	1
Not Applicable	1
Other	162
Service Areas	6
Service, Equipment Areas	0
Storage Areas	97
Structural Areas	15
Transportation, Vehicle Areas	15
Unknown	51

FIGURE 17. Residential Areas of Origin

Assembly, Sales Areas (Groups of People)	23
Function Areas	29
Means Of Egress	30
Multiple Places of Origin / Placement	28
Not Applicable	1
Other	1
Service Areas	2
Service, Equipment Areas	3
Storage Areas	13
Structural Areas	13
Transportation, Vehicle Areas	13
Unknown	5

FIGURE 18. Commercial Areas of Origin

¹⁶ The number of incidents listed above only accounts for the number of fire/arson incidents reported in BATS, and not the total number of fire/arson related incidents reported in the United States during CY 2021.

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HOUSE OF WORSHIP FIRES – 2021

(U) During CY 2021, BATS captured a total of 185 fire-related incidents involving a house of worship (HOW). Of the 185 HOW fires, 89 were listed in BATS as “Incendiary,” 32 as “Accidental” and 4 as “Natural.” There were also 40 fires listed as “Undetermined” and 20 listed as “Under Investigation,” as the incidents were pending further investigative activities and/or laboratory examinations.¹⁷

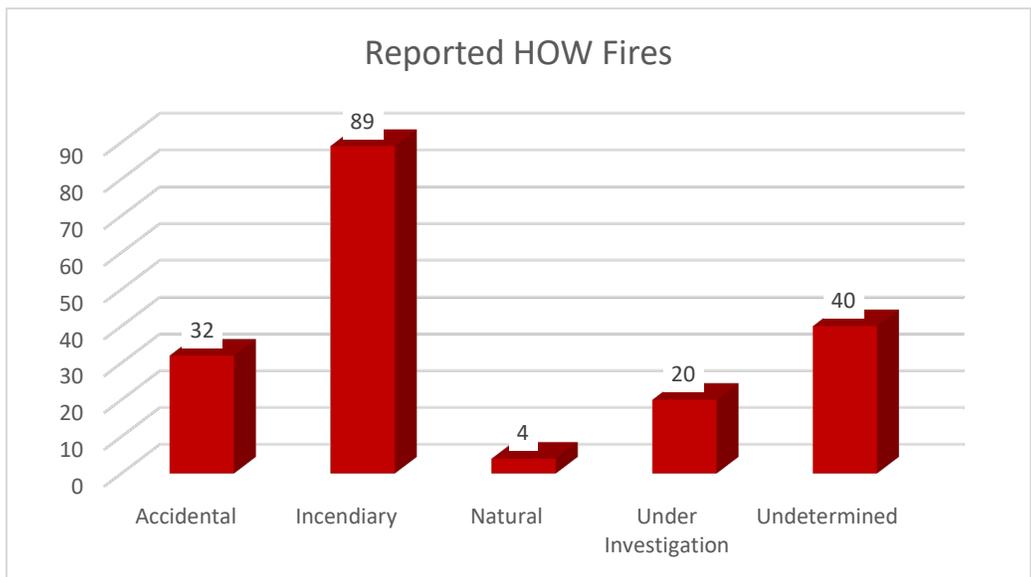


FIGURE 19. House of Worship Fires

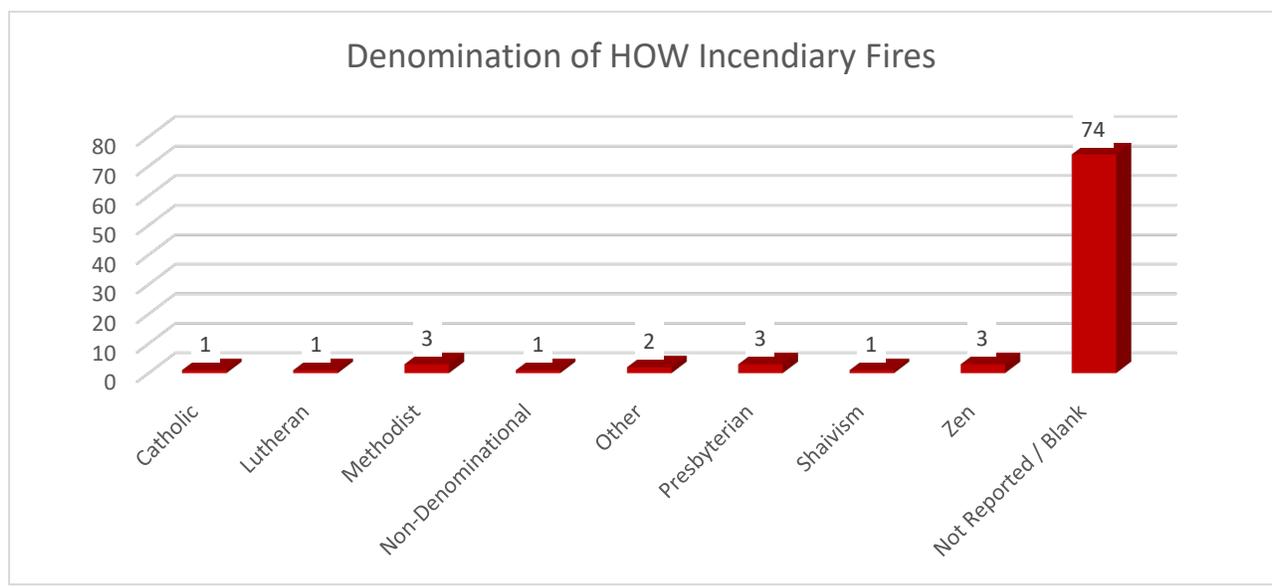


FIGURE 20. Denomination of HOW Fires

¹⁷ The number of incidents listed above only accounts for the number of fire/arson incidents reported in BATS, and not the total number of fire/arson related incidents reported in the United States during CY 2021.

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EDUCATION FIRES – 2021

(U) There were 180 fires associated with an “Education” target during CY 2021. Of those 180 fires reported in BATS, 100 were listed as “Incendiary,” 51 were listed as “Accidental,” and 15 were listed as “Undetermined.” There were also 14 fires listed as “Under Investigation,” as the incidents were pending further investigative activities and/or laboratory examinations. The target Subtype category of “High School/Junior High/Middle School” accounted for 42 percent of all fire types and 49 percent of all Incendiary fires associated with an “Education” target.¹⁸

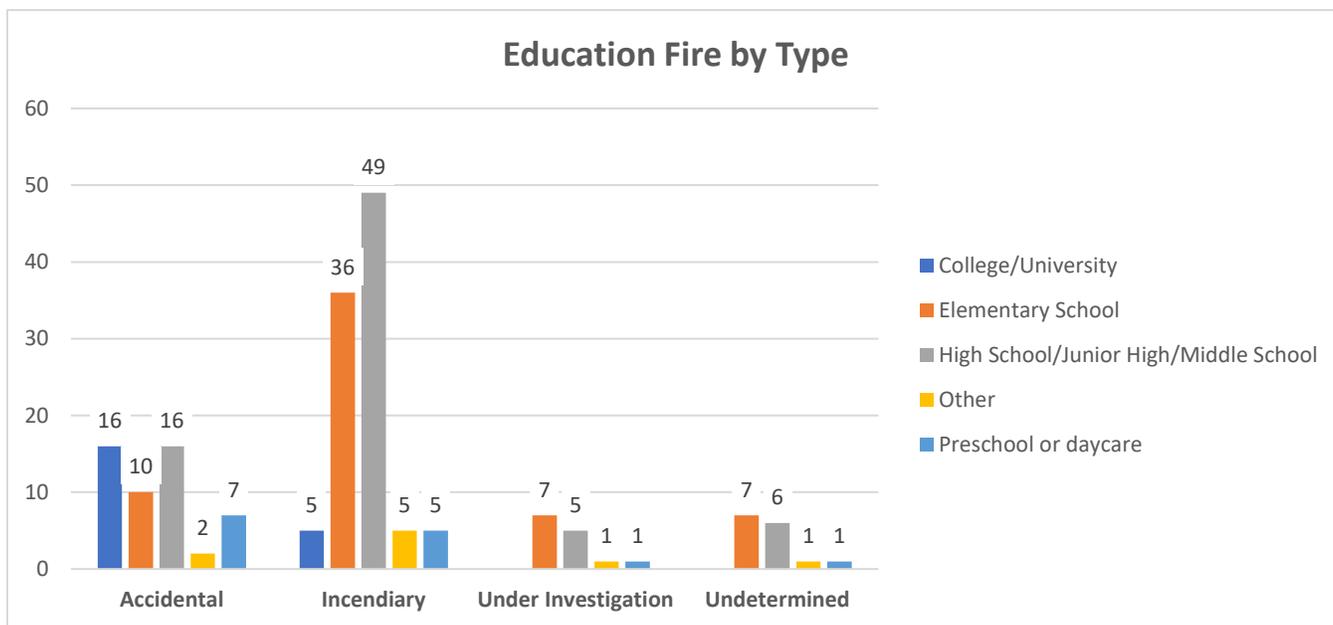


FIGURE 21. Education Fires

¹⁸ The number of incidents listed above only accounts for the number of fire/arson incidents reported in BATS, and not the total number of fire/arson related incidents reported in the United States during CY 2021.

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WILDLAND FIRES – 2021

(U) In 2021, there were 145 “Wildland” fire incidents entered into BATS. Of those 145 fires, 30 were listed as “Debris Burning,” 27 were listed as “Incendiary” and 13 listed as “Equipment Use.” There were 36 incidents that were “Undetermined.”¹⁹

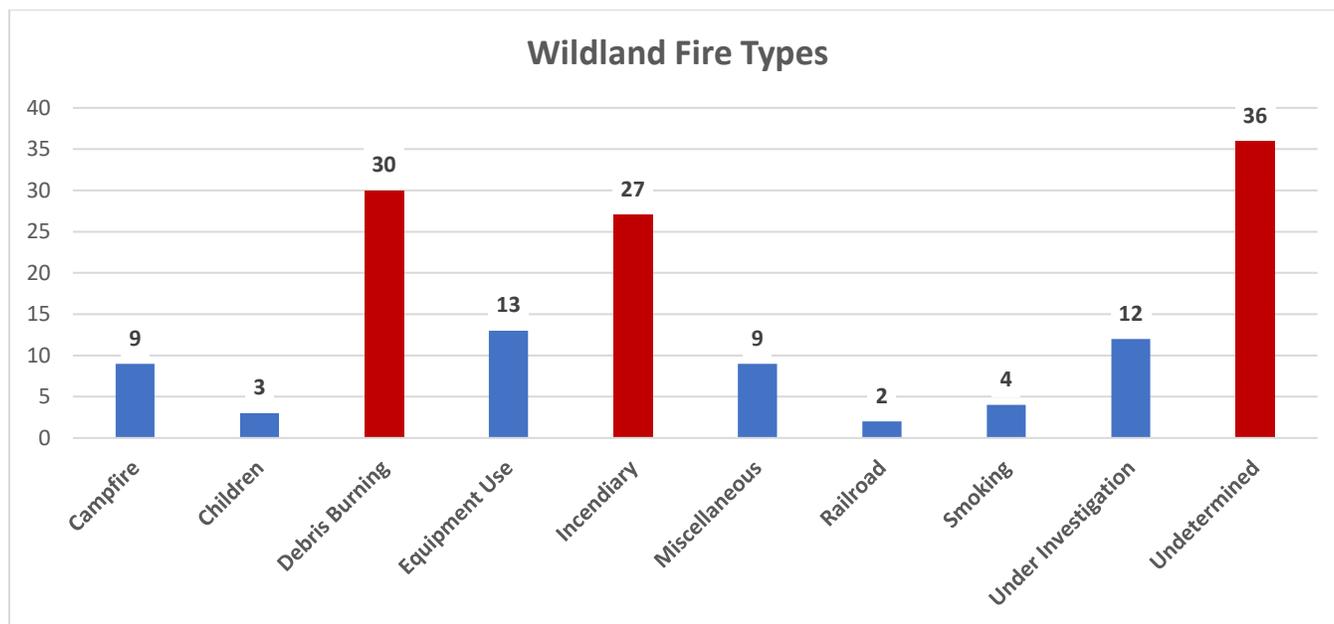


FIGURE 22. Wildland Fire Types

¹⁹ The number of incidents listed above only accounts for the number of fire/arson incidents reported in BATS, and not the total number of fire/arson related incidents reported in the United States during CY 2021.

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