

# Annual Report on Emergency Firefighting Expenditures

Fiscal Year 2023

01/15/2024

---



Minnesota Department of Natural Resources

Division of Forestry

500 Lafayette Road

St. Paul, MN 55155-4044

[Larry.himanga@state.mn.us](mailto:Larry.himanga@state.mn.us)

[mndnr.gov/forestry/fire](http://mndnr.gov/forestry/fire)

As required by *Minnesota Statute*, Section 3.197: This report cost approximately \$4,500 to prepare, including staff time, printing and mailing expenses.

*Upon request, this material will be made available in an alternative format such as large print, Braille or audio recording. Printed on recycled paper.*

## Contents

Emergency Firefighting Expenditures .....	1
Summary .....	4
Purpose of this Report .....	4
State Funding for Emergency Firefighting .....	5
Planning and Readiness .....	7
Fire Suppression and Presuppression .....	8
Fire Response .....	10
Firefighting Ground Fleet .....	11
Firefighting Aircraft .....	13
Rural Fire Department Program .....	14
Training .....	15
Fire Prevention .....	16
Conclusion .....	18
Attachment 1: 2023 Emergency Fire Direct and Open Appropriations / State Expenditures by Category .....	19
Attachment 2: Guideline for Statewide Wildfire Planning Level Determination .....	20
Attachment 3: FY2023 State Fire Cost Summary .....	21
Attachment 4: Wildfire Activities 10-Year Expenditure History .....	22
Attachment 5: Minnesota Fires, Numbers and Acres Burned 2014 - 2023 .....	23
Attachment 6: FY2023 Wildfires by Cause .....	24

## Summary

This report details the Minnesota Department of Natural Resources' (DNR's) wildfire response activities and costs for Fiscal Year 2023 (FY2023). The DNR expended \$28,015,226 from the General Fund in FY2023 for wildfire protection and emergency response. This includes \$20,450,933 from the Emergency Firefighting Open Appropriation.

Overall, FY2023 fire expenditures exceeded the 10-year average expenditures by six percent. This reflects rising costs combined with a drier and more active than normal fall fire season in 2022.

In FY2023, the DNR responded to 603 wildfires that burned 5,796 acres in Minnesota. This is less than the 20-year annual average of 938 fires and 20,700 acres. The second quarter of FY2023 had much greater fire activity than the previous five years. Fire risk began to subside in the third quarter of FY2023, and a good winter snowpack and generally cooler spring temperatures delayed snow melt reducing wildfire risk and occurrence in the fourth quarter of FY2023. In addition, there were 21 air quality alerts, spanning 52 days, issued in the last quarter of FY2023 that reduced the number of days open burn permits were available, which likely reduced the number of human caused fires that required a response. June 2023 was an exception with more than average activity, contributing significantly to the overall number of fourth quarter fires.

Wildfire expenditures are related to 1) the number and size of fires, and 2) the level of fire potential/risk and the associated preparedness and staffing levels needed so the DNR is ready to respond to a wildfire should one start, and 3) the DNR's strategy of responding aggressively to fire starts when risk is high to quickly contain the blaze and thereby minimize the acres burned. The success of the DNR's preparedness and quick-response efforts is reflected in the number of fires and acres burned in FY2023 which were less than the 20-year annual average despite a very active and prolonged fire season in the first, second, and fourth quarters of FY2023.

In FY2023, the DNR once again used a variety of ground and aerial resources to prepare for and suppress wildfires. The ground fleet consists of 182 firefighting engines and 65 tracked vehicles (including bulldozers) designed to access off-road and remote areas. The DNR uses a mix of state-owned and contracted aircraft plus aircraft from interagency and state partnership agreements. Firefighting aircraft responded to 101 requests on 44 wildfires.

In cooperation with partner agencies, the Minnesota Incident Command System (MNICS) rostered three Type III Incident Management Teams (IMTs) in FY2023. The MNICS and other IMTs supported one incident during the first quarter of FY2023, and four incidents in the last quarter.

## Purpose of this Report

The costs for state-led emergency wildfire response are borne by the General Fund via both direct and open appropriations. The DNR is required by statute to submit a report to the legislature by January 15 of

each year identifying all firefighting costs incurred and reimbursements received in the prior fiscal year.<sup>1</sup> This report addresses that statutory requirement.

## State Funding for Emergency Firefighting

Minnesota statutes charge the Commissioner of Natural Resources with preventing and extinguishing wildfires in the forested and prairie areas of the state. Although these statutes have been adjusted several times over the years, the initial charge adopted in 1911 remains, and current laws outline the funding sources to meet the requirements of the statutes.

### Funding Authorized

Emergency Firefighting Direct Appropriation: Laws 2023, chapter 60, article 1, section 3, subd. 4 appropriated \$7,521,000 the first year and \$7,521,000 the second year for prevention, presuppression, and suppression costs of emergency firefighting and other costs incurred under Minnesota Statutes, section 88.12.

Emergency Firefighting Open Appropriation: Laws 2023, chapter 60, article 1, section 3, subd. 4, further states “the amount necessary to pay for presuppression and suppression costs during the biennium is appropriated from the General Fund.”

### Expenditures

During FY2023, the DNR expended \$7,564,293 from the Direct Appropriation and \$20,450,933 under the Open Appropriation authority, for a total FY2023 expenditure of \$28,015,226 for state-led wildfire response.

The greater-than-average expenditure in FY2023 was largely due to the extended fall fire season in 2022, and reemergence of drought conditions late spring 2023. The drought conditions extended fire conditions through the end of the fiscal year. High inflation during this period also contributed to increased costs.

Wildfire expenditures are related to 1) the number and size of fires, 2) the level of fire potential/risk and the associated preparedness and staffing levels needed so the DNR is ready to respond to a wildfire should one start, and 3) the DNR’s strategy of responding aggressively to fire starts when risk is high to quickly contain the fire and protect life and property. The success of the DNR’s preparedness and quick-response efforts is demonstrated by the fact that the number of fires and acres burned in FY2023 were less than the 20-year average despite the elevated and extended wildfire risk in the first, second and last quarter of FY2023.

[Attachment 1](#), FY2023 Emergency Fire Direct and Open Appropriations / State Expenditures by Category, summarizes state firefighting expenditures by salary and operating costs.

---

<sup>1</sup> See Minnesota Laws 2023, Ch. 60, Art. 1, Sect. 3, Subd. 4.

## Reimbursements to the General Fund

### Payments and Collections

The DNR receives payments for certain fire-related activities. These receipts are from supplies sold to local government units (e.g., fire departments) through the Interagency Fire Cache (cache sales are authorized under *Minnesota Statutes*, section 88.065), and collections from parties responsible for starting illegal or negligent fires (reimbursement for suppression costs is mandated under *Minnesota Statutes*, section 88.75). These receipts are deposited directly into the General Fund.

	<u>FY2023 Receipts</u>
Cache Sales	\$113,010
Fire Cost Collections	\$200,726
Total	\$313,736

### Emergency Fire Special Revenue Fund

This fund provides an avenue for reimbursement to the General Fund for expenditures related to fulfilling interagency agreements regarding wildfire suppression. These expenditures and subsequent reimbursements constitute a temporary use of the state emergency firefighting open appropriation and are included in this report for enhanced transparency. The DNR provides firefighters, equipment, and aircraft to help federal partners within Minnesota, mobilizes firefighters to assist national wildfire emergencies in other states, and aids Great Lakes Forest Fire Compact (GLFFC) partners. These costs are charged to the Emergency Fire Special Revenue Fund, and partners are invoiced for reimbursement as soon as practical. The federal government reimburses federal costs and GLFFC partners (adjoining states and Canadian provinces) reimburse their costs. During FY2023, the DNR expended \$3,344,322 from the Emergency Fire Special Revenue Fund on reimbursable costs for national mobilizations and GLFFC support.

Reimbursements to the Special Revenue Fund include the actual costs of out-of-state deployments; a portion of the fixed costs associated with any mobilized equipment, such as wildland fire engines and aircraft; and costs associated with operational and administrative staff time. Reimbursement revenue received in the Special Revenue Fund beyond the actual costs of out-of-state deployments (referred to as Excess Recovery) is periodically transferred to the General Fund. Although the FY2022 report stated a transfer would be made this fiscal year, no transfers were made in FY2023. A transfer was completed in fiscal year 2024 and that transfer will be included in the FY2024 report. We are currently examining our procedures here to ensure best practices.

### Total Reimbursements

The total reimbursements include payments and collections as well as transfer of cost recovery. As noted in the table below, the total reimbursements to the General Fund in FY2023 were \$313,736.

Total FY2023 Reimbursements to the General Fund	
Cache Sales	\$200,726
Fire Cost Collections	\$113,010
Special Revenue Fund	\$0
Total	\$313,736

## Planning and Readiness

Weather patterns, fuel conditions, and actual fire occurrence affect wildfire preparedness and response costs. Before each wildfire season, the DNR trains firefighters, maintains and secures equipment, establishes contracts for aerial detection and suppression, supports rural fire departments in securing equipment, and engages in fire prevention efforts. Together, all of these efforts encompass preparedness activities.

To guide its level of readiness from week to week, the DNR uses a tiered system to determine potential wildfire risks and establish fire-planning levels. [Attachment 2](#), A Guideline for Statewide Planning Level Determination, shows the criteria and planning levels currently in use. These guidelines are used to determine the current planning levels statewide and by DNR Region, on conference calls with fire managers from all cooperating agencies that suppress Minnesota wildfires. Conference call frequency is dependent on fire conditions and ranges from daily to weekly.

The planning level, in combination with daily fire danger indices, establishes the appropriate level necessary to effectively respond to wildfires. Historically, about 80 percent of the state's wildfires happen during Planning Level III. Major fires can and do occur at Planning Level III.

FY2023 had 229 days of possible wildfire danger (i.e., at least one DNR Region at Planning Level II or higher). Of those days, 42 were at statewide Planning Level II and 48 days were at a statewide Planning Level III.

Each Region and Area needs to have equipment and staffing available that is sufficient to respond to wildfires based on the likelihood of occurrence (planning level). Thus, some Regions and Areas may be at a higher staffing level than others and require presuppression expenditures when the overall state is not anticipating high fire activity. During FY2023, on 87 days at least one Area was at Planning Level III while the rest of the state was at Planning Level II. On 52 days, at least one Area was at Planning Level IV while the rest of the state was at Planning Level III.

Various factors and requirements affected Area staffing needs in FY2023, with local weather conditions (e.g., precipitation, temperature, wind speed, and relative humidity) influencing each Area's planning and staffing levels.



## Fire Suppression and Presuppression

The success of the DNR's fire suppression program is largely due to aggressive initial attack to keep fires small. Once a wildfire escalates beyond initial attack, risk of the fire spreading, risk to firefighter safety, damages to property, and overall costs all increase significantly.

Preparedness (prevention and presuppression) and suppression activities work together to reduce the number of wildfires and potential damages. Presuppression actions are those taken before a wildfire starts to ensure the safest, most effective, and efficient direct suppression response. These activities include overall planning; recruitment, and training of personnel; procurement of firefighting equipment and contracts; and maintenance of equipment and supplies. Suppression activities directly support and enable the DNR to suppress wildfires, including the prepositioning of staff and resources. As fire danger and occurrence increase, the number of resources positioned for immediate response also increases.

Presuppression costs were approximately 48 percent, or \$13,482,097, of expenditures from the Direct and Open fire appropriations in FY2023. Suppression costs were approximately 51 percent, or \$14,200,346 of FY2023 expenditures from the Direct and Open fire appropriations. One percent of funds were dedicated to wildfire prevention efforts throughout the state. The DNR cost-coding structure provides accountability for wildfire expenditures. The fiscal system tracks expenditures by both the type of activity and location (down to the administrative Area level).

[Attachment 3](#), FY2023 State Fire Cost Summary, illustrates the percentages of fire expenditures allocated to prevention, presuppression, and suppression activities. [Attachment 4](#), Wildfire Activities 10-Year Expenditure History, illustrates expenditure history. Overall, FY2023 fire expenditures exceeded the 10-year average by six- and one-half percent. The additional expenditures were due to increased costs and the extended fire season in the first and second quarter and end of fourth quarter of FY2023.

## Fire Occurrence and Causes

In FY2023, the DNR responded to 603 wildfires within our jurisdiction that burned 5,796 acres. The number of fires was less than the 20-year annual average of 938 fires. The number of acres is significantly less than the 20-year average of 20,700 acres burned.



Figure 1: An "AT-20" tracked vehicle operating in a remote area.



## Number of Wildfires by Cause

	FY 2023	%	20-Year Average	%
Debris Burning	239	40	330	35
Incendiary / Arson	34	6	211	23
Misc. / Unknown*	212	35	179	19
Equipment Use	77	13	113	12
Campfires	20	3	44	5
Lightning	12	2	18	2
Smoking	5	<1	17	2
Railroad	4	<1.7	27	3
<b>Total</b>	<b>603</b>	<b>100%</b>	<b>939</b>	<b>100%</b>

\*Misc./Unknown includes items that usually do not account for a major percentage on their own such as electric fences, power lines, fireworks, fires started within a structure, prescribed fires, other sources like hot ashes, spontaneous combustion, and cause unknown.

The only category that increased significantly when compared to the 20-year average is the Miscellaneous/Unknown category. While burning restrictions were in place for significant portions of FY2023, drought conditions continued and any starts caused by electric fences, power line, or hot exhaust systems quickly became a wildfire. Imposing restrictions to open burning do not control these types of fire starts.

Both arson and campfire-caused fires were lower than the 20-year average. This can be attributed to appropriate burning restrictions when warranted by drought conditions and several additional days when Air Quality Alerts necessitated a halt to all open burning in areas with poor air quality.

[Attachment 5](#), Minnesota Fires and Acres Burned, and [Attachment 6](#), FY2023 Wildfires by Cause graphically illustrate fire history and causes.

## Weather Summary

FY2023 began with only a small portion of the state experiencing abnormally dry conditions. By the fall of 2022 a drought had developed over the central portion of the state that resulted in a period of above-normal wildfire activity.

Winter brought relief to drought conditions in central Minnesota in the form of snow cover. Winter conditions remained well into spring, keeping fire activity to a minimum in March and April. By May, conditions began to rapidly deteriorate from a wildfire risk perspective, as drought conditions developed rapidly and continued into

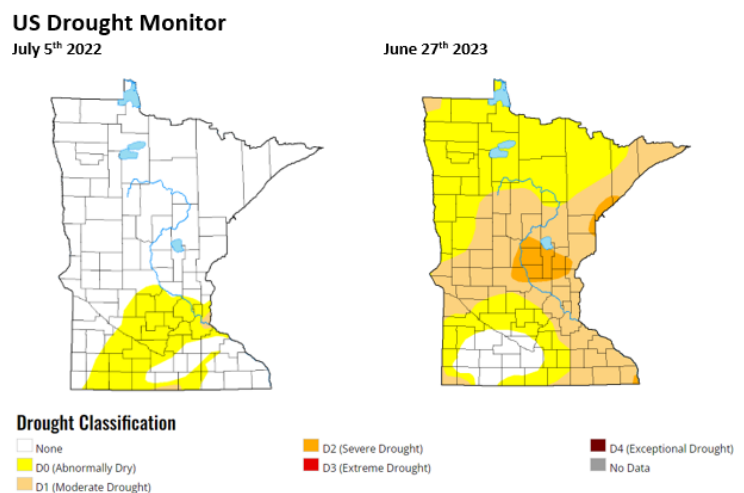


Figure 2: US Drought Monitor map

June. This resulted in near normal fire activity in May transitioning to above normal fire activity across the state for the month of June.

## **Fire Response**

### **Cooperative Fire Response**

In-state cooperative fire response was active in the first, second, and fourth quarters of FY2023. In cooperation with partner agencies, MNICS rostered three Type III IMTs, which all remained in active rotation through the fall of 2022 and were reactivated in the spring of 2023. The MNICS IMTs, in addition to IMTs from other states and regions, supported one incident during the second quarter and four incidents in the last quarter of FY2023. All three MNICS Type III IMTs were mobilized to Minnesota incidents during the fiscal year. These IMTs responded to five large wildland fire incidents within that timeframe.

The DNR also provided staff to fill rosters of two Type II IMTs within the U.S. Forest Service Eastern Area (EA). In FY2023 the DNR provided 176 personnel to assist with wildfire response in the following states: Alaska, California, Colorado, Idaho, Michigan, Missouri, Montana, New Mexico, Nevada, Oregon, Pennsylvania, Texas, Washington, and Wyoming.

The DNR also requested and received mutual aid support from federal agencies and other states during the fourth quarter of FY2023 due to the high fire risk and activity and the increasing drought conditions in Minnesota. In June 2023, six out-of-state engines mobilized to Minnesota to assist in wildfire preparedness and direct suppression. All resources were released by the end of FY2023.

The assistance summarized above reflects the support and cooperation outlined in mutual aid agreements with federal agencies, other states, and adjacent Canadian provinces. These mutual aid agreements helped Minnesota meet its fire suppression needs during the extreme conditions experienced in the last quarter of FY2023. These agreements also allow the DNR to respond to out-of-state requests for mutual aid when wildfire activity and risk is low in Minnesota, provide training opportunities, help maintain the DNR's response capabilities, and can help offset state costs.

In addition to aiding firefighting efforts, the DNR works with agency partners to provide wildland fire training for firefighters. The Minnesota Wildfire Academy was held in June 2023. The Academy, along with additional trainings, provides critical opportunities to learn and experience firefighting in diverse conditions throughout North America, gaining valuable skills and acquiring advance Incident Command System (ICS) qualifications needed for fighting wildfires in Minnesota. Training with other agencies and local fire departments also builds important relationships that prove critical when responding to Minnesota incidents together. In-person instruction, suspended during the height of the COVID-19 pandemic, transitioned from a limited capacity in 2022 to full capacity in 2023.

### **Interagency All Hazard Response**

Minnesota trains firefighters to national standards for wildfire and incident management response. DNR wildfire qualifications meet both federal wildfire standards and those of the Federal Emergency

Management Agency (FEMA). As a result, Minnesota wildland firefighters can respond to and manage incidents regardless of the cause (i.e., “all hazard”).

In FY2023, there were no in-state all-hazard response events that the DNR supported with personnel. However, staff maintained preparedness for all-hazard events throughout FY2023 in case a request needed to be filled.

## In-state Wildfire Response

In FY2023, Minnesota experienced 603 wildfires that burned 5,796 acres. The number of wildfires and acres burned is below the 20-year average (938 and 20,700, respectively). Although a considerably lower number of fires occurred in FY2023, the timing of the fires shifted. The season was longer than average with fires occurring in late summer and fall of 2022 and extending again into early summer of 2023.

## Firefighting Ground Fleet

The DNR firefighting fleet includes fire engines and tracked vehicles. Fire engines are medium- to large-sized pickup trucks, customized for wildland firefighting. Fire engines are deployed for firefighting on mostly dry, upland sites.

Tracked vehicles are custom-built firefighting units driven by two endless metal belts, or tracks. They are designed to fight fires on wet and difficult-to-access sites. The DNR uses two basic models of tracked vehicles: the J-5 and the Muskeg. These tracked vehicles are transported on trailers to wildfire sites.



Figure 3: Type 6 service body engine towing a J-5 tracked vehicle.

The complement of equipment varies among DNR Areas depending on local fuel, topography, and soil conditions. The DNR strives to have reliable and efficient fire engines and tracked vehicles that meet the needs of the firefighters. This requires an annual investment to specify, test, and secure equipment before older units become inoperable.

## Engines

DNR engines vary in size and capacity. In general, a lighter vehicle is more maneuverable, but cannot haul as much water and as many firefighters. Each DNR Forestry Area has a mix of engine types best suited to its location.

The most common fire vehicle is a one-ton pickup; these trucks haul 200 gallons of water. Service body pickups are 1½-ton medium pickups. They are fitted with storage compartments that provide room for an assortment of firefighting equipment. Three-ton fire engines carry more than 750 gallons of water and are capable of towing large equipment, such as bulldozers, to a fire. Many Forestry Areas also use heavy-

duty half-ton trucks. These units are less expensive to purchase and operate than larger sized engines and serve well as a maneuverable initial attack unit when equipped with a small slip-on (water tank and pump).

<b>Engines</b>		
Type	Size	Number in all DNR Forestry Areas
T7	½ ton HD	34
T6	1 ton	90
T6 – Service Body	1 ¼ ton	17
T6 – Service Body	1 ½ ton	27
T4	3 ton	14
Total Engines		182

## Tracked Vehicles

The DNR fleet includes 65 firefighting tracked vehicles. Tracked vehicles are able to access areas that would be difficult to reach with our normal engine fleet. Maintaining these aging machines is costly and time-consuming as replacement parts are getting hard to find. The DNR tracked vehicle fleet includes nine smaller units, known as J-5s, that were manufactured in 1988. These smaller units are designed to get into forested areas that larger units cannot reach and have limited water carrying capacity. The DNR is in the process of transitioning to AT-20 units as replacements for the aging J-5s based on a successful pilot of the AT-20s that began in FY2021. The DNR plans to order multiple AT-20 units each year until all the J-5s have been replaced.

A similar situation of aging equipment exists in the Muskeg fleet, the DNR's larger tracked vehicles. All of our Muskeg units were manufactured before 2006. Pilot testing of a newer model -- the AT-50 -- has proven it to be a good replacement for the older Muskegs. The DNR plans to order one AT-50 each year until all the Muskegs have been replaced.

In addition, the DNR has nine Caterpillar dozers. These earthmoving machines have a powerful front blade or bucket, as well as continuous tracks for stability that minimize pressure on the ground. Dozers are widely used in construction, mining, forestry, and various other industries to move large quantities of earth and materials efficiently. The DNR dozers are equipped with a Fesco-Mathis fire plow so they can quickly create fire lines, or firebreaks, which are cleared areas that serve as a defensible barrier to prevent the spread of a wildfire.

<b>Tracked Vehicles</b>		
Type	Model	Number in all DNR Forestry areas
CT	Cross Tracker	3
LT-5	Lite Tech	3
Total Light Tracks		6
J-5	Bombardier (1988)	9

Tracked Vehicles		
Type	Model	Number in all DNR Forestry areas
J-5	Camoplast	21
AT-20	All Track	9
Total Medium Tracks		39
Muskeg	Bombardier	7
Muskeg	Camoplast	1
AT - 50	All Track	3
Total Muskeg		11
Caterpillar Dozers		9
Total Tracked Vehicles		65

## Firefighting Aircraft

The DNR uses several types of aircraft to provide tactical aerial firefighting suppression and real time fire information to firefighters on the ground. In FY2023, the DNR filled 101 aircraft requests on 44 state-led wildfire responses. DNR-owned and contracted aircraft were also deployed to wildfires in other jurisdictions; the cost of those deployments is reimbursable.

In FY2023 the DNR Division of Forestry owned and operated two Quest Kodiak airplanes, which are used for fire detection, transportation, aerial photography, and logistical and tactical aerial supervision. During FY2023 the DNR relied on a mix of aircraft procured under Exclusive Use and Call-When-Needed contracts, aircraft owned and operated by the DNR, and aircraft obtained through interagency and partnership agreements for fire detection and suppression efforts. Through exclusive use contracts in place for FY2023, the DNR had four Fire Boss airtankers (800-gallon, single engine, water-scooping airplanes), two single engine air tankers (SEATs, ground-based airtankers on wheels), eight helicopters with water buckets, two light airplanes used for aerial supervision, and 22 light airplanes available for fire detection and tactical intelligence. Call – When-Needed aircraft included a Fire Boss airtanker and three helicopters. Additionally, the DNR Division of Enforcement provided aerial fire detection support with an agency-owned light airplane.





Interagency partnerships continued to be a key part of the DNR's aerial firefighting program in FY2023. The Red Lake Nation, Bureau of Indian Affairs (BIA), and the U.S. Forest Service (USFS) provided detection aircraft, aerial supervision planes, helicopters, Fire Bosses, SEATs, and large airtanker and CL-415 water-scooping air tanker support. The DNR provided support to the Canadian province of Ontario through the Great Lakes Forest Fire compact (GLFFC) by sending four contracted Fire Boss airtankers to assist with wildfire suppression.

The DNR operates three primary airtanker bases and two SEAT bases that accommodate dispatchers, aircraft loaders and ramp personnel, flight crews, helicopters, and crew members, as well as equipment for loading water and fire chemicals. Minnesota's 2023 Capital Investment bonding package included a \$6.36 million appropriation to DNR to support Wildfire Aviation Infrastructure. This funding will be used to replace the ramp (the area where aircraft park and are loaded) and the operations buildings at the Hibbing tanker base. An additional \$7 million is needed to replace the infrastructure at our tanker base in Brainerd that is used for operations and retardant loading.



Figure 5: Helicopter doing bucket work.

## Rural Fire Department Program

The DNR Rural Fire Program objectives are to obtain low-cost firefighting equipment, manage cost-share grants, and provide technical expertise for Minnesota fire departments.

## Federal Excess Property Program

The Federal Excess Property Program obtains surplus equipment and supplies from military bases across the country; the equipment and supplies are refurbished and made available to rural fire departments in Minnesota. The Federal Excess Property Program allows rural Minnesota fire departments to secure items to support their emergency response efforts, including items they are less likely to acquire on their own. In FY2023, over 60 pieces of equipment valued at over \$6 million were provided to Minnesota fire departments. This equipment included heavy-duty pickup trucks, Type 6 engines, water tenders, generators, all-terrain vehicles, and shipping containers.



Figure 6: A fire tender used by the Ada Fire Department.



Figure 7: A converted tanker used by the Alexandria Fire Department.



## State Surplus Engines

The Rural Fire Program purchased eight trucks and three J-5 tracked vehicles from the State of Minnesota Fleet Program and sold them to rural fire departments at low or no cost. Although these trucks have met the criteria for replacement by state agency fleet managers, they still have service life and can be fitted with a pump and tank and used as a grass/brush truck to extinguish small fires. Demand from rural Minnesota communities far exceeds the availability of these trucks.



Figure 8: Arco Fire Department Brush Truck

## Volunteer Fire Assistance Grant Program

The Volunteer Fire Assistance (VFA) 50/50 cost-share program is available to Minnesota fire departments that protect communities with populations of 10,000 or less. The VFA grant program received 360 applications for the FY2023 grant cycle and awarded 181 grants to Minnesota communities to complete projects or secure emergency response equipment. A total of \$660,231 in federal and state funds was granted to provide cost share for radios, pagers, wildland firefighting gear, personal protective gear, and water movement equipment. Funding from a portion of Minnesota's fireworks sales tax provided an additional \$165,000 to support 33 grants to rural communities.

## Training

With the cooperation of MNICS and GLFFC, the DNR offered 83 courses in FY2023 to GLFFC partner agencies, fire departments, and affiliates. Courses ranged from basic firefighting to advanced leadership and reached more than 2000 students.

The 21st Annual Wildland Fire Academy, held in June 2023, featured 19 nationally certified courses related to basic wildland firefighting, wildland fire planning, operations, and leadership. A total of 475 students registered for these courses. Seventy-six instructors from MNICS agencies were also involved. A

feature of the 2023 Wildland Fire Academy was the refinement of the IMT training that has now become a regular course to be offered at future academies. This IMT course will allow trainees to work toward national certifications while gaining real-world experience and mentoring from certified team members. More than 12 IMT trainees participated.

The DNR and partners offered an additional 29 fire-related training courses to 450 personnel. Courses ranged in topic from basic wildfire suppression to leadership and dispatch. Also, in FY2023 the DNR delivered 35 fire line refresher courses to 1,086 personnel from federal, state, and local agencies.

## Fire Prevention

The DNR has long recognized the importance of providing consistent, statewide wildfire prevention messaging to reduce wildfire starts and improve Minnesotans' fire safety awareness and conduct. Delivering fire prevention and safety tips with current wildfire weather information helps Minnesotans avoid burning in unsafe conditions. Minnesota uses a variety of methods to reach residents, including news releases, social media, community events, workshops, classroom visits, parades, and the State Fair. Each activity seeks to provide targeted information to a given audience.

### Prevention Activities

The DNR was pleased to resume our full suite of wildfire prevention activities and information-sharing at the 2022 Minnesota State Fair. During the 12 days of the fair, the wildfire prevention building was open to the public to advance wildfire and safety knowledge. DNR staff participated in the annual Governor's Fire Prevention Day at the fair by hosting family activities, games, and engaging stage presentations on the DNR grounds. A large type-6 fire engine and J-5 tracked vehicle were on display, along with a historic Model AA truck. Smokey Bear made multiple daily appearances, and we welcomed over 17,000 visitors up the State Fair Interpretive Fire Tower.



Figure 9: Fire Tower at Minnesota State Fair

With the onset of the spring wildfire season, prevention efforts shifted to communicating wildfire risk through radio ads, news releases, television and radio interviews, and social media. Radio ads were used across a broad area in northwest, northeast, and west central Minnesota; a total of 420 prevention ads ran on local stations. During Minnesota Wildfire Prevention Week, which is the third week of April, social media was used to educate Minnesotans about wildfire prevention, promote safe behaviors, increase awareness of wildfire danger, and help reduce wildfire starts. Daily tweets were shared on Twitter along with several Facebook and Instagram posts during the week.

Throughout the state, DNR Forestry Area and program staff attended dozens of fire department open houses and community events. At these events, wildfire prevention messaging and Firewise concepts were communicated to thousands of Minnesota residents. Partners, such as the DNR Division of Parks and Trails, U.S. Forest Service, and MNICS, continued to amplify wildfire prevention messaging.

## Firewise Program

The Minnesota Firewise Program supports Minnesota communities through a combination of grants and technical assistance. This combination helps communities reduce their risk and prepare for wildfires and mitigate potential damage. The program assists with wildfire assessment and planning, resulting in the establishment of a Community Wildfire Protection Plan. When implemented, this plan reduces fire risk by addressing known hazards or problems. Each plan identifies issues or areas on which the community should focus its fire prevention and mitigation efforts.

The Minnesota Firewise Program also supports home risk evaluations and trains local emergency response staff to conduct evaluations. In FY2023, Firewise Program staff trained partners in the use of a newly developed Northeast Midwest Wildfire Risk Assessment Portal (WRAP) that illustrates spatial wildfire risk data to inform public and professional audiences of local wildfire risk factors. Through WRAP's Community Assessment Tool, 38 communities were assessed and achieved Firewise community recognition through the Firewise USA program.

Firewise Community Grants were awarded to Itasca County, St Louis County, Lake County, Cook County, and North Branch Fire Department in FY2023. These U.S. Forest Service grants funded Firewise assessments, hazardous fuel reduction, and bolstered emergency response. Firewise Homeowner Kits were distributed upon request to residents throughout the state to increase risk awareness and empower homeowner implementation to achieve a Firewise property. Additionally, Firewise staff updated the Firewise Handbook and the Firewise Community Grant process, application, and webpage. Minnesota Firewise continued to support high school teachers and students with a fire ecology, wildfire risk, and GIS curriculum through the Firewise in the Classroom Program. During FY2023, 14 educators requested the curriculum material for delivery to approximately 400 students.

## Fire Wardens and Burning Permits

The DNR manages the open burning permit system based on current conditions and the potential for wildfires. To ensure easy access, the DNR uses a combination of an electronic permit system and volunteer fire wardens. Individuals may obtain a permit in person from a fire warden, or online in the electronic system.

When fire activity in Minnesota necessitates action, the DNR restricts open burning in the affected counties. If conditions worsen, additional restrictions (e.g., restriction of campfires) can be implemented through DNR Commissioner's Orders in counties of greatest concern. Each expansion or elevation of the restriction level is communicated through news releases, media interviews, and the [DNR's Fire Danger and Burning Restriction](#) web page. When conditions improve, restrictions are reduced or lifted, and those changes are communicated.

The DNR is currently updating how we activate burning permits via a phone to activation through Twilio, a digital communications platform. The system will begin testing soon. Once functional and reliable, the new system will be implemented. Additional enhancement and updates are planned in FY2024.

In March 2023, the DNR kicked off a campaign to promote use of the online burning permit system with social media posts on Facebook and Twitter. A new magnet featuring a QR code linked to the online

burning permit system was distributed to people visiting Area forestry offices. Content was updated on the DNR website, and a new burning permit brochure is in the works.

## Conclusion

FY2023 began with only a small portion of the state experiencing abnormally dry conditions. However, low rainfall during the summer brought back drought conditions to central Minnesota resulting in an above normal period of wildfire activity. Winter brought relief to the drought conditions across the state with above average snow fall. Snow cover with cooler conditions remained well into the spring, keeping fire activity to a minimum in March and April. By May, dry conditions returned and an expanded drought emerged and continued into June. This resulted in near normal fire activity in May transitioning to above normal fire activity across the state for the month of June. Wildfire expenditures for the year were slightly above the 10-year average.

Prevention and training activities for the year approached pre-pandemic levels with in-person meetings, workshops, classes, and community engagement. The DNR remains committed to supporting our partners including local fire departments, communities and MNICS in fire suppression efforts in Minnesota.

## Attachment 1: 2023 Emergency Fire Direct and Open Appropriations / State Expenditures by Category

<b>Appropriations</b>	
Direct Appropriation	\$ 7,564,293
Open Appropriation	\$ 20,450,933
<b>Total Expenditures</b>	<b>\$28,015,226</b>
<b>Expenditures, by Category</b>	
Salary Costs	\$ 13,395,990
Non-salary Operating Costs	\$ 14,619,236
<b>Total Expenditures</b>	<b>\$ 28,015,226</b>

## Attachment 2: Guideline for Statewide Wildfire Planning Level Determination

	PLANNING LEVEL I	PLANNING LEVEL II	PLANNING LEVEL III	PLANNING LEVEL IV	PLANNING LEVEL V
<b>BI (Q) spring</b> , pre-green, floating 5 day average	Not applicable	0-45	46-70	71-95	96+
<b>BUI (after June 1)</b> , floating 5 day average)	Not applicable	0-25	26-50	51-67	68+
<b>ERC (Q)</b> (alternate summer/fall indicator, after June 1, floating 5 day average)	Not applicable	0-15	16-29	30-36	37+
<b>8-14 day Weather Forecast</b>	Winter conditions, most of state snow covered, temps below freezing.	Normal conditions for season, adequate precip. expected	Less than normal precip. and RH, higher than normal temps forecast	Dry weather patterns persisting, no change forecast	Dry pattern intensifying. Unstable weather forecast leading to extreme fire behavior conditions.
<b>MN DNR Regional Planning Levels</b>	All DNR Regions/Agencies at P.L. I	One or more DNR Regions/Agencies at P.L. II	Two or more DNR Regions/Agencies at P.L. III	Two or more DNR Regions/Agencies at P.L. IV	Two or more DNR Regions/Agencies at P.L. V
<b>Eastern Area Planning Level</b>	I	I - II	I - III	I - IV	I - IV
<b>National Planning Level</b>	I - II	I - III	I - IV	I - V	I - V
<b>Fire Occurrence</b> (Initial Attack)	Rare, infrequent fire occurrence	Fires reported in scattered Areas. Generally less than 10 fires/day statewide.	Multiple Areas/Agencies reporting fires. 10 to 20 fires/day statewide	Multiple Areas/Agencies reporting fires. 20 to 30 fires/day statewide	Multiple Areas/Agencies reporting fires. 30+ fires/day statewide.
<b>Fire Occurrence</b> (Escaped fires)	None	None	1-2 fires requiring extended attack statewide (with active fire)	3-5 fires requiring extended attack statewide	5+ fires requiring extended attack statewide
<b>Sociopolitical Considerations</b>	Statewide or Regional events such as fishing opener or the Fourth of July; natural events such as floods or windstorms; other unexpected or unusual events that may have large scale impacts should be considered.				
<b>Resource Availability</b>	Normal complement of personnel.	No shortages expected.	Moderate demand for some in-state resource types expected	Shortage of certain in-state resource types	Most in-state resources committed. Out-of-State assistance necessary.
<b>In-State Mobilization</b>	None	Less than 5% of statewide resources assigned out of home unit.	Some short term movement occurring, 5-10% of statewide resources assigned out of home unit.	10-20% of statewide resources assigned out of home unit.	20%+ of statewide resources assigned out of home unit.
<b>Out-of-State Mobilization</b>	If out-of-state mobilization is occurring or anticipated to occur, an 'A' designator will be applied at the current Planning Level.				

- Once Planning Level III has been reached in the spring, preparedness will not drop below that level until May 31 or later.
- Terms used above, which are calculated daily from weather and fuel measurements:
  - BI (Q) = **Burning Index**, fuel model Q: A measure of fire danger based on the probability of ignition and fire spread in a specified forest type.
  - BUI = **Build Up Index**: An indication of the dryness of larger-sized woody fuels, which becomes a significant factor during a drought.
  - ERC (Q) = **Energy Release Component**, fuel model Q: A measure of the expected heat release from a fire, which will be experienced by firefighters on the fire line



### Attachment 3: FY2023 State Fire Cost Summary

#### FY2023 - State Fire Cost Summary by Type of Activity and Appropriation

	Emergency Firefighting Direct Appropriation	Emergency Firefighting Open Appropriation	Total Open and Direct Combined
Fire Prevention	4.3%	0%	1.2%
Fire Presuppression	82.9%	35.3%	48.1%
Fire Suppression	12.8%	64.7%	50.7%
Total	100%	100%	100%

**Fire Prevention** activities include public information and education, fire permitting, and operation of the Township Fire Warden system, as well as advice and assistance to communities and homeowners about protecting their property in the event of a wildfire (Firewise).

State fire prevention activities are supplemented by annual grants from the U.S. Forest Service as follows:

- State Fire Assistance – approximately \$650,000 (supports fire prevention and readiness).
- Volunteer Fire Assistance – approximately \$460,000 federal support and \$8,000 state support through sales tax on fireworks (supports Rural Fire Department readiness).
- Cooperative Fire Assistance – approximately \$300,000 (Wildfire Risk Reduction grants support Firewise – Community Fire Protection activities).

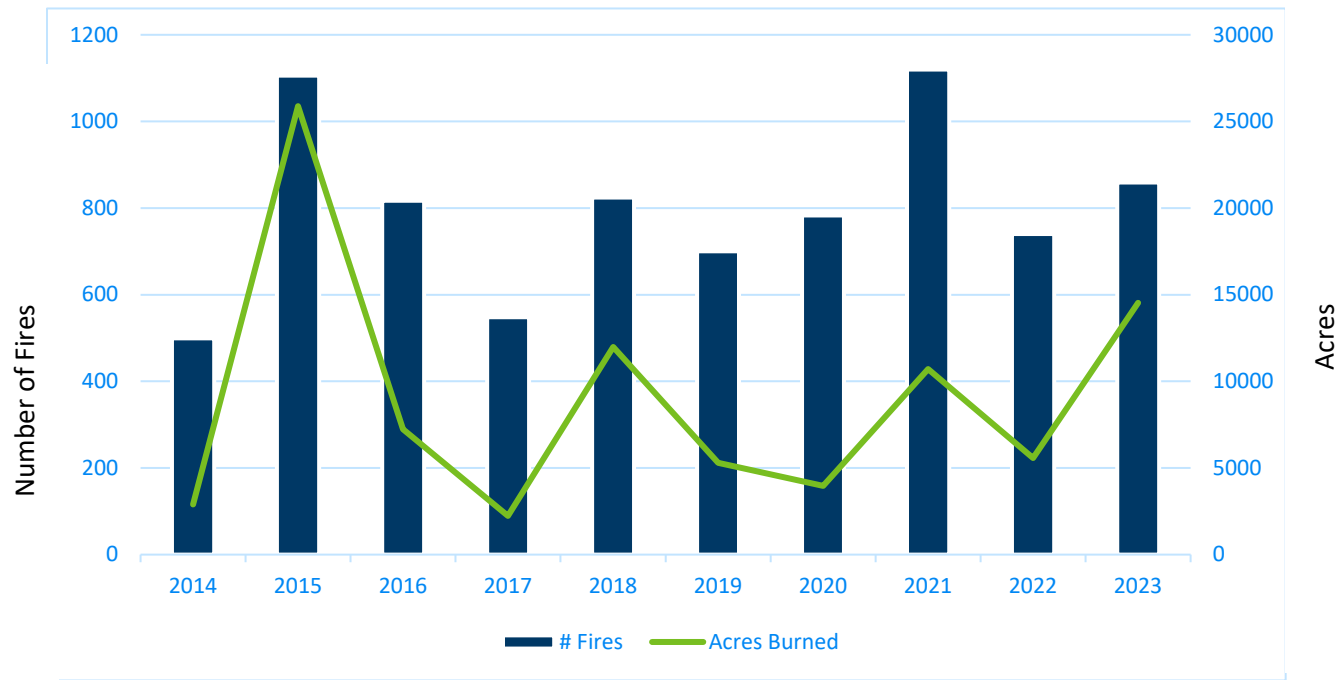
**Fire Presuppression** includes activities undertaken before a fire happens to ensure more effective suppression. These activities include: overall planning, recruitment and training, procurement of firefighting equipment and contracts, and maintenance of equipment and supplies.

**Fire Suppression** includes direct action to suppress wildfires and other activities that support and enable the DNR to suppress wildfires, including the prepositioning of firefighting resources.

Attachment 4: Wildfire Activities 10-Year Expenditure History

10/12/2023	Department of Natural Resources, Division of Forestry Wildfire Activities Ten Year Expenditure History											
Nominal Dollars By Source of Funds	FY 2014	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	10 Year Average	
Emergency Fire-Direct	\$6,918,792	\$7,363,656	\$6,739,596	\$7,160,792	\$6,939,074	\$7,840,566	\$7,018,468	\$8,023,145	\$7,317,387	\$7,564,293	\$7,288,577	
Emergency Fire-Open	\$15,008,912	\$18,971,895	\$17,709,549	\$16,271,730	\$16,487,420	\$15,312,697	\$16,811,184	\$22,659,658	\$30,562,459	\$20,450,933	\$19,024,644	
Fire Activity Total	\$21,927,704	\$26,335,551	\$24,449,145	\$23,432,522	\$23,426,494	\$23,153,263	\$23,829,652	\$30,682,803	\$37,879,846	\$28,015,226	\$26,313,221	
Cost Recovery	(a)	\$602,622	\$1,032,502	\$628,660	\$262,871	\$1,626,745	\$1,458,506	\$467,535	\$231,512	\$155,116	\$313,736	
Net Cost to General Fund		\$21,325,082	\$25,303,049	\$23,820,485	\$23,169,651	\$21,799,749	\$21,694,757	\$23,362,117	\$30,451,291	\$37,724,730	\$27,701,490	
Reimbursable Mobilization Fire Costs	(b)	\$1,806,396	\$2,106,290	\$4,370,469	\$3,423,285	\$4,558,888	\$3,722,193	\$1,701,859	\$1,401,104	\$7,227,090	\$3,344,322	
(b) This is not a state expenditure. Costs are initially expended from the Fire Fund for assistance to federal partners and other states. Minnesota will be reimbursed.		(a) Cost Recovery Breakout		\$ 313,736								
			Fire Cost Collections -		\$ 200,726							
			Fire Cache Sales -		\$ 113,010							
			Special Revenue Fund		\$ 0							

## Attachment 5: Minnesota Fires, Numbers and Acres Burned 2014 - 2023



## Attachment 6: FY2023 Wildfires by Cause

