

Annual Report on Emergency Firefighting Expenditures

Fiscal Year 2019

01/15/2020



Little Lake Fire – St. Louis County

Minnesota Department of Natural Resources

Division of Forestry

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Executive Summary

The Minnesota Department of Natural Resources (DNR) expended a total of \$23,153,263 from the General Fund in Fiscal Year 2019 for wildfire protection and emergency response. This includes \$15,312,697 from the Emergency Firefighting Open Appropriation.

General weather and precipitation patterns, in addition to actual fire occurrence, affect the total expenditures for fire preparedness (prevention and presuppression) and suppression. In order to minimize the number of fires and respond quickly to extinguish fires, a combination of preparedness, and suppression activities is required. Resources must be ready for deployment to meet fire potential, even if no fires occur.

In FY2019, the DNR responded to 700 wildfires that burned 5,301 acres in Minnesota. This is 35 percent less than the 20-year average of 1,127 fires and considerably less than the 20-year average of 29,071 acres burned. These lower-than-average numbers may be attributed to the weather, which has the largest impact on fire activity. April and May were the most active months with 499 fires occurring in those two months. This past year, northern Minnesota experienced an extended period of low foliar fuel moistures from early May through late June, requiring increased staffing and readiness. These conditions required a high level of preparedness and planning for an extended period of time, which increased costs in a year where much of the state had primarily wet conditions.

The Minnesota Incident Command System (MNICS) did not order or mobilize a Type 2 Team in FY2019. A MNICS Type 3 Team was deployed to the Moose River West fire in Northwest Minnesota in the fall of 2018. In spring 2019, the MNICS Type 2 Teams were consolidated with the Eastern Area's Interagency Incident Management Teams (IMT), and MNICS focused on rostering Type 3 Teams instead.

In the last half of 2018, the DNR and other MNICS agencies actively mobilized crews, aircraft, and overhead personnel to fill resource requests from several western states and Canada for fire suppression response. The first half of 2019, however, saw lower than average national fire activity with a dramatic decrease in resource requests. Requests for out-of-state assistance are supported through mutual aid agreements, with costs reimbursed to the State of Minnesota. Responding to out-of-state mutual aid requests reduces the costs of maintaining the DNR's response capacity, offers important training opportunities, and ensures Minnesota will have access to mutual aid from elsewhere, if needed.

In FY2019, the DNR Division of Forestry (Division) used a variety of ground and aerial resources to suppress wildfires. The ground fleet included 168 firefighting engines and 49 tracked vehicles designed to access off-road and remote areas. A mix of state-owned planes and aircraft from vendor, interagency, and partnership agreements were used. Tactical firefighting aircraft responded to 98 requests on 64 wildfires.

Contents

Executive Summary	3
Contents.....	4
Purpose	5
State Funding for Emergency Firefighting	5
Planning and Readiness	6
Fire Suppression and Presuppression	7
Fire Response	9
Firefighting Fleet.....	11
Firefighting Aircraft	12
Rural Fire Department Support	13
Training	14
Fire Prevention	15
Attachment 1: 2019 Emergency Fire Direct and Open Appropriations / State Expenditures by Category ..	17
Attachment 2: Guideline for Statewide Wildfire Planning Level Determination.....	18
Attachment 3: 2019 State Fire Cost Summary	19
Attachment 4: Wildfire Activities 10-Year Expenditure History.....	20
Attachment 5: Minnesota Fire and Acres Burned 2009 - 2019.....	21
Attachment 6:FY 2019 Wildfires by Cause	22

Purpose

This report addresses the requirements of Minnesota Laws 2011, First Special Session chapter 2, article 1, section 4, subdivision 4, which states in part:

“By January 15 of each year, the commissioner of natural resources shall submit a report to the chairs and ranking minority members of the house and senate committees and divisions having jurisdiction over environment and natural resources finance, identifying all firefighting costs incurred and reimbursements received in the prior fiscal year.

State Funding for Emergency Firefighting

Funding Authorized

Emergency Firefighting Direct Appropriation: Laws 2017, chapter 93, section 3 appropriated \$7,145,000 the first year and \$7,145,000 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 2017, chapter 93, section 3 further state “the amount necessary to pay for presuppression and suppression costs during the biennium is appropriated from the general fund.”

Operating Adjustment

After the initial appropriation, the Department of Natural Resources (DNR) later received an Agency Operating Adjustment with instructions to distribute the funds accordingly. The DNR notified the legislature of that distribution on August 15, 2017, by submitting the Agency Operating Adjustment Distribution.

The adjustment was applied to several funds, including the Direct Appropriation for Firefighting. With the adjustment in place, the Emergency Firefighting Direct Appropriation in Laws 2017, chapter 93, was changed to:

\$7,357,000 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. The amount necessary to pay for presuppression and suppression costs during the biennium is appropriated from the general fund. Given the amounts above, the totals reflect an operating adjustment increase of \$212,000 in the first year and \$376,000 in the second year.

Expenditures

During FY2019, the DNR expended \$7,840,566 from the Direct Appropriation and \$15,312,697 under the Open Appropriation authority. FY2019 Direct Appropriation expenditures exceed the FY2019 Direct Appropriation amount because the expenditures also include \$319,566 rolled forward from the first year of the biennium.

Attachment 1, 2019 Emergency Fire Direct and Open Appropriations / State Expenditures by Category, shows state firefighting expenditures by salary and operating costs.

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 authorized under *Minnesota Statutes*, section 88.065), and collections from responsible parties 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.

FY2019 Receipts

- Cache Sales \$115,927
- Fire Cost Collections \$731,168

Special Revenue Fund

This fund is a temporary use of the state emergency firefighting appropriations and is included for complete disclosure. The DNR provides firefighters and aircraft to assist federal partners within Minnesota, mobilizes firefighters for out-of-state assistance with national wildfire emergencies, and assists Great Lakes Forest Fire Compact (Compact) partners. These costs are initially charged to the Emergency Fire Special Revenue Fund and invoiced for reimbursement as soon as practical. During FY2019 the DNR expended \$3,722,193 of reimbursable costs for national mobilizations and Compact support. The federal government reimburses federal costs and Compact partners (adjoining states and Canadian provinces) reimburse their costs as well.

The Special Revenue Fund may be reimbursed for more than actual costs from out-of-state deployments. The revenue is generated by out-of-state mobilizations of equipment, such as wildland fire engines, and includes a portion of the fixed costs associated with this equipment. The emergency firefighting appropriation pays for fixed costs. Reimbursement revenue received, in excess of actual cost (Excess Recovery), is periodically transferred to the general fund.

Reimbursements to the General Fund in FY2019

- Cache Sales \$ 115,927
- Fire Cost Collections \$ 731,168
- Excess Recovery (Spec. Rev.) \$ 611,411
- Total \$ 1,458,506

Planning and Readiness

Weather patterns and fuel conditions, as well as actual fire occurrence, affect wildfire preparedness and response costs. In advance of 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 level at bi-weekly conference calls with fire managers from all agencies that cooperate to suppress Minnesota's wildfires. The planning level, in combination with daily fire danger indices, establishes the preparedness 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.

There were 221 days of possible wildfire danger (i.e. at least one DNR Region at Planning Level II or higher) in FY2019. Of those possible wildfire days, 135 were at Planning Level II, 86 were at Planning Level III, none were at Planning Level IV or Planning Level V.

While Minnesota experienced a generally wet year from a statewide view, northwest Minnesota experienced two months of dryer than normal conditions. This resulted in increased staffing and readiness in northern Minnesota. Additionally, the extended length of the dry conditions required moving resources from other parts of the state to meet the increased staffing needs. This level of necessary preparedness increased costs, in a year that appears generally wet on a statewide scale.

Fire Suppression and Presuppression

The success of the DNR's fire suppression program is largely due to aggressive initial attack. The goal is to keep fires small. Once a fire escapes initial attack, costs and damages increase significantly.

Preparedness (prevention and presuppression) and suppression activities work together to reduce wildfire damages. Presuppression encompasses actions taken before a fire starts in order to ensure more effective suppression. These activities include overall planning, recruitment, and training of personnel; procurement of firefighting equipment and contracts; and maintenance of equipment and supplies. Suppression costs include activities that directly support and enable the DNR to suppress wildfires, including the prepositioning of resources. As fire danger and fire occurrence increase, the resources that must be positioned for immediate response also increase. Presuppression costs were approximately 47 percent, or \$10,878,448, of the Direct



J5 Operating in Remote Area

and Open fire appropriations in FY2019. Suppression costs were approximately 51 percent, or \$11,776,829, of the direct and open fire appropriations in FY2019.

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, FY2019 State Fire Cost Summary, shows the percentages of fire expenditures allocated to prevention, presuppression, and suppression activities.

Attachment 4, Wildfire Activities - Ten-Year Expenditure History shows the 10-year fire expenditure history.

Fire Occurrence and Causes

In FY2019, the DNR responded to 700 wildfires that burned 5,301 acres in Minnesota. This is significantly less than the 20-year average of 1,127 fires and 29,071 acres burned. This is largely a result of the wet year - with the exception of the northwest part of the state, which experienced two months of drier than normal conditions. Continued partnerships, use of aircraft, and attention to wildfire preparedness helped keep these fires small and allowed most to be controlled within 24 hours.

The breakdown of fires by cause is similar to last year's percentages. With the low incidence of wildfires this year, DNR staff were able to put more effort toward fire prevention. Smokey Bear's 75th birthday was a great opportunity to renew attention to our fire prevention campaign and incorporate more social media into the mix of community awareness and engagement.

Number of Fires by Cause

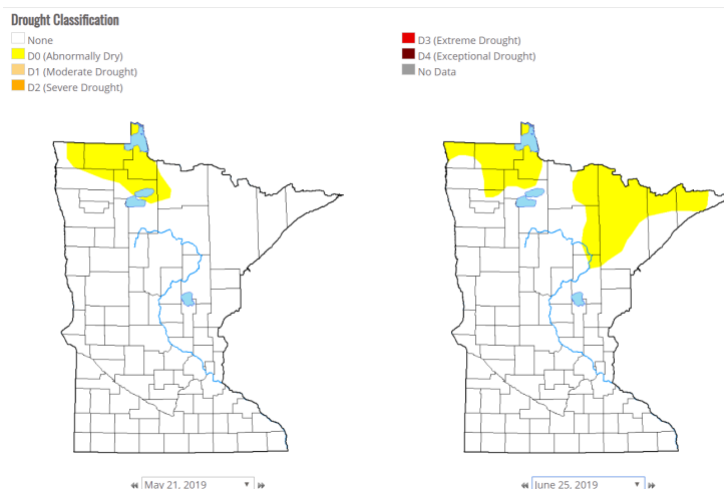
	FY 2019	%	20-Year Average	%
Debris Burning	263	37.6	388	34
Incendiary / Arson	100	14.3	313	28
Misc. / Unknown*	179	25.5	165	15
Equipment Use	81	11.6	127	11
Campfires	38	5.4	47	4
Lightning	12	1.7	18	2
Smoking	9	1.3	27	2
Railroad	18	2.6	42	4
Total	700	100%	1127	100%

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

Attachment 5, Minnesota Fires and Acres Burned, and Attachment 6, FY2019 Number of Wildfires by Cause graphically illustrate fire history and causes.

Weather Summary

Calendar year 2018 ended far lower than normal moisture levels in the Northwest, nearly normal conditions in the Northeast and East-central with above normal conditions in the southern quarter of the state. Spring 2019 began cold and wet with above normal precipitation received in mid-April snow events. Cold temperatures delayed the start to the fire season. The state was split with a very dry north and a very wet south.



Fire activity began in late March in east-central Minnesota, however snow events and cooler temperatures in April caused temperatures, and fire activity, to be well below normal. April brought extreme temperatures for Minnesota. The coldest temperature for April 2019 was 4 degrees F on April 4, east of Ely and the warmest temperature was 86 degrees F at Windom, Winnebago, and Waseca on April 22.

April and May were the most active months with 499 fires. Northern Minnesota experienced an extended period of low foliar fuel moistures from early May well into late June. These conditions required a high preparedness and planning level for an extended period.

Fire Response

Cooperative Fire Response

In-state fire response was less than average throughout the fiscal year, so the Minnesota Incident Command System (MNICS) did not mobilize any Type 2 Teams. However, a MNICS Type 3 team was deployed to the Moose River West fire in northwest MN in the fall of 2018. In the spring 2019, the MNICS T2 teams were consolidated with Eastern Area's IMTs, placing emphasis on rostering Type 3 Teams instead.

In the last half of 2018, the DNR and other MNICS agencies actively mobilized crews, aircraft, and overhead personnel to fill resource requests by western states and Canada for fire suppression efforts. However, the first half of 2019 saw lower than average national fire activity with a dramatic decrease in resource requests. Consequently, the DNR mobilized significantly fewer individuals than in past years.



First-year firefighters mop up a wildfire near Sandstone.

These requests are supported through mutual aid agreements, with all costs reimbursed to the state. The DNR sent 90 agency employees to assist with out-of-state firefighting efforts in FY2019. This included response to wildfires in California, Arizona, Washington, Colorado, Idaho, Montana, Wyoming, Utah, and Oregon. The DNR also sent 23 firefighters to Ontario, Canada to support suppression efforts in the province's most active wildfire season in years. Responding to out-of-state mutual aid requests reduces costs of maintaining DNR's response capacity and helps ensure Minnesota will have access to mutual aid from elsewhere when needed.

In addition to aiding firefighting efforts, the DNR works with agency partners to provide wildland fire training for firefighters. These trainings provide an opportunity to experience firefighting in diverse conditions throughout North America, gain valuable skills, and secure qualifications needed for fighting wildfires in Minnesota. They also build important relationships that prove critical when responding to Minnesota incidents.

Interagency All-Hazard Response

FY2019 was quiet for all-hazard incidents and response in Minnesota. Local agencies and DNR Forestry Areas responded to all incidents without the need for outside resources. However, the DNR did mobilize four people to Hawaii to assist with the Kilauea Volcano eruption response through the Emergency Management Assistance Compact (EMAC), which is the nation's state-to-state mutual aid system. This was the first time that Minnesota responded to an EMAC request from the State of Hawaii. Their mission was to supervise a Forward Operating Base near Pahoehoe, HI on the Island of Hawaii.

The DNR has an agreement with the Department of Health to activate a MNICS Incident Management Team to manage the receiving and distribution sites for the Strategic National Stockpile (SNS). The Center for Disease Control maintains the SNS, which consists of pharmaceutical and medical supplies that would be brought to the state for distribution during a public health emergency (e.g. terrorist attack, flu outbreak, or earthquake). A full-scale exercise is proposed for calendar year 2020.

No MNICS Incident Management Teams were activated for all-hazard response in FY2019.

In-state Wildfire Response

In FY2019, the DNR responded to 700 wildfires that burned 5,301 acres throughout the state. The complement of aircraft, continued partnerships, and attention to wildfire preparedness helped keep most wildfires small and allowed most to be controlled within 24 hours.

Although both the number of fires and acres burned were well below average, the weather and fuel conditions in northern Minnesota required resources remain in a state of readiness for an extended period in late spring and early summer. The extended length of the dry conditions required moving resources from other parts of the state, in order to meet staffing needs and increased costs, respectively.

FY2019 continued a trend for fewer fires caused by arson with 14.3 percent, which is significantly lower than the 20-year average of 29 percent. The emphasis on early detection and the use of the Forest Watch system, which employs video surveillance and computer monitoring to detect fires, continues to have a positive effect. A wildfire prevention campaign focused on equipment-caused fires was created and this effective effort will continue to be promoted.

Firefighting Fleet

The DNR firefighting fleet is comprised of engines and tracked vehicles. Engines are medium-to-large sized pickup trucks, customized for wildland firefighting. They are deployed for firefighting on mostly dry, upland sites.

Tracked vehicles are custom-built firefighting units driven by two endless metal belts, or tracks. Transported on trailers to fire locations, these vehicles fight fires on wet sites or those with difficult accessibility. The DNR uses two basic models of tracked vehicles: the J-5 and the Muskeg.



This complement of equipment varies from one DNR Forestry Area to another depending on local fuel, topography, and soil conditions.

Engines

DNR engines vary in size and capacity. In general, the lighter the vehicle the more maneuverable but the lower its capacity to haul water and firefighters. Each DNR Forestry Area has a mix of engine types that are best suited to respond to the fires in their location.

Areas often use heavy duty half-ton trucks. These units are less expensive (both base and operating rates) than larger sized engines, yet serve well as a maneuverable initial attack unit when equipped with a small water tank and pump. The most common fire vehicle is a one-ton pickup. These trucks haul 300 gallons of water. Service-body pickups are 1¼- or 1½-ton pickups, fitted with storage compartments for an assortment of firefighting equipment. The fleet did not expand in 2019. Two service body trucks are scheduled for replacement in 2020.

Engines		
Type	Size	Number
T7	½ ton HD	32
T6	1 ton	77
T6 – Service Body	1 ¼ ton	20
T6 – Service Body	1 ½ ton	25
T4	3 ton	14
Total Engines		168

Tracked Vehicles

The MNDNR's tracked vehicle fleet, like the engine fleet, has a range of sizes and capacities. The smaller units are designed to get into forested areas that larger units cannot, but do not have the water handling capacity of the larger units. Each unit has been custom built and the fleet is aging. The DNR has 12 J-5s in active status that were manufactured in 1988. The newest J-5s were manufactured in 2008.

In an effort to maintain a functional fleet, and meet today's emission and safety standards, the DNR is working with manufacturers to build additional tracked vehicles to meet Minnesota's specific needs. Units will be field tested by DNR staff to ensure they are reliable, effective, and safe. Once finalized, the DNR intends to order several units each year until the small tracked vehicle fleet is modernized.

A similar situation exists in the Muskeg fleet. All of the Muskegs were manufactured between 1993 - 2006. DNR Management Resources began developing a Request for Proposals for Muskeg replacements early this year. The oldest Muskeg will be replaced in 2020.

Tracked Vehicles		
Type	Model	Number
CT	Cross Tracker	3
LT-5	Lite Tech	3
J-5	Bombardier	14
J-5	Camoplast	21
Muskeg	Bombardier	7
Muskeg	Camoplast	1
Total Tracked Vehicles		49

Firefighting Aircraft

The DNR uses several types of aircraft to provide tactical aerial firefighting support and intelligence to ground firefighters. In FY2019, the DNR responded with tactical firefighting aircraft to 98 requests on 64 wildfires. In FY2019, the DNR used a mix of aircraft procured under Exclusive Use and Call-When-Needed contracts, aircraft owned/operated by the Division and aircraft obtained through interagency and partnership agreements.

The DNR owns and operates two light, fixed-wing airplanes for aerial supervision on fires, fire detection, transportation, logistical and administrative support and aerial photography. They include a Cessna 310 and

a Quest Kodiak. The Cessna is a 1977 model and is the oldest aircraft in the State's fleet. Projected maintenance costs are anticipated to soon exceed the value of the airplane; the DNR identified this aircraft for replacement in the near future.

In FY2019, the DNR used Exclusive Use contracts to obtain four FireBoss 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 for fire detection and tactical intelligence.

Interagency partnerships continued to be a key part of the DNR's aerial firefighting program. The Red Lake Agency, with assistance from the Bureau of Indian Affairs (BIA) provided one helicopter, one FireBoss and one SEAT in Bemidji. The USFS provided a helicopter and three float planes (Beavers) in Ely. The USFS also provided an aerial supervision plane and aerial detection aircraft used within their jurisdiction. The DNR and BIA partnered to contract an additional Call-When-Needed helicopter.

The Division also obtained firefighting aircraft when needed from a variety of other sources, including: helicopters from the Minnesota Army National Guard (five Blackhawks with 660 gallon water buckets and two Chinooks with 2,000 gallon water buckets); two helicopters from the MN State Patrol; and CL-215s, CL-415s, and aerial supervision aircraft from the Provinces of Ontario and Manitoba.

Rural Fire Department Support

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

Federal Excess Property Program

In FY2019, the Firefighter Federal Property program (FFP) obtained \$12 million in equipment and supplies, which it distributed to 375 Minnesota communities and three state agencies. Highlighted items include medical supplies and equipment such as tourniquets, bandages, defibrillators, and portable generators. Rolling stock included items such as a Freightliner chassis and ATVs. Many rural fire departments in Minnesota could not afford this equipment if not for the FFP program.



Converted federal surplus equipment - Aitkin Fire Department

State Surplus Engines



State surplus engine - Grand Lake Fire Department

The state-funded Rural Fire Program secured ten one-ton trucks from the State fleet program at a reduced price. This approach eliminated auction and selling costs for Minnesota fire departments. Although these trucks have met the criteria for replacement by state agency fleet managers, they still have service life and can be used as grass trucks to extinguish small fires. The demand by rural fire departments for these units exceeds their availability.

50:50 Grants

The Volunteer Fire Assistance (VFA) grant program received 351 applications in FY2019, and awarded 179 grants to Minnesota communities for fire-related projects. Minnesota fire departments that protect communities with 10,000 or fewer people may participate in the VFA grant program. A total of \$530,867.00 in federal and state grants provide cost-share assistance for radios and pagers, personal protective gear, water movement equipment, and wildland firefighting safety items.

This year's grant cycle included an additional \$125,000 in fireworks sales tax funding, which allowed the program to award 44 grants to rural communities.

Training

The DNR recognizes the importance of maintaining a broad base of firefighters trained to respond to incidents as they arise. With the cooperation of MNICS and the Great Lakes Forest Fire Compact (GLFFC), the DNR offered more than 98 courses to member agencies and affiliates. Courses range from basic firefighting to advanced leadership. These courses reached more than 2600 students in 2019.

The 2019 Wildfire Academy held June 3-7, at Itasca Community College in Grand Rapids, offered 29 classes to 862 students. Instructors and staff from DNR, MNICS partners, and GLFFC worked together to provide the training. Participants included staff from Minnesota DNR; Wisconsin DNR; Michigan DNR; Iowa DNR; National Park Service-Wisconsin; USFS – Minnesota (both national forests), Colorado, Ohio, West Virginia, North Dakota, South Dakota, Nebraska, Wisconsin, Michigan, New York, Missouri; U.S. Fish & Wildlife – South Dakota and Nebraska; and the BIA. Students also came from the



Students receive instruction on the use, deployment, and tactics of engines on wildland fires

United States Coast Guard, Conservation Corps of Minnesota and Iowa, Nature Conservancy, Minnesota Department of Transportation, Mayo Clinic, and numerous Minnesota fire departments

Fire Prevention

The DNR has long recognized the importance of providing a consistent statewide fire prevention message. The combination of fire prevention and safety tips with current, timely fire weather information helps residents avoid burning in conditions that could have unexpected, potentially damaging results. Minnesota uses a variety of methods to reach residents, including news releases, social media, events, workshops, classroom visits and parades. Each type of event seeks to provide a given audience with pertinent information.

Prevention Activities

DNR wildfire prevention staff participated in parades and fairs, spoke to community groups, and helped coordinate the Governor's Fire Prevention Day at the Minnesota State Fair. With record-setting State Fair attendance (2.13 million visitors), prevention staff and volunteers distributed approximately 5,000 pieces of wildfire prevention materials and talked to an estimated 15,000 visitors on this single day.

Every year, the state observes Wildfire Prevention Week during the third full week of April. Focused social media communications, in addition to traditional radio and print ads, raise awareness of the continuing need for wildfire prevention. Daily messages, coordinated with the MNICS information officer, communicate timely and current information on wildfire conditions. Analysis indicates these efforts once again reached a diverse audience.

In celebration of the 75th year of the Smokey Bear fire prevention campaign, the Wisconsin DNR challenged Minnesota to participate in the "Smokey Birthday Challenge." Each state was encouraged to produce a short, timely message to commemorate this milestone. Minnesota accepted the challenge, producing a video with two great messages – fire prevention and the negative impacts of private drones on active fire aviation operations. The video is available on the DNR YouTube channel, giving it life well beyond Smokey's birthday year.

Firewise Program

The state's Firewise Program helps Minnesotans – individuals, communities, and counties – 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, these plans reduce fire risk by addressing known hazards or problems. The plan identifies issues or areas on which the community should focus their fire prevention and mitigation efforts. Firewise USA, a national program sponsored by the National Fire Protection Association, recently recognized Itasca County as the fifth most active county Firewise Program in the nation.

The Minnesota Firewise Program also supports individual home risk evaluations and trains local emergency response staff to conduct further evaluations beyond the life of a given grant.

Fire Wardens and Burning Permits

Volunteer Township Fire Wardens continue to assist the DNR by issuing written burning permits to local residents. The Fire Warden program currently has 2,346 dedicated volunteers who collectively provide more than 22,000 hours of service each year. Township Fire Wardens provide a respected, local complement to the online burning permit system. The DNR continues to commission new fire wardens as needed.

Several enhancements to the DNR's online burning permits system in FY2019 made it more responsive to the public and internal users, including:

- Entry of structural fire training applications, improving the speed and efficiency of permits issued to fire department training officers.
- Recognition of elevated training and experience of burn practitioners who have achieved Certified Minnesota Prescribed Burner certification.
- Improved coordination between the online fire danger map with the burning restrictions map, providing residents with better information to determine and plan for appropriate burning periods.

These enhancements also help external partners, such as the Minnesota Pollution Control Agency, meet reporting requirements. A proposed update (potentially in fiscal year 2020) will enable an often-requested, electronic signature option on electronic permits.

Attachment 1

FY2019	
Emergency Fire Direct and Open Appropriations	
Direct Appropriation	\$ 7,840,566
Open Appropriation	\$ 15,312,697
Total Expenditures	\$ 23,153,263
State Expenditures by Category	
Salary Costs	\$ 12,295,148
Operating Costs	\$ 10,858,115
Total Expenditures *	\$ 23,153,263

* Actual Expenditures as of 10/14/2019

Attachment 2

A GUIDELINE FOR STATEWIDE WILDFIRE PLANNING LEVEL DETERMINATION					
	PLANNING LEVEL I	PLANNING LEVEL II	PLANNING LEVEL III	PLANNING LEVEL IV	PLANNING LEVEL V
BI (Q) spring, pre-green, floating 5 day average	Not applicable	0-45	46-70	71-95	96+
BUI (after June 1, floating 5 day average)	Not applicable	0-25	26-50	51-67	68+
ERC (Q) (alternate summer/fall indicator, after June 1, floating 5 day average)	Not applicable	0-15	16-29	30-36	37+
8-14 day Weather Forecast	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.
MN DNR Regional Planning Levels	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
Eastern Area Planning Level	I	I - II	I - III	I - IV	I - IV
National Planning Level	I - II	I - III	I - IV	I - V	I - V
Fire Occurrence (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.
Fire Occurrence (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
Sociopolitical Considerations	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.				
Resource Availability	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.
In-State Mobilization	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.
Out-of-State Mobilization	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

FY2019 - State Fire Cost Summary			
By Type of Activity and Appropriation			
	Emergency Firefighting Direct	Emergency Firefighting Open	Total Open and Direct Combined
Fire Prevention	6.4%	0%	2.1%
Fire Presuppression	64.6%	37.9%	47%
Fire Suppression	29%	62.1%	50.9%
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 \$590,000 (supports fire prevention and readiness).
- Volunteer Fire Assistance – approximately \$300,000 federal support and \$8,000 state support through sales tax on fireworks (supports Rural Fire Department readiness).
- Cooperative Fire Assistance – approximately \$150,000 (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 of personnel; 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

10/14/2019

Department of Natural Resources, Division of Forestry
Wildfire Activities Ten Year Expenditure History

Nominal Dollars By Source of Funds		FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019	10 Year Average
Emergency Fire-Direct	(c)	\$7,109,695	\$6,928,432	\$7,066,975	\$7,184,311	\$6,918,792	\$7,363,656	\$6,739,596	\$7,160,792	\$6,939,074	\$7,840,566	\$7,125,189
Emergency Fire-Open		\$13,873,176	\$8,558,008	\$17,303,580	\$23,373,476	\$15,008,912	\$18,971,895	\$17,709,549	\$16,271,730	\$16,487,420	\$15,312,697	\$16,287,044
Fire Activity Total		\$20,982,871	\$15,486,440	\$24,370,555	\$30,557,787	\$21,927,704	\$26,335,551	\$24,449,145	\$23,432,522	\$23,426,494	\$23,153,263	\$23,412,233
Cost Recovery	(a)	\$3,007,734	\$2,610,699	\$1,523,872	\$3,426,210	\$602,622	\$1,032,502	\$628,660	\$262,871	\$1,626,745	\$1,458,506	\$1,618,042
Net Cost to General Fund		\$17,975,137	\$12,875,741	\$22,846,683	\$27,131,577	\$21,325,082	\$25,303,049	\$23,820,485	\$23,169,651	\$21,799,749	\$21,694,757	\$21,794,191
Reimbursable Mobilization Fire Costs	(b)	\$2,125,711	\$2,204,635	\$4,913,097	\$4,451,095	\$1,806,396	\$2,106,290	\$4,370,469	\$3,423,285	\$4,558,888	\$3,722,193	\$3,368,206

(a) Fire Cache Sales, Fire Cost Collections, Permanent School Trust Fund - protection services reimbursement, excess recovery from Special Revenue Fund. Beginning in FY 02, Cost Recoveries were deposited to the general fund. In FY 10, School Trust Fund protection services were included retroactive to FY 2001. FY 2013 was the last year School Trust Funds were applied.

(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.

(c) Beginning in FY2009, \$600,000 leave time (vacation, sick leave) attributable to fire activity that had been funded through the forest management account, moved to the emergency fire appropriation.

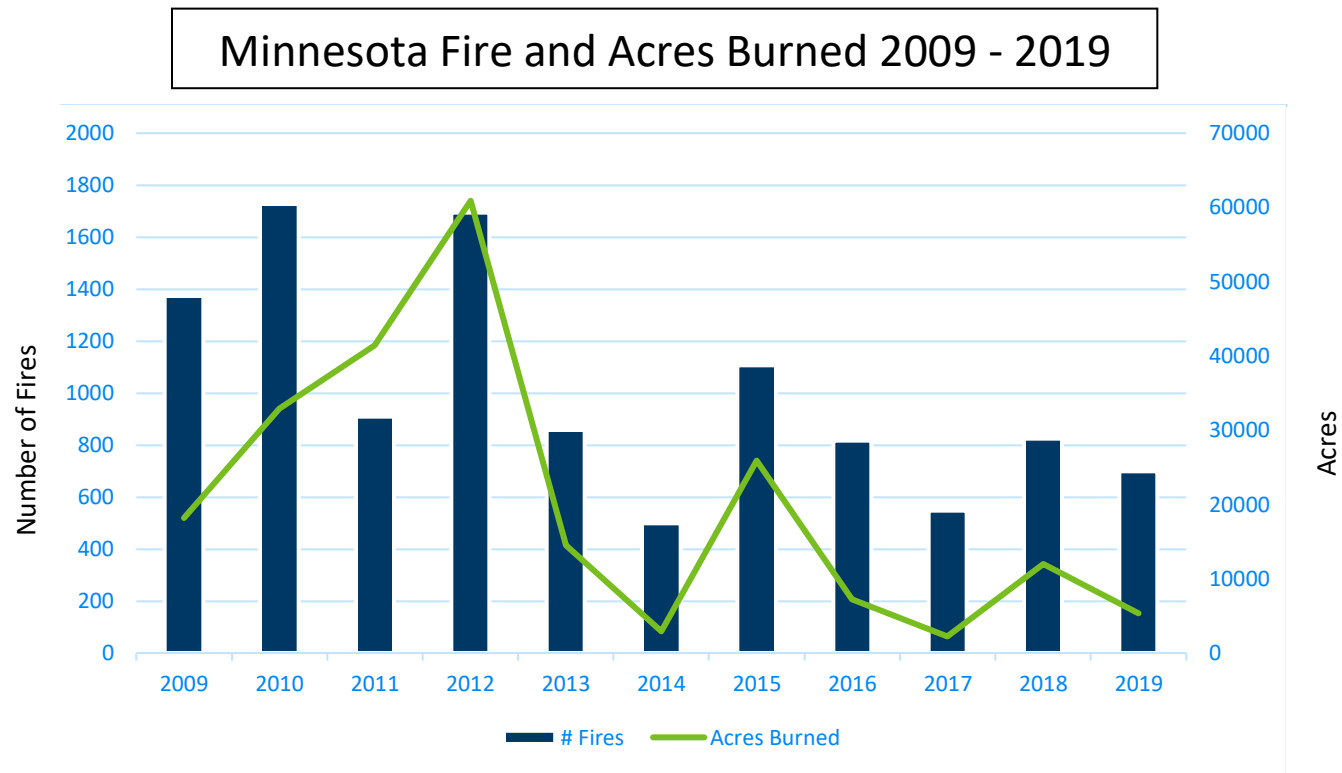
(a) Cost Recovery Breakout	\$ 1,458,506
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Fire Cost Collections - \$ 731,168

Fire Cache Sales - \$ 115,927

Excess Recovery, Sp. Rev. \$ 611,411

Attachment 5



Attachment 6:

FY2019 Wildfires by Cause

