



## GREAT BASIN UNIFIED AIR POLLUTION CONTROL DISTRICT

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May 7, 2019

Nolan Bobroff  
Assistant Planner  
Town of Mammoth Lakes  
P.O. Box 1609  
Mammoth Lakes, CA 93546

RE: 2018-2019 Mammoth Lakes PM10 and Meteorological Summary

Dear Mr. Bobroff:

The Great Basin Unified Air Pollution Control District (District) has monitored air quality in the Town of Mammoth Lakes since 1984. We recently finalized the data completing the 2018-2019 air monitoring year ending March 15, 2019. We are pleased to provide you this summary of air quality measurements recorded by the District between March 16, 2018 and March 15, 2019. The PM10 data presented are from two different monitors. On August 15, 2018 the District's primary PM10 monitor failed (1:1 day FDMS). From August 16, 2018 through March 15, 2019, data from the District's secondary monitor (1:3 day Partisol) is presented. In addition, the District has been testing a new continuous T640x PM monitor in Mammoth since September 2018, but the data are still being evaluated and are not presented here.

During this period, the Federal PM10 standard (150  $\mu\text{g}/\text{m}^3$  for a 24-hour average) was exceeded on four (4) days, all related to wildfire smoke. State PM10 standards (50  $\mu\text{g}/\text{m}^3$  for a 24-hour average) were exceeded on eighteen (18) days. Twelve (12) of these State exceedances were due to wildfire smoke impacts from the Lions and Ferguson Fires which impacted the region between late-July and mid-August 2018. There were six (6) exceedances of the State standard during the winter months. The winter-time exceedances were analyzed and deemed to be caused by local sources, primarily woodburning stoves, though road cinders may have had a minor contributing impact. Exceedance days and PM10 levels are listed in Table 1 for the 2018-2019 air monitoring year. An exceedance summary comparing the 2018-2019 monitoring year with the past nine (9) years is shown in Table 2.

Two wildfires complexes contributed to elevated PM10 levels in Mammoth during the summer months of 2018, the Lions Fire and the Ferguson Fire. The Lions Fire began as a lightning strike on June 11, 2018 at the south end of the Minaret Range, approximately six miles WSW of Mammoth. The fire grew in intensity and extent and by late June smoke impacts were observed in Mammoth. The fire continued into early September. Smoke impacts were compounded by the Ferguson Fire which started July 13, 2018 on the west side of Yosemite National Park. The most severe smoke impacts to Mammoth were the last week of July and the first week of August. The

Ferguson Fire grew to 96,901 acres, and the Lions Fire grew to 13,347 acres. Figure 1 shows the Lions Fire as viewed from Minaret Summit on June 24, 2018.

Figure 2 shows the daily average PM10 values between July and September 2018, highlighting the wildfire PM10 impacts in late-July and early-August. Figure 3 shows the daily average PM10 values for the entire monitoring year, superimposed on the prior three monitoring years for comparative purposes.

Figure 4 shows that historically, large-scale wildfires in the Mammoth Lakes area have been relatively infrequent events, though the past six summers have been impacted by wildfire smoke. The figure shows the daily average PM10 during July-September for years since 1992. As shown in Figure 4, the maximum summer wildfire PM10 concentration in 2018 outranked all previous monitored years in Mammoth. Prior to the Lions Fire and Ferguson Fire of 2018, the Town was impacted by significant smoke from the Empire Fire and other Yosemite-area fires in 2017, the Owens River Fire in 2016, the Rough Fire in 2015, the French and King Fires in 2014, and the Aspen and Rim Fires in 2013. The figure indicates wildfire smoke has impacted the Town in twelve (12) summers since 1992 and each of the past six (6) summers.

Please contact me with any questions you may have.

Thank you,



Phillip L. Kiddoo  
Air Pollution Control Officer

Table 1. Town of Mammoth Lakes Federal and State PM10 exceedances: March 16, 2018 - March 15, 2019.

| Date  | PM10 Average ( $\mu\text{g}/\text{m}^3$ ) | Federal PM10 Exceedance | State PM10 Exceedance |
|---|---|-------------------------|-----------------------|
| <b>**6/25/2018</b>                                  | 143                                       | No                      | Yes                   |
| <b>**6/26/2018</b>                                  | 116                                       | No                      | Yes                   |
| <b>**7/28/2018</b>                                  | 74  | No                      | Yes                   |
| <b>**7/31/2018</b>                                  | 151                                       | Yes                     | Yes                   |
| <b>**8/1/2018</b>                                   | 83  | No                      | Yes                   |
| <b>**8/2/2018</b>                                   | 308                                       | Yes                     | Yes                   |
| <b>**8/3/2018</b>                                   | 261                                       | Yes                     | Yes                   |
| <b>**8/4/2018</b>                                   | 180                                       | Yes                     | Yes                   |
| <b>**8/6/2018</b>                                   | 86  | No                      | Yes                   |
| <b>**8/7/2018</b>                                   | 68  | No                      | Yes                   |
| <b>**8/9/2018</b>                                   | 60  | No                      | Yes                   |
| <b>**8/18/2018</b>                                  | 56  | No                      | Yes                   |
| 12/10/2018  | 67  | No                      | Yes                   |
| 12/13/2018  | 54  | No                      | Yes                   |
| 12/19/2018  | 61  | No                      | Yes                   |
| 1/3/2019  | 57  | No                      | Yes                   |
| 1/24/2019   | 75  | No                      | Yes                   |
| 2/11/2019   | 51  | No                      | Yes                   |
| <b>**Bolded and starred denotes wildfire smoke.</b> |   |                         |                       |

Table 2. Comparison of Federal and State PM10 exceedances with the prior nine monitoring years.

| Air Monitoring Year | Federal PM10 Exceedances (>150 $\mu\text{g}/\text{m}^3$ ) | State PM10 Exceedances (>50 $\mu\text{g}/\text{m}^3$ ) |
|---------------------|---|--|
| 09-10               | 0   | 25   |
| 10-11               | 0   | 36   |
| 11-12               | 0   | 5  |
| 12-13               | 0   | 19   |
| 13-14               | 2   | 17   |
| 14-15               | 0   | 3  |
| 15-16               | 0   | 20   |
| 16-17               | 0   | 21   |
| 17-18               | 0   | 6  |
| <b>18-19</b>        | <b>4</b>  | <b>18</b>  |



Figure 1. Lions Fire as viewed from Minaret Vista on June 24, 2018.  
Photo courtesy InciWeb, <https://inciweb.nwcc.gov/incident/photograph/5850/73/79007>

# Summer 2018 Wildfire Smoke impacts on the Town of Mammoth Lakes

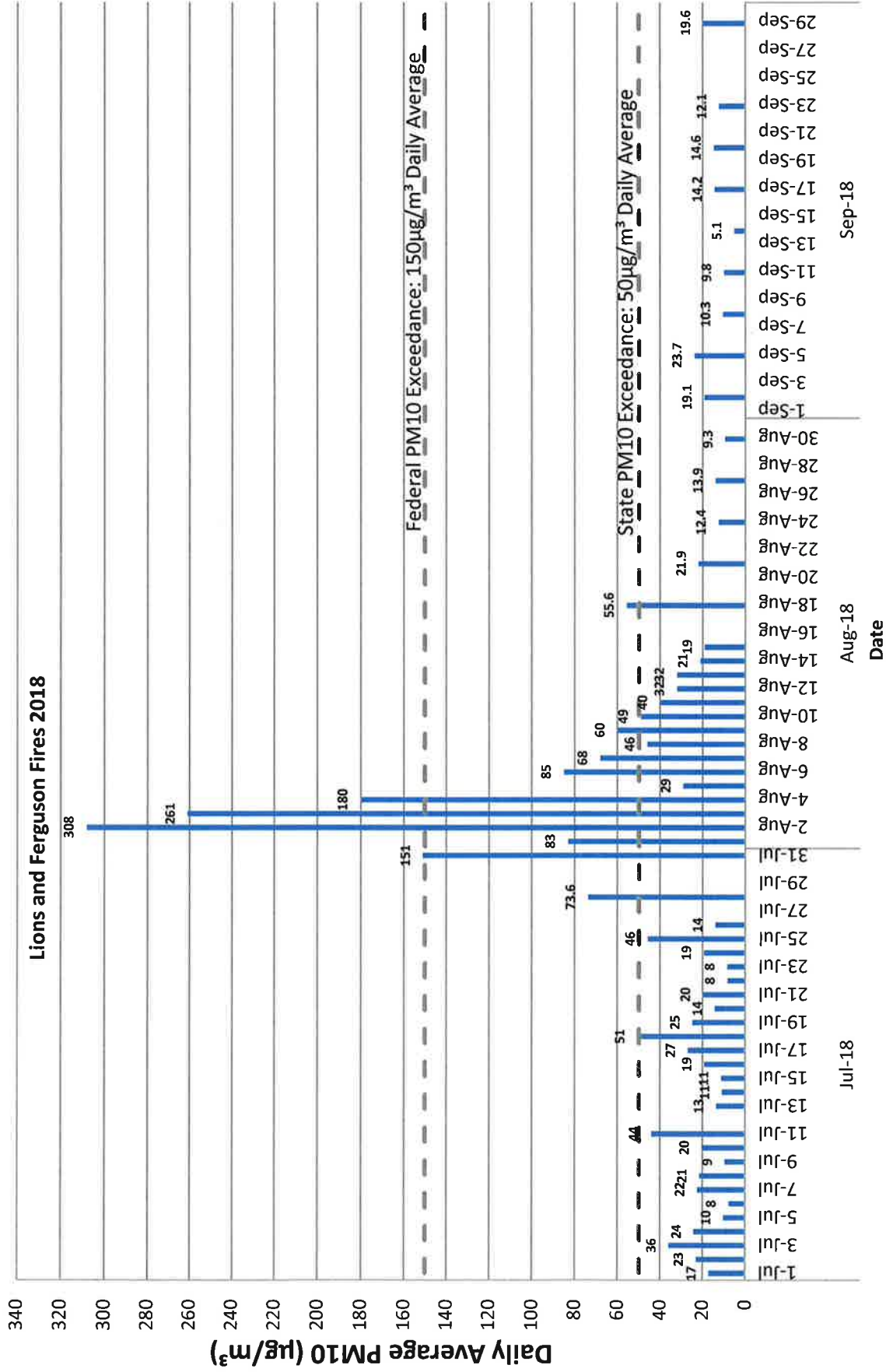


Figure 2: Summer 2018 Wildfire Smoke Impacts on the Town of Mammoth Lakes.





# Town of Mammoth Lakes - PM10 March 16, 2018 - March 15, 2019

--- Federal PM10 Standard    ..... State PM10 Standard    ○ 15-16    ▒ 16-17    ▒ 17-18    — 18-19

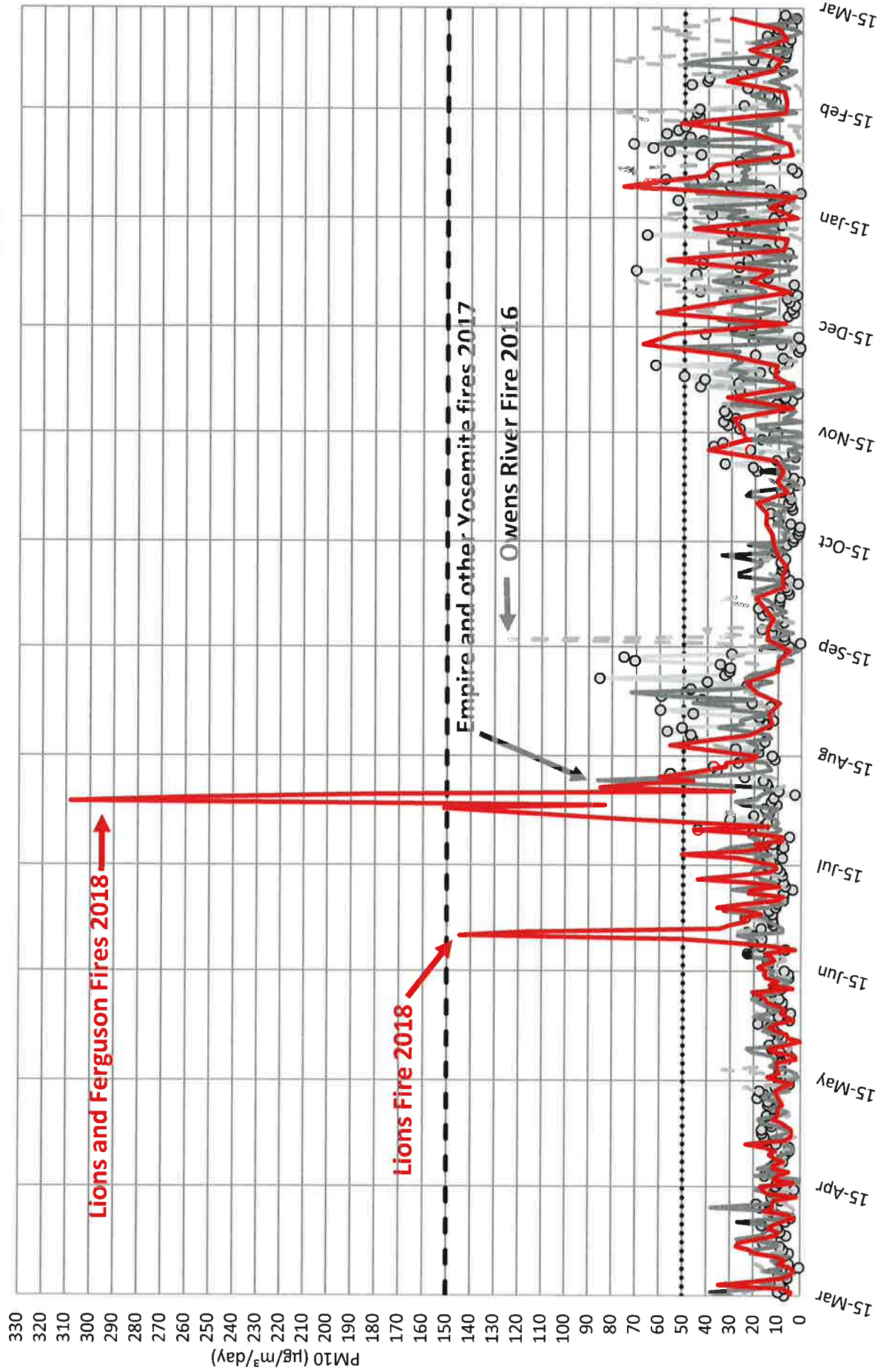


Figure 3: Town of Mammoth Lakes - PM10, March 16, 2018 - March 15, 2019.

# Town of Mammoth Lakes Wildfire Season PM10 June-September, 1992-2018

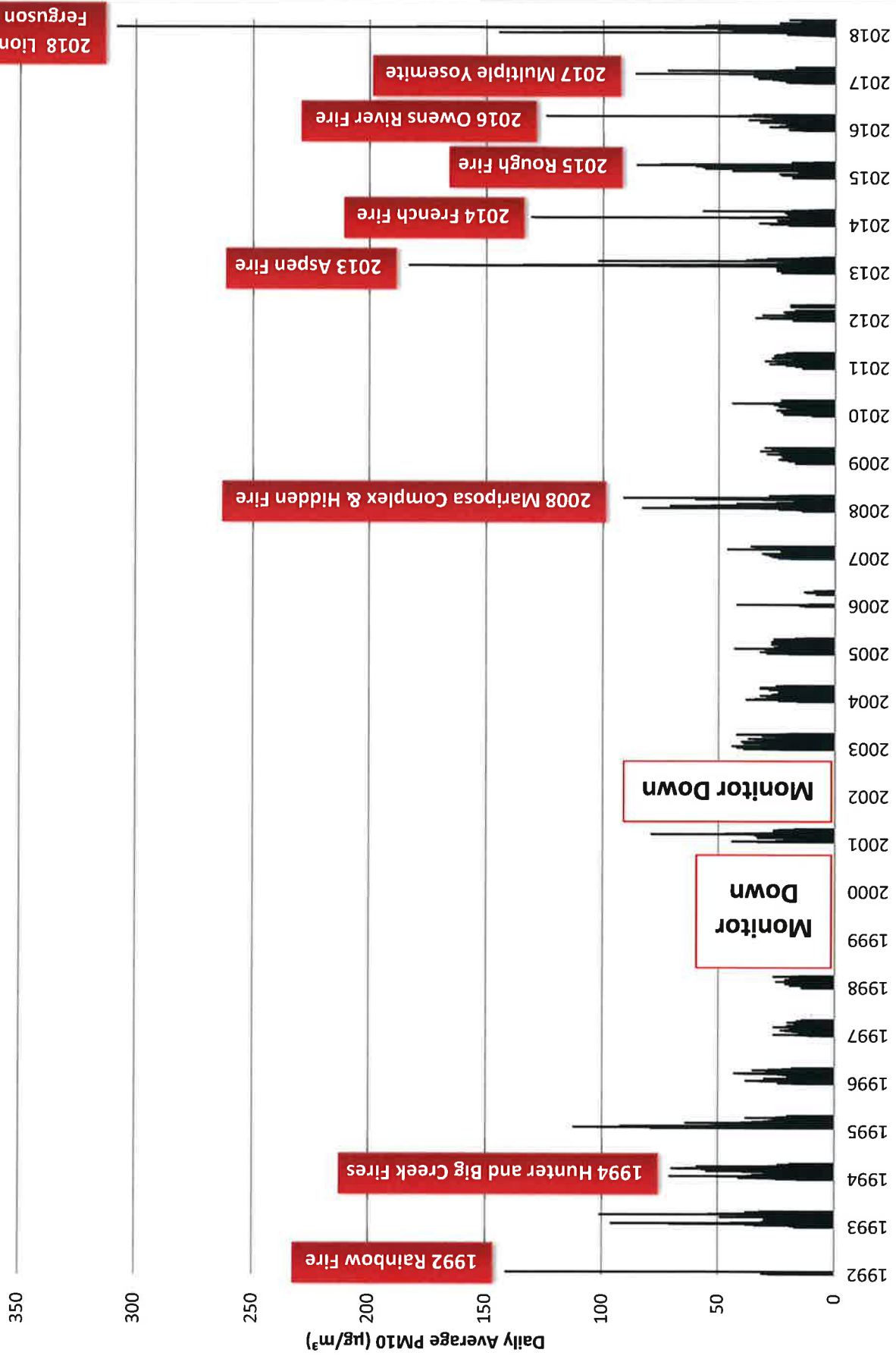


Figure 4: Town of Mammoth Lakes Wildfire Season PM10, June-September, 1992-2018.