



**NSW
Resources
Regulator**

Mine safety performance report

2019 - 2020



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Mine safety performance overview

+ Fatal injuries **⇩** 1 DECREASE OF 1 IN 2019-20 FROM 2 IN 2018-19

Metalliferous mine

On 12 August 2019, a contract worker suffered fatal injuries following an interaction between a light vehicle and dozer at a surface metalliferous mine. The contract worker was driving a light vehicle and entered the tip head area to deliver a water bottle to a dozer operator at about 4:45pm. The dozer operator was reversing and was unaware the light vehicle was in close proximity. The two vehicles collided, resulting in fatal injuries to the light vehicle driver.

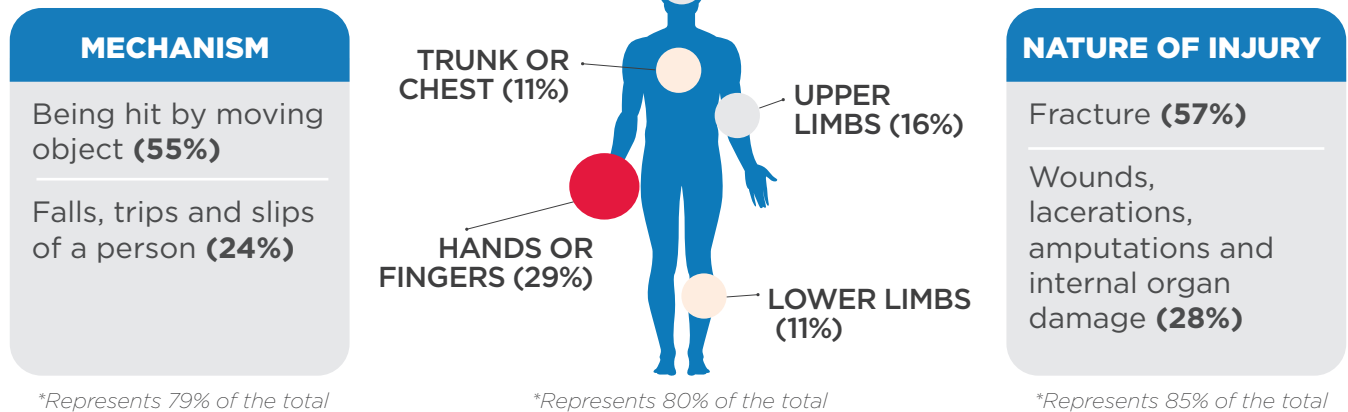
See [Investigation Information Release IIR19-11](#) for more information.

+ Serious injuries **⇧** 106 INCREASE OF 12 IN 2019-2020 FROM 94 IN 2018-19

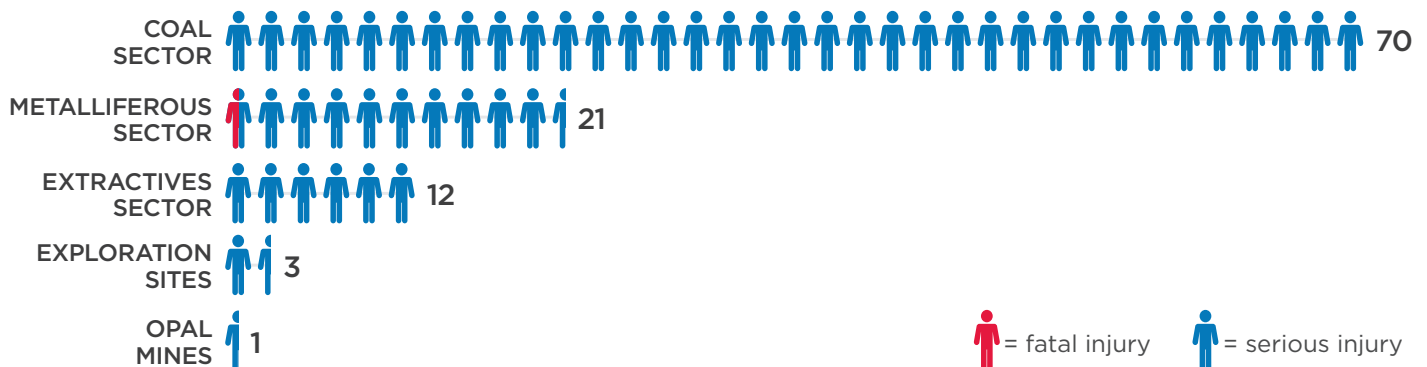
For a detailed review of serious injuries and illnesses including bodily location, nature, mechanism and employment type refer to the 2019-20 [report](#) on our website.

+ Fatal and serious injuries

Fatal and serious injuries snapshot



Fatal and serious injuries by sector (one person = 2 serious injuries)



+ LTIs LOST TIME INJURIES

⇩ **273** DECREASE OF 19 IN 2019-20 FROM 292 IN 2018-19

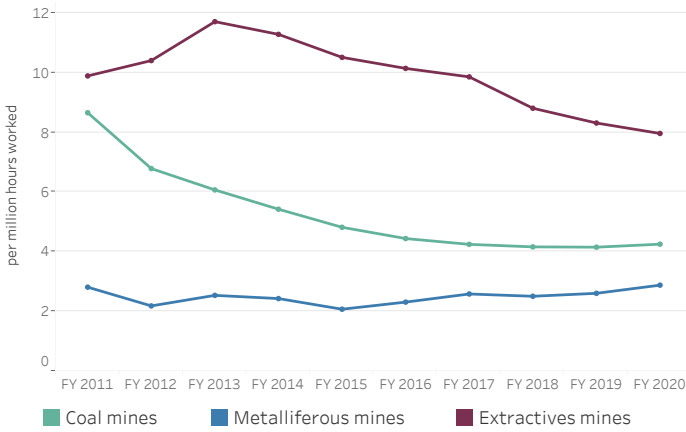
+ TRIs TOTAL RECORDABLE INJURIES

⇩ **822** DECREASE OF 129 IN 2019-20 FROM 951 IN 2018-19

Mine safety performance overview

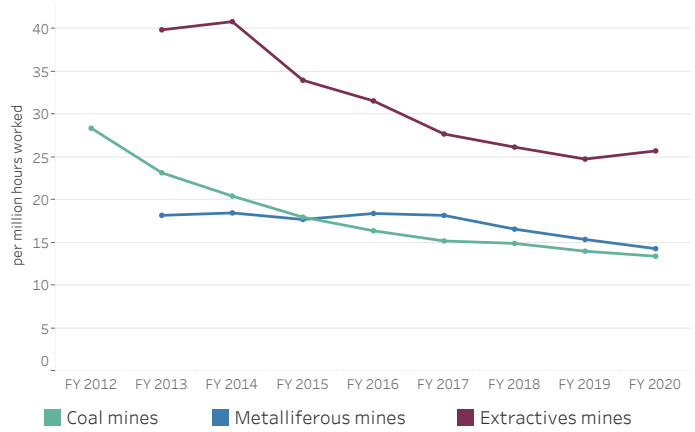
LTIFR

Five year average lost time injury frequency rate



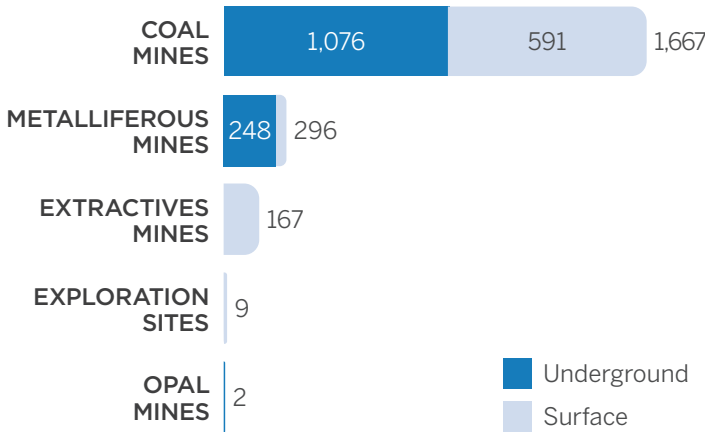
TRIFR

Five year average total recordable injury frequency rate

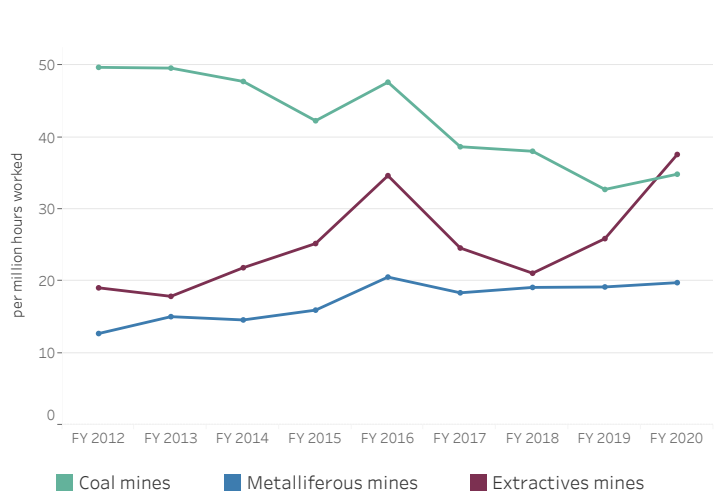


Incidents **2,141** INCREASE OF 108 IN 2019-20 FROM 2,033 IN 2018-19

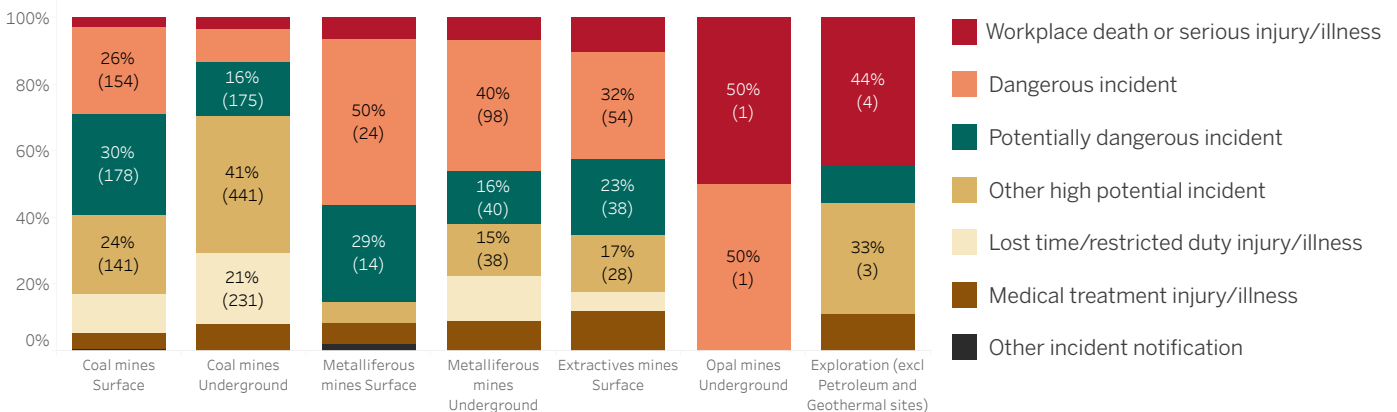
Incident notifications by sector and operation type



Incident notification annual frequency rate



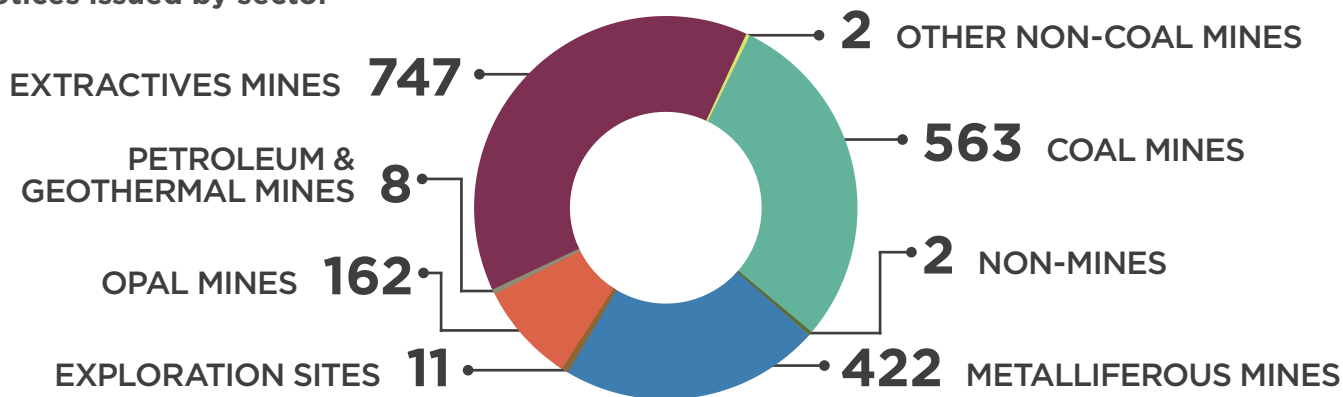
Incident notification profile 2019-20



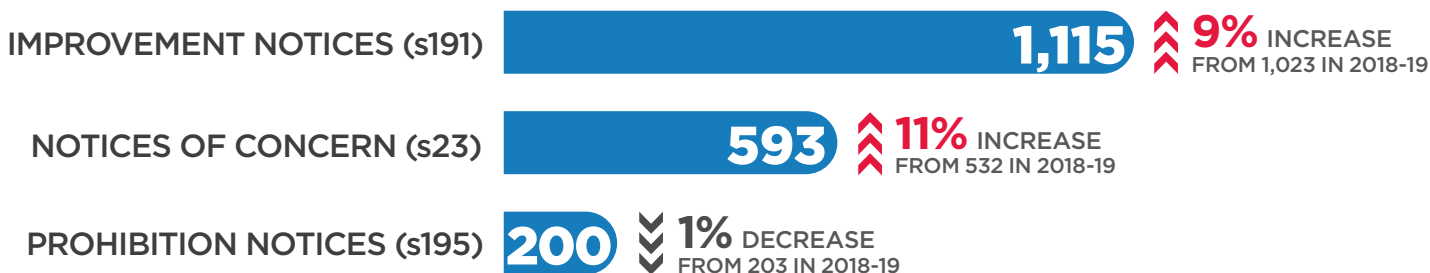
Mine safety performance overview

Notices issued **↑↑ 1,917** INCREASE OF 141 IN 2019-20 FROM 1,776 IN 2018-19

Notices issued by sector



Notices issued by type



Hours worked **↓↓ 67.3m** DECREASE OF 1.5m IN 2019-20 FROM 68.7m IN 2018-19

Total hours worked in 2019-20



For more information

This overview was first published in June 2021 with data current at March 2021.

Visit our [website](#) for more information and resources.

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Executive summary

This report provides an overview of the NSW mining industry's health and safety performance for financial year 2019-20, as reported to the NSW Resources Regulator. It compares safety indicators over the ten years from 2010-11 and includes details of selected regulatory activities over the same period. In this report, the NSW mining industry includes the coal, metalliferous, extractives, petroleum and geothermal, opal and exploration sectors.

For mine and petroleum site operators, this report presents measures to guide future improvements in health and safety performance and to benchmark performance against other operators in their sector. It also provides a valuable source of information on the types of injuries occurring in order to guide regulatory activity.

This report does not cover the wide range of innovations and proactive activities implemented by industry and the Resources Regulator to manage risk in the NSW mining industry.

Work health and safety regulatory intervention has been in place in the Australian mining industry for more than a century. Despite significant ongoing efforts by the NSW mining industry to minimise the health and safety risks to workers, 2019-20 saw one fatal injury, 106 serious injuries, 273 lost time injuries and 822 total recordable injuries reported to the Regulator.

The fatal injury frequency rate in the NSW mining industry has trended down since 2016-17, in line with a long-term downward trend in fatal injuries during the past 100 years.

This is consistent with the steady decline in frequency rates for serious injuries, lost time injuries and total recordable injuries observed since 2010-11. While there have been decreases in the number of lost time and total recordable injuries since 2018-19, the total number of serious injuries has increased year-on-year since 2017-18.

Over the past decade, 'being hit by moving objects' has been the most common hazard mechanism in both fatal and serious injuries. For a detailed review of serious injuries and illnesses including bodily location, nature, mechanism and employment type refer to the 2019-20 [report](#) on our website.

Dangerous incidents have made up the highest proportion of incidents notified in the metalliferous and extractives sectors since 2016-17, while potentially dangerous incidents and other high potential incidents were predominant in surface coal and underground coal operations respectively.

Since 2010-11 the proportion of mines notifying safety incidents has remained steady. On average, 6% of mines notified the regulator of an incident every year during the ten-year reporting period, representing 76% in the coal sector, 26% in the metalliferous sector and 3% in the extractives sector.

Explanatory notes

Health and safety performance data from the NSW mining sector

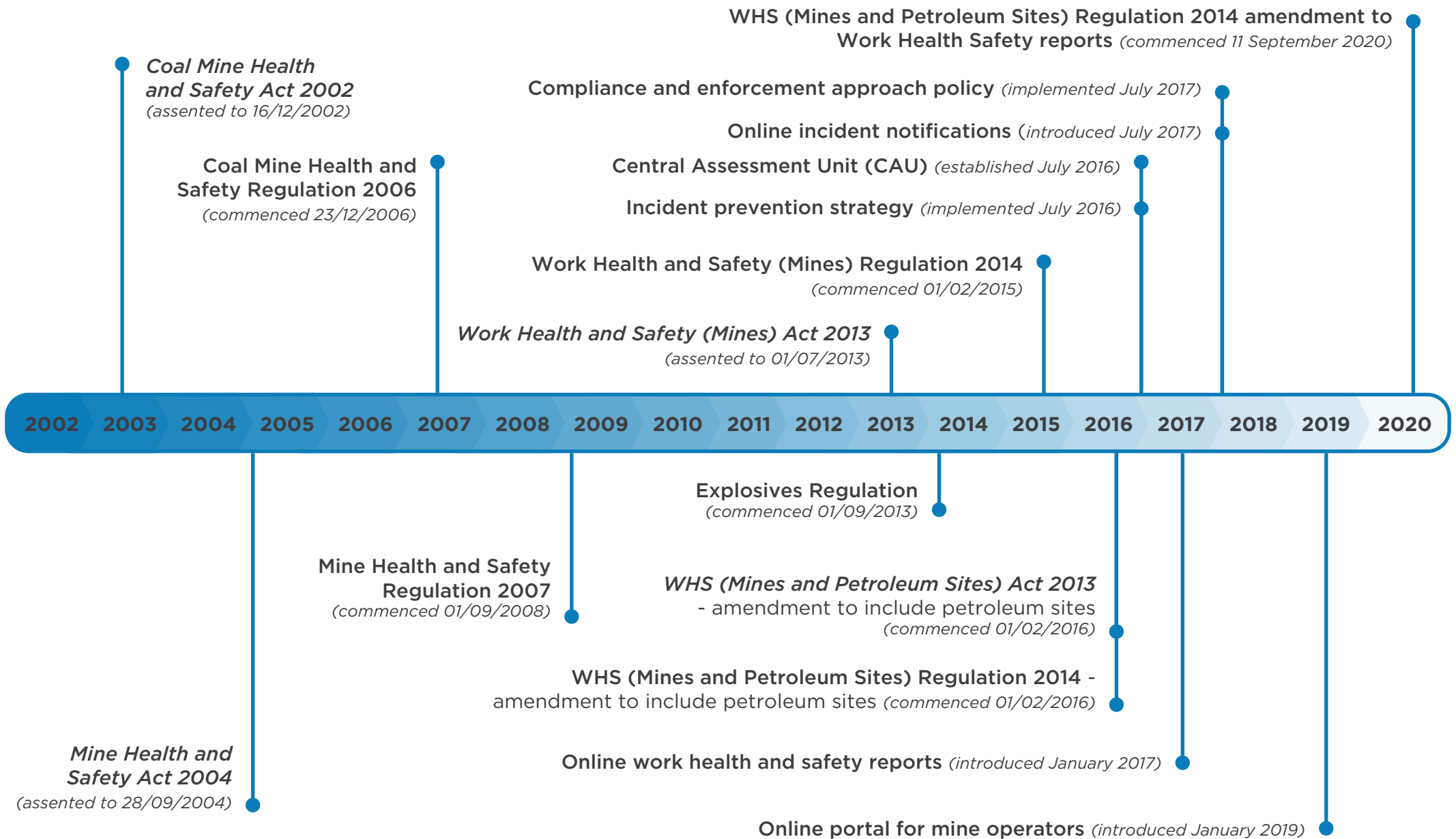
This report presents data on injuries (fatal, serious, lost time and total recordable injuries), notified incidents, notices issued to mining operators and hours worked. All information presented was either reported to the Resources Regulator by the NSW mining industry through work health and safety reporting and incident notifications, or was information obtained from compliance and enforcement activities undertaken by the Resources Regulator. See injury classification definitions in [Appendix 1](#).

Key regulatory changes timeline

Amendments to mine safety legislation in NSW and refined compliance and enforcement practices by the Resources Regulator have impacted data in this report. The timeline in Figure 1 highlights key dates since 2006, including those in relation to notified incidents, injuries, illnesses and work health and safety reporting. While at times it may be difficult to distinguish between real changes in occurrences of an event, the implication of certain changes to the legislation or the implementation of certain strategies are clear.



FIGURE 1: KEY REGULATORY CHANGES IN NSW MINING 2002 - 2019



Changes to work health and safety reporting requirements

Clause 130 of the Work Health and Safety (Mines and Petroleum Sites) Regulation 2014 requires mine operators to provide a work health and safety report to the Regulator each year, with lost time, restricted duty and medical treatment injury information as well as hours worked.

Operators of petroleum sites, underground small gemstone mines, opal mines and tourist mines are not required to submit a work health and safety report to the Regulator.

From June 2020, mine operators of the following classes of mines are also exempt from having to submit work health and safety reports to the Resources Regulator:

- non-coal mines with total worker hours of less than 10,000 hours per year
- mines and exploration sites where the only activity is exploration.

Further information on the changes to work health and safety reporting can be found on our [website](#). See [Appendix 2](#) for detailed definitions of mining sector and mine type.

In this report, historical data has been revised to align with these changes and a separate section for exploration (excluding petroleum and geothermal sites) has been included.

These changes have resulted in inconsistencies with previously published reports where data on exploration sites was included in analysis of other sectors, such as frequency rates calculated for the coal, metalliferous and extractives sectors.

Rate-based frequency measures are calculated using work health and safety reports

The information provided by mine and petroleum site operators in work health and safety reports is to generate frequency rates and total recordable injuries.

Frequency rates (per million hours worked) have been calculated for each injury and incident notification measure. Rates were based on hours worked data submitted by the coal, metalliferous and extractives sectors as part of work health and safety reporting.

Frequency rates are not available for the petroleum and geothermal, opal and exploration sectors.

Rates for injury measures were calculated using a rolling five-year average rate. This smoothing technique shows the value for the past five years combined, enabling a long-term trend to be produced directly from raw data. This is particularly useful where values may vary widely from year to year. Annual rates were calculated for incident notification data. See [Appendix 3](#) for detailed sector level data and [Appendix 4](#) for data for the other sectors including petroleum and geothermal sector, opal sector and exploration sector.

It is worth noting that mandatory work health and safety reporting commenced as follows:

- coal sector - 1 July 2007
- metalliferous and extractives sectors - 1 October 2008
- coal exploration sites - 1 February 2015.

Until 1 July 2007, hours worked and lost time injury data for the coal sector were sourced from Coal Services Pty Ltd. Until 1 October 2008, metalliferous and extractives hours worked and lost time injuries were compiled from several sources and included some estimation.

Data extraction

This report covers ten financial years from 2010-11 to 2019-20. The rolling five-year average rate calculation was based on 15 years of data from 2005-06 to 2019-20. The data in this report was extracted from the Resources Regulator's compliance database on 14 March 2021. All data is subject to continuous improvement due to internal audit and validation processes and updates from external sources. Incorrectly classified information from past reporting periods is sometimes found and reclassified in source databases. The Regulator's reporting employs the best available data at the time of data extraction, which may differ from previously published figures.

Chapter 1.

Industry overview



Industry overview

Key performance measures 2019-20

1
fatal injury

106
serious injuries

273
lost time injuries

822
total recordable injuries

2,141
notified incidents

1,917
notices issued

In the NSW mining industry in 2019-20:

- There was one work-related **fatality**, which resulted from a vehicle incident in a mineral sands metalliferous mine in the State's far West. See the [fatal injury spotlight](#) section for further details.
 - The rolling **five-year average fatal injury frequency rate** (FIFR) for the coal, metalliferous and extractives sectors continues to fall, decreasing by 17% from 2018-19.
 - Overall, **being hit by a moving object**, accounted for half of the 16 fatalities occurring during the ten-year period, followed by **vehicle and other incidents** (Figures 4 - 9).
 - Of the 16 fatal injuries in the ten-year reporting period, 25% were **head** injuries, almost 20% were **trunk or chest** injuries while more than half affected **multiple or other locations**.
- A steady downward trend has been observed in the rolling five-year average **serious injury frequency rate** (SIFR) for the combined coal, metalliferous and extractives sectors since 2010-11, although the number of **serious injuries** increased - up 13% from 2018-19 to 106.
 - Coal mines accounted for 66% of these serious injuries.
 - Overall increases in serious injuries to the **head or neck** due to being **hit by moving objects** were observed, along with increased **falls, trips and slips** resulting in serious injuries to **upper limbs**.

- Serious injuries to upper limbs were predominantly due to a breakdown in **environmental agencies**. Serious injuries to **contractors** increased by 44% from 2018-19, associated with double the number of injuries to both head or neck and hands, fingers and wrists.
- Serious injuries to hands, fingers and wrists of **employees** have decreased by 63% (Figures 10 - 16).
- For a detailed review of serious injuries and illnesses including bodily location, nature, mechanism and employment type refer to the 2019-20 [report](#) on our website.
- There were 273 **lost time injuries** reported in the combined coal, metalliferous and extractives sectors.
 - The combined rolling five-year average **lost time injury frequency rate** (LTIFR) increased slightly in 2019-20, however an overall downward trend was observed over the ten-year reporting period.
 - The LTIFR for the **extractives** sector in 2019-20 was 86% higher than the rate for all sectors combined (Figures 17 - 18).
- There were 822 **total recordable injuries** in the combined coal, metalliferous and extractives sectors, a reduction of 14% compared to 2018-19.
 - Since 2012-13 a steady downward trend has been observed in the rolling five-year average **total recordable injury frequency rate** (TRIFR) for the combined coal, metalliferous and extractives sectors (Figures 19 - 20).
- **Notified incidents** increased by 5% compared to 2018-19, however a steady downward trend was observed in the **incident notification frequency rate** (INFR) for the combined coal, metalliferous and extractives sectors over the ten-year reporting period.
 - In 2019-20, the breakdown analysis by type of incident and operation type presents a unique **notification profile**.
 - Multiple factors including legislative framework, inherent hazards and characteristics of each sector and commodity produced contribute to the differences observed across each of the operation types (Figures 21 - 23).
- There were 1,917 **notices issued** to NSW mines, an increase of 8% from 2018-19 — the most notices issued in any year across the ten-year reporting period.
 - Almost 60% were improvement notices.
 - The extractives sector received the highest proportion of notices in 2019-20, while the coal sector received the highest proportion in all previous years of the ten-year reporting period (Figures 24 - 25).
 - In 2019-20, the Resources Regulator conducted 1,639 **programmed assessments** which resulted in 1,623 notices being issued and a notice issue rate of about one notice per programmed assessment.
 - Overall, 85% of all notices issued related to programmed assessments (Table 2).

TABLE 1: NSW COAL, METALLIFEROUS AND EXTRACTIVES COMPARISON OF KEY PERFORMANCE INDICATORS 2018-19 AND 2019-20

KEY PERFORMANCE INDICATORS	COAL SURFACE		COAL UNDERGROUND		COAL TOTAL		METALLIFEROUS SURFACE		METALLIFEROUS UNDERGROUND		METALLIFEROUS TOTAL		EXTRACTIVES SURFACE		COAL, METALLIFEROUS & SURFACE EXTRACTIVES TOTAL	
	FY 2019	FY 2020	FY 2019	FY 2020	FY 2019	FY 2020	FY 2019	FY 2020	FY 2019	FY 2020	FY 2019	FY 2020	FY 2019	FY 2020	FY 2019	FY 2020
Active mines	77	79	46	43	123	122	69	58	47	47	116	105	2,500	2,533	2,740	2,761
Million hours worked	34.17	33.62	14.93	14.22	49.10	47.84	6.11	6.86	7.55	8.11	13.66	14.97	5.91	4.44	68.67	67.25
Full time equivalent workers	17,084	16,810	7,466	7,109	24,550	23,919	3,055	3,432	3,777	4,054	6,832	7,486	2,955	2,221	2,955	33,626
Fatal injuries	1	0	0	0	1	0	1	1	0	0	1	1	0	0	2	1
Fatal injury 5 year average frequency rate	0.014	0.013	0.000	0.000	0.009	0.009	0.048	0.078	0.046	0.050	0.047	0.061	0.076	0.000	0.023	0.019
Lost time injuries	93	78	125	119	218	197	9	12	19	38	28	50	46	26	292	273
Lost time injury 5 year average frequency rate	2.14	2.31	8.28	8.43	4.15	4.25	2.26	2.03	2.77	3.41	2.60	2.87	8.31	7.96	4.18	4.27
Restricted duty injuries	75	46	222	215	297	261	8	12	76	77	84	89	52	25	433	375
Medical treatment injuries	30	32	81	44	111	76	11	10	35	30	46	40	65	56	222	172
Total recordable injuries	199	156	430	379	629	535	29	35	130	145	159	180	163	107	951	822
Total recordable injury 5 year average frequency rate	6.10	5.89	30.27	29.68	14.00	13.41	8.78	7.93	18.54	18.35	15.37	14.30	24.77	25.72	15.22	14.62
Serious injuries	13	25	53	45	66	70	3	2	16	18	19	20	4	12	89	102
Serious injury 5 year average frequency rate	0.70	0.71	3.23	3.08	1.53	1.46	0.72	0.51	1.78	2.02	1.43	1.43	1.96	2.16	1.55	1.51
Incident notifications	608	591	999	1,076	1,607	1,667	48	48	214	248	262	296	153	167	2,022	2,130
Incident notification annual frequency rate	17.79	17.58	66.90	75.68	32.73	34.85	7.86	6.99	28.33	30.59	19.18	19.77	25.89	37.59	29.44	31.67
% of mines that notified an incident	58%	59%	57%	65%	58%	61%	7%	17%	38%	36%	20%	26%	3%	3%	6%	6%
Notices issued	271	298	382	265	653	563	72	101	428	321	500	422	532	746	1,687	1,732

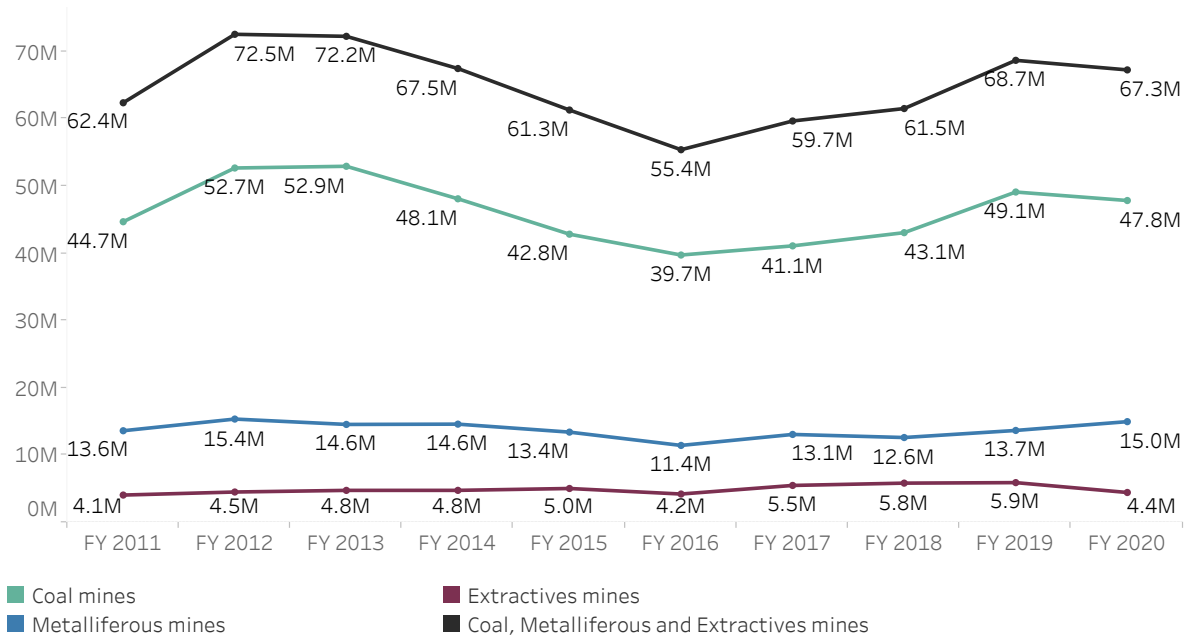
Hours worked

In 2019-20 hours worked in the combined coal, metalliferous and extractives sectors slightly decreased compared to 2018-19 from 68.7 to 67.3 million hours. In 2019-20 just over 70% of the hours were worked in the coal sector, 22% in the metalliferous sector and 7% in the extractives sector.

Over the ten-year reporting period the total number of hours worked has increased by 8% from 62.4 million hours in 2010-11 to 67.3 million hours in 2019-20. This was driven primarily by variations in hours worked in the coal sector.

Exploration, petroleum and geothermal sites, underground small gemstone mines, opal mines and tourist mines are not represented in NSW hours worked figures because mining operators in these sectors are not required to submit work health and safety reports to the regulator. See [Explanatory notes](#) for more information about work health and safety reporting.

FIGURE 2: **COAL, METALLIFEROUS AND EXTRACTIVES HOURS WORKED BY SECTOR 2010-11 TO 2019-2020**



Fatal injuries

Fatal injuries 2019-20

In 2019-20 there was one work-related fatality and two non-work-related deaths at mines in NSW.

Spotlight on a work-related death

**WORKER AT A MINERAL SANDS MINE IN THE STATE'S FAR WEST
12 AUGUST 2019**

RELATED HAZARD: VEHICLE OR PLANT INCIDENT

On 12 August 2019, a contract worker suffered fatal injuries following an interaction between a light vehicle and dozer.

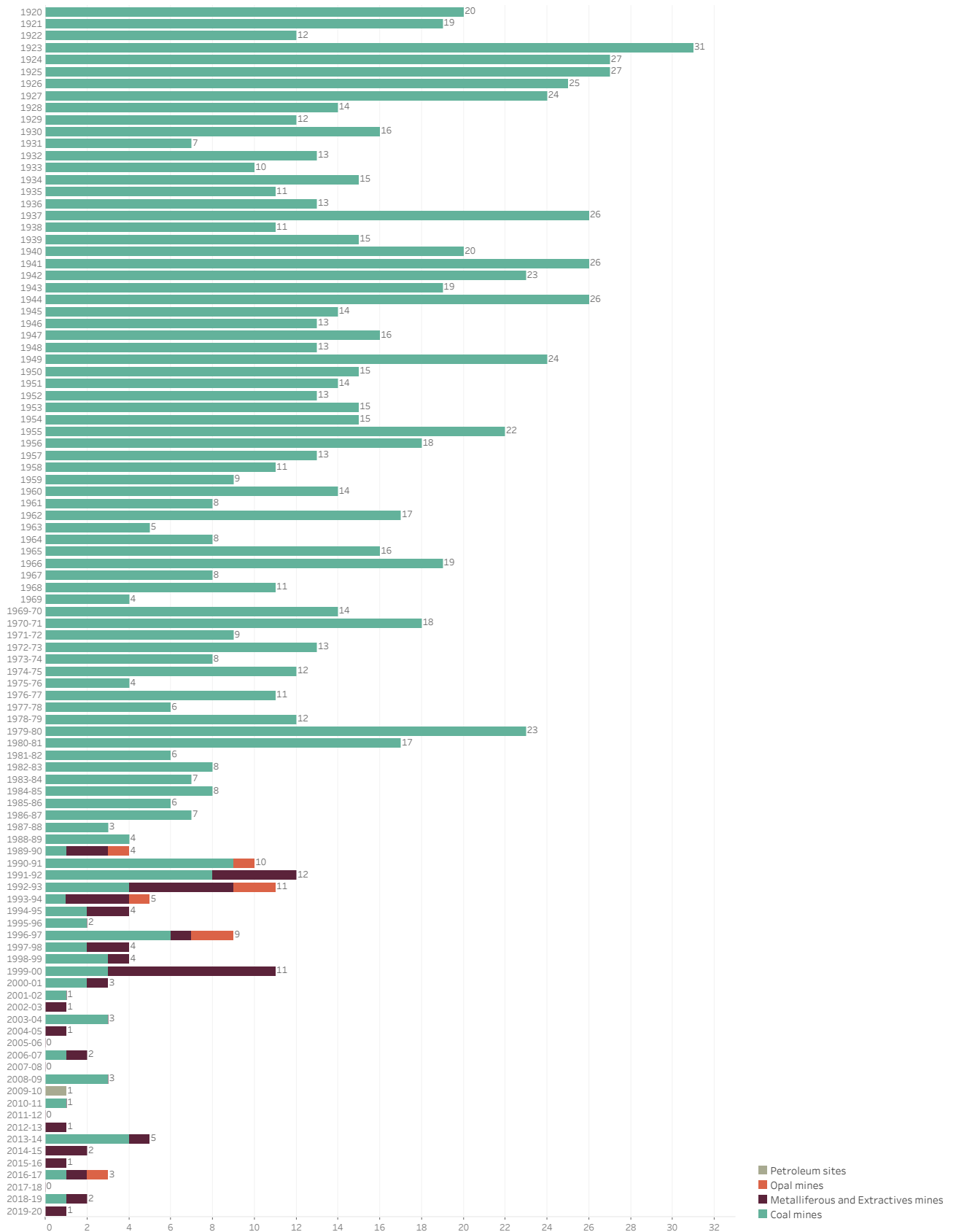
See [Investigation Information release IRR19-11](#) for more information.



Fatal injuries in NSW mining, last 100 years

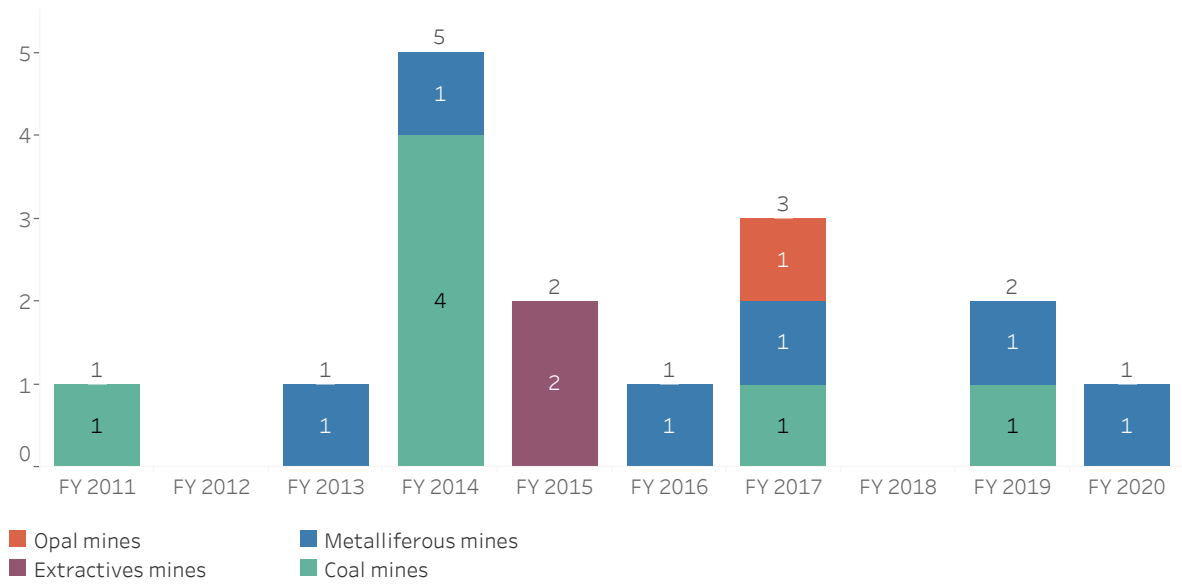
Note: Fatal injury data for all sectors became available from 1989.

FIGURE 3: FATAL INJURIES BY SECTOR 1920 TO FY 2019-20



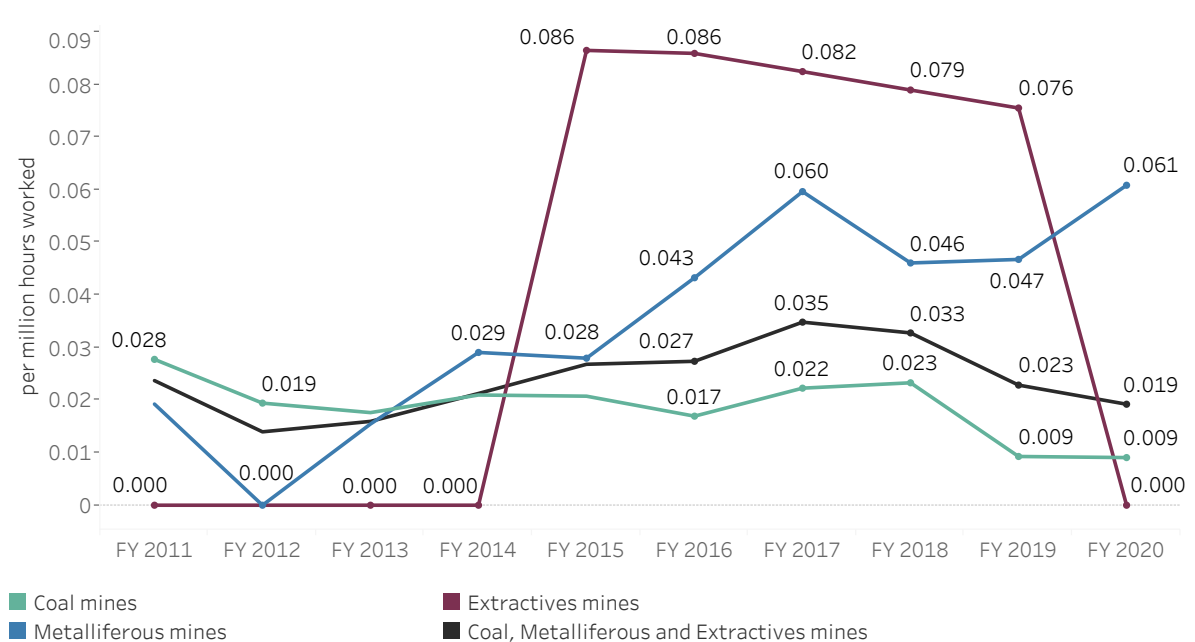
Fatal injuries by sector

FIGURE 4: FATAL INJURIES BY SECTOR 2010-11 TO 2019-20



Fatal injury frequency rate

FIGURE 5: COAL, METALLIFEROUS AND EXTRACTIVES ROLLING FIVE-YEAR FIFR 2010-11 TO 2019-20



Fatal injury hazard mechanism

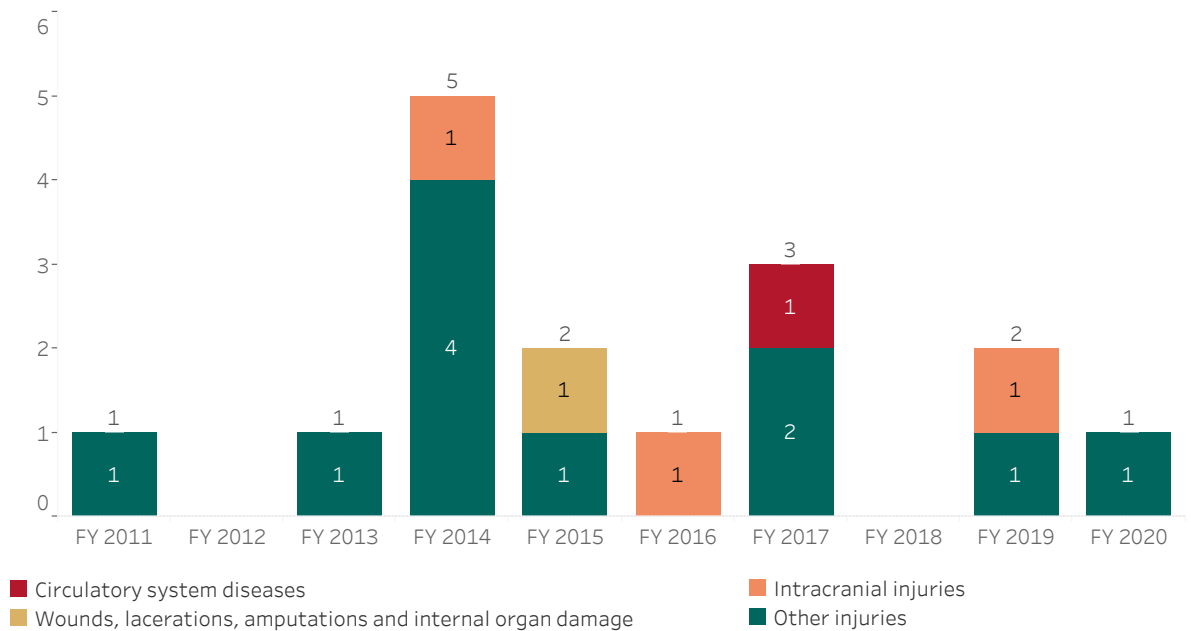
FIGURE 6: FATAL INJURIES BY HAZARD MECHANISM 2010-11 TO 2019-20



Fatal injury nature of injury

Since 2010-11, the nature of fatal injuries was most often classified as ‘other injuries’ (11) and ‘intracranial injuries’ (3). Note: ‘Other injuries’ includes effects of weather, exposure, air pressure and other external causes not elsewhere classified, electrocution, shock from electric current and multiple injuries.

FIGURE 7: FATAL INJURIES BY NATURE OF INJURY 2010-11 TO 2019-20



Fatal injury bodily location

FIGURE 8: FATAL INJURIES BY BODILY LOCATION 2010-11 TO 2019-20

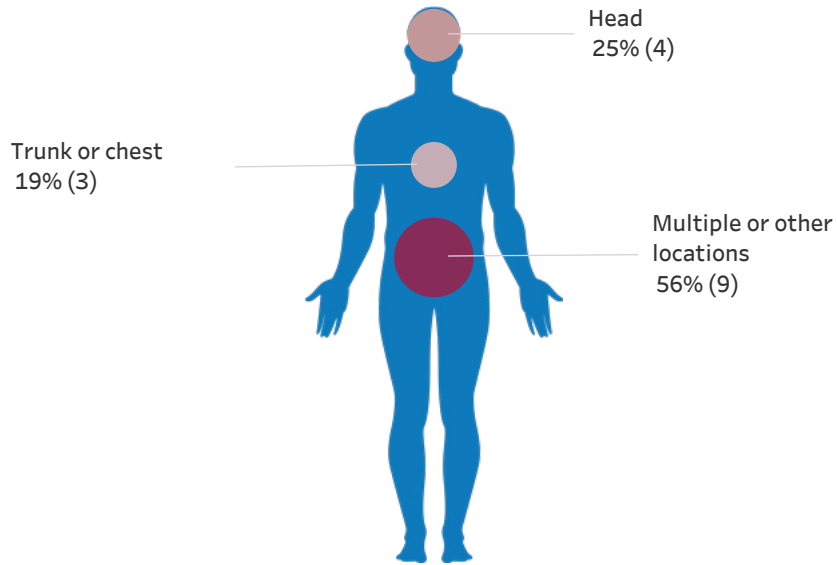
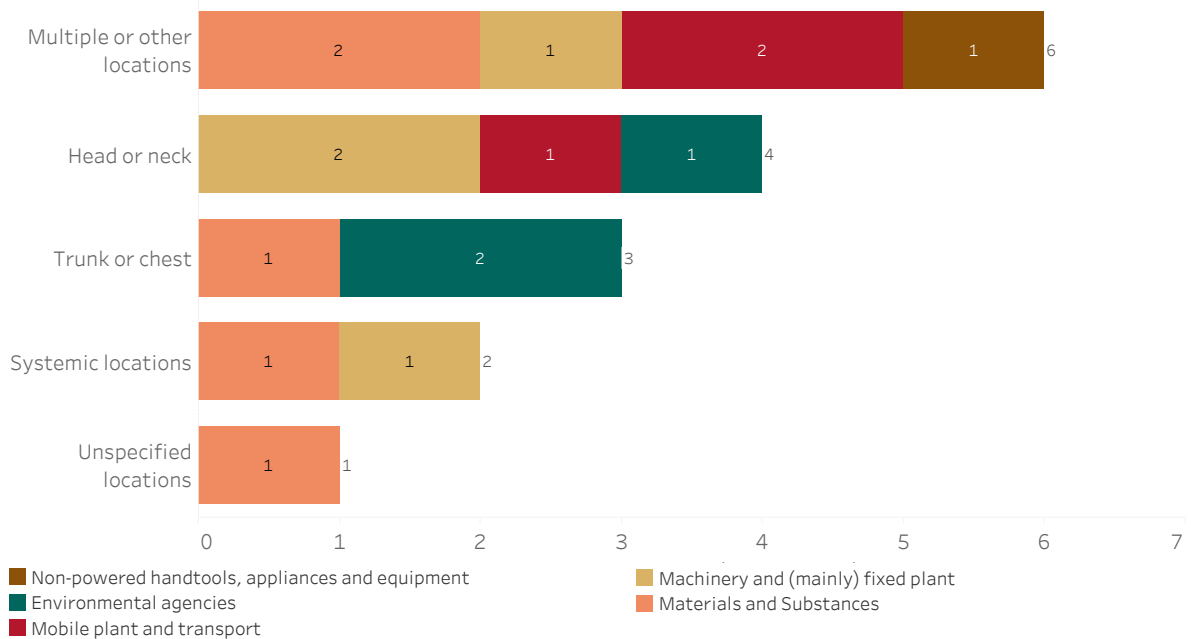


FIGURE 9: BODILY LOCATION OF FATAL INJURIES BY BREAKDOWN AGENCY 2010-11 TO 2019-20



Serious injuries

Previously published Mine Safety Performance reports presented serious injury details based on definitions applicable to the legislation that was current at the time.

With the commencement of the Work Health and Safety (Mines and Petroleum Sites) Regulation 2014 in February 2015, the definition of a serious injury was expanded to include additional injury and illness types, as well as any injury or illness, irrespective of its nature, that results in immediate treatment as an in-patient in a hospital.

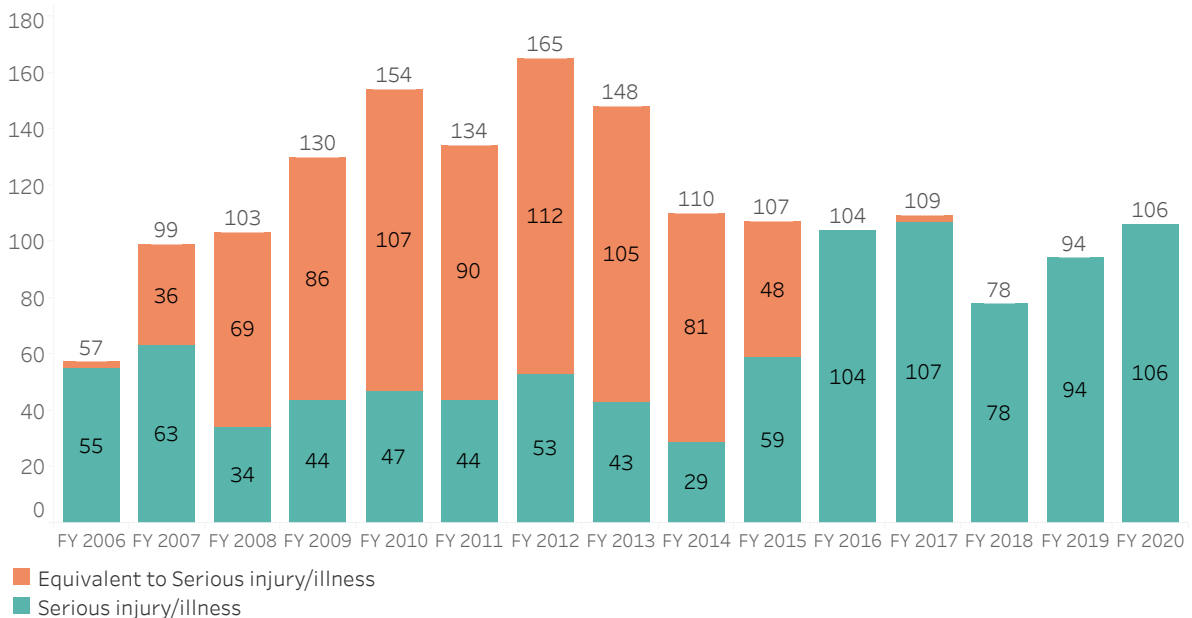
To provide equivalence in serious injuries across the serious injury definitions in the previous legislation and current legislation, the serious injuries in this report consist of:

- injuries classified with an injury classification of *Injury, Serious, Work-related or Illness, Serious, Work-related*
- any non-serious injuries with outcomes that resulted in-hospital inpatient admission and/or loss of consciousness.

Note that it is recognised that while the injuries classified under the previous legislation were recorded with hospital inpatient admission clauses, some of these may have only resulted in hospital treatment (eg. for sutures), rather than inpatient admission.

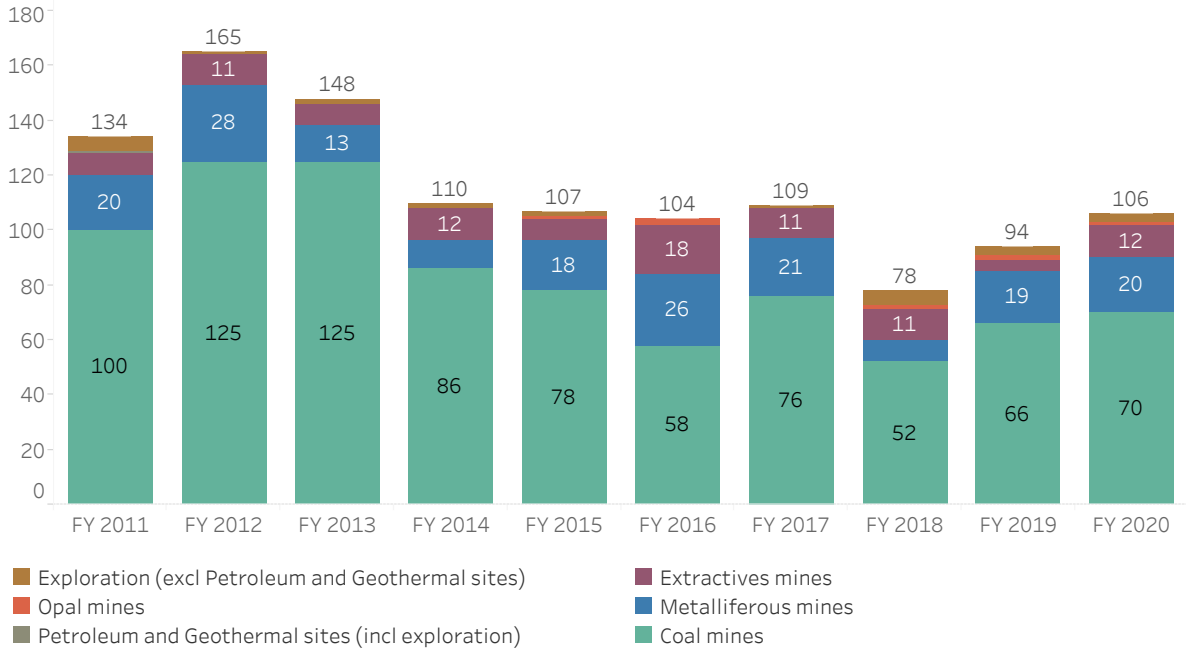
For a detailed review of serious injuries and illnesses including bodily location, nature, mechanism and employment type refer to the 2019-20 [report](#) on our website.

FIGURE 10: **SERIOUS INJURIES WITH RE-CLASSIFIED HISTORICAL SERIOUS INJURIES 2005-06 TO 2019-20**



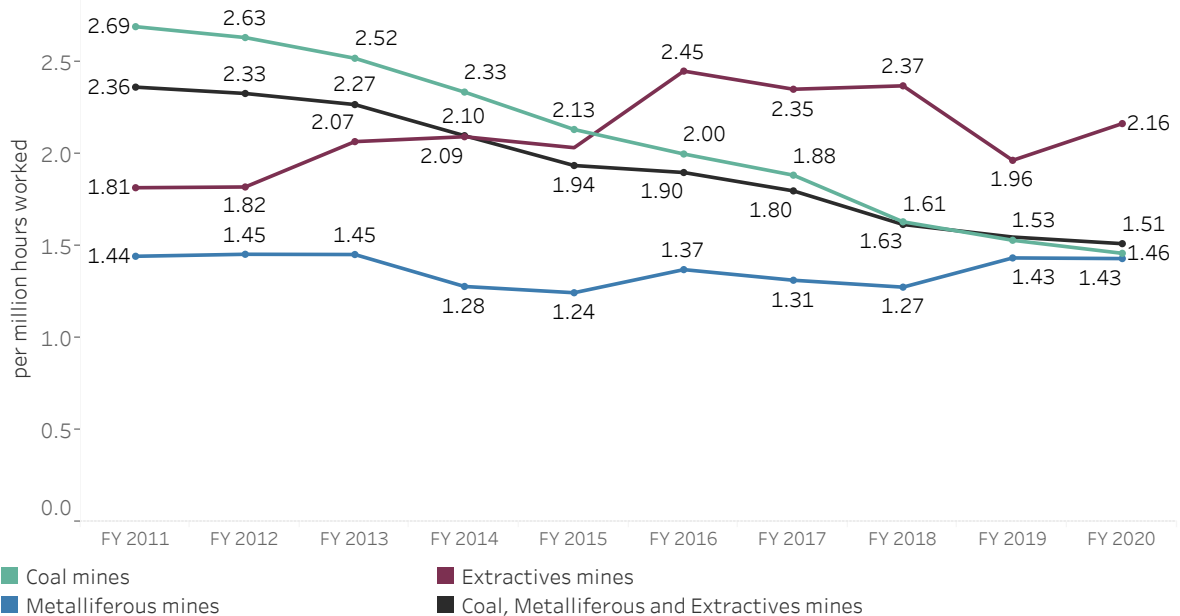
Serious injuries by sector

FIGURE 11: SERIOUS INJURIES BY SECTOR 2010-11 TO 2019-20



Serious injury frequency rates

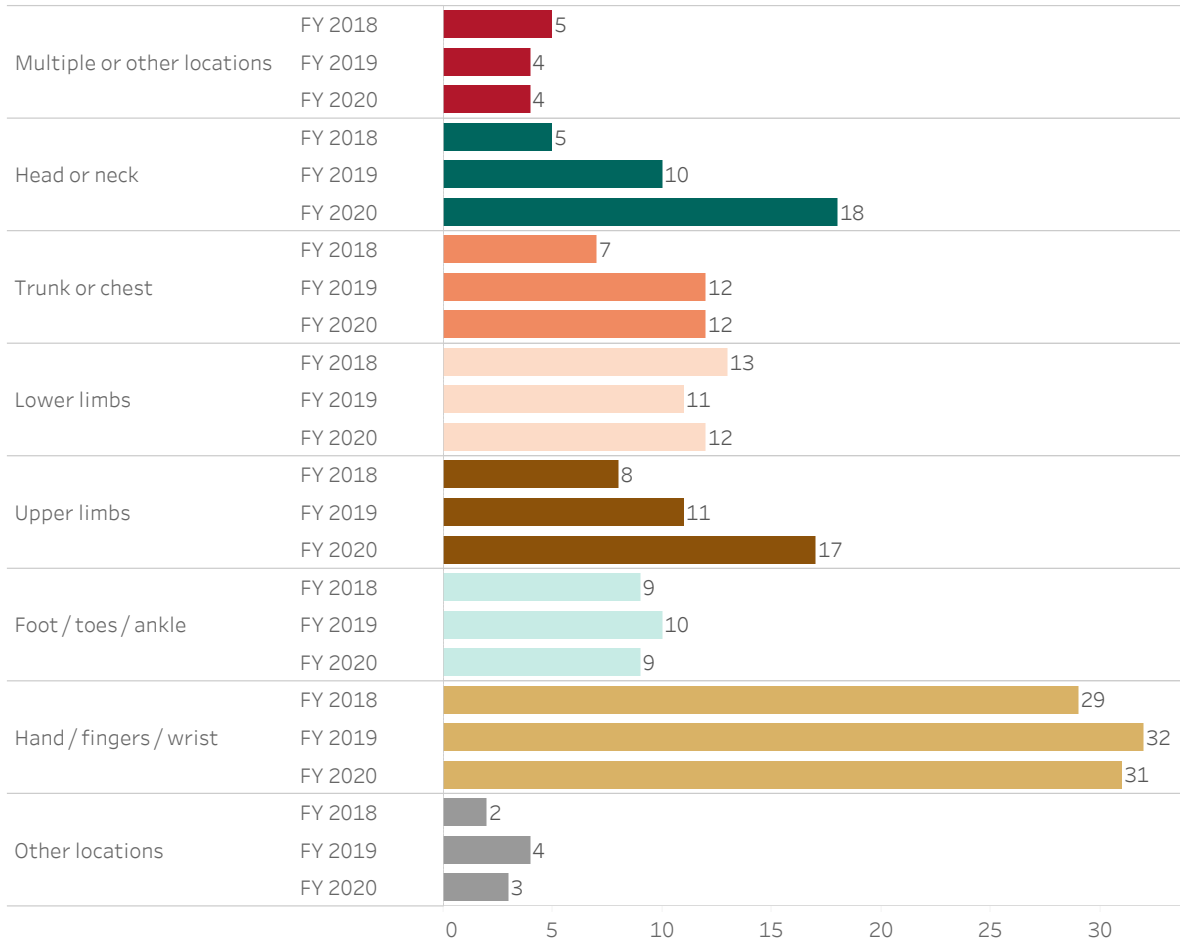
FIGURE 12: COAL, METALLIFEROUS AND EXTRACTIVES ROLLING FIVE-YEAR SIFR 2010-11 TO 2019-20



Serious injuries by bodily location

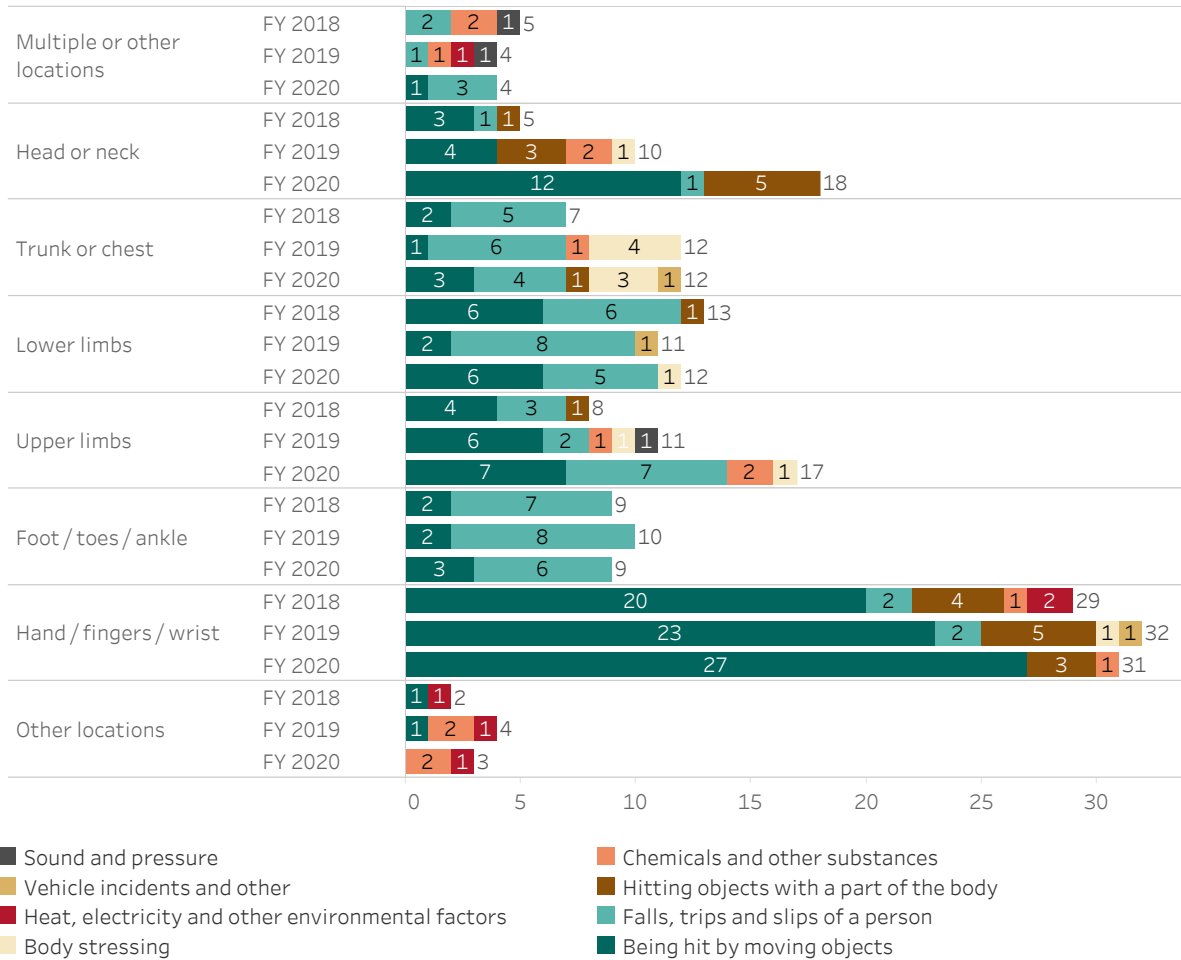
Bodily location has been used as a way to examine change in the severity and nature of serious injuries from 2017-18, by mechanism, breakdown agency and employment type.

FIGURE 13: BODILY LOCATION OF SERIOUS INJURIES 2017-18 TO 2019-20



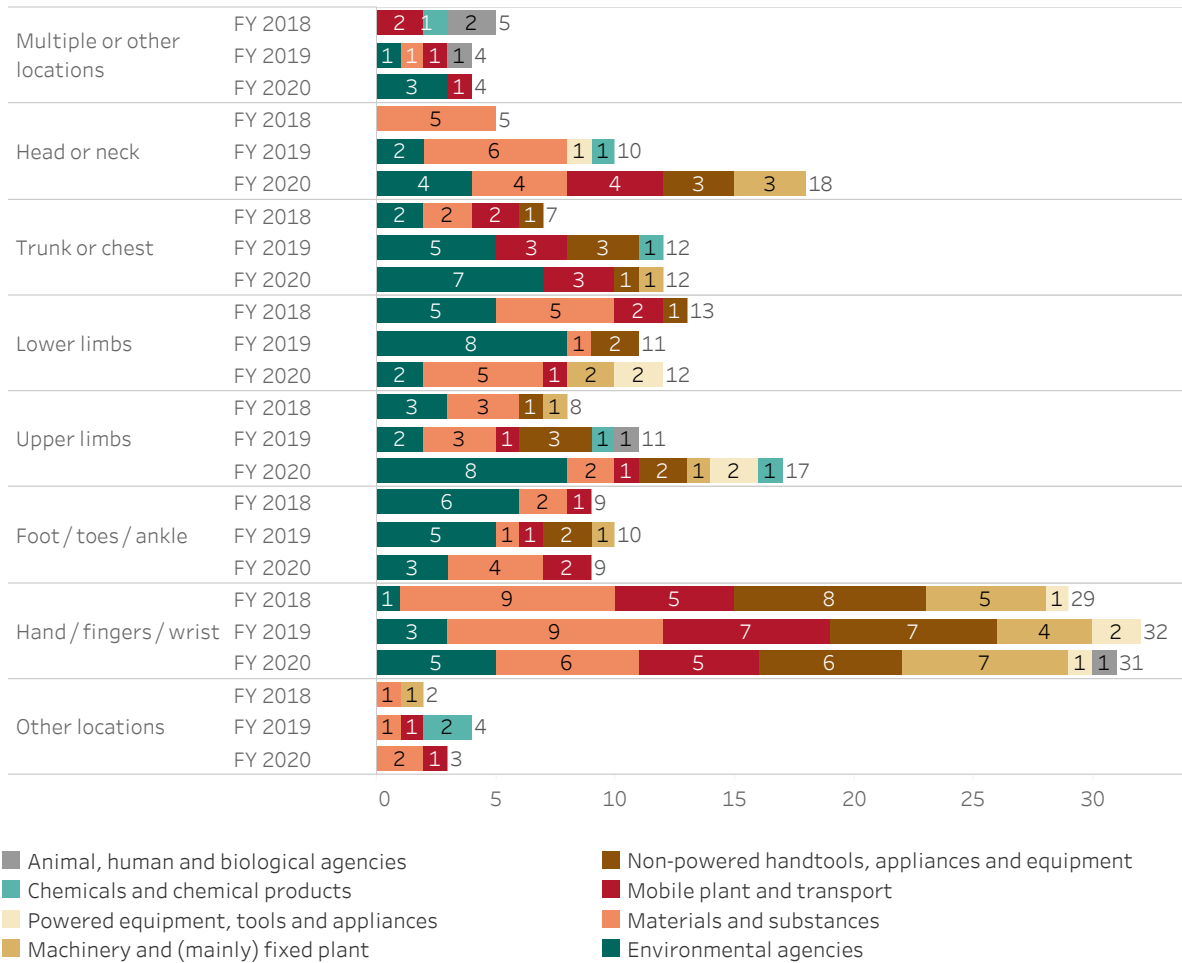
MECHANISM

FIGURE 14: **BODILY LOCATION OF SERIOUS INJURIES BY MECHANISM 2017-18 TO 2019-20**



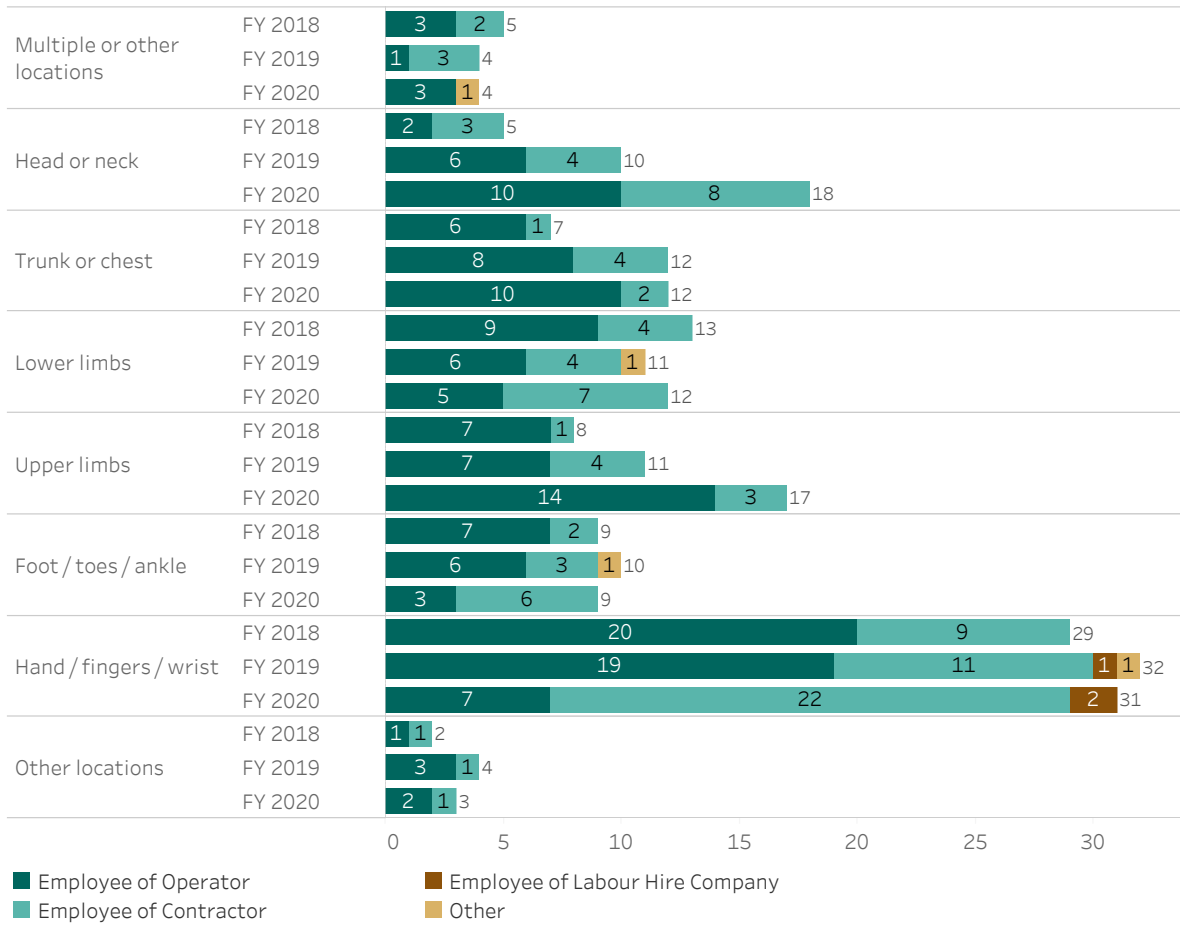
BREAKDOWN AGENCY

FIGURE 15: BODILY LOCATION OF SERIOUS INJURIES BY BREAKDOWN AGENCY 2017-18 TO 2019-20



EMPLOYMENT TYPE

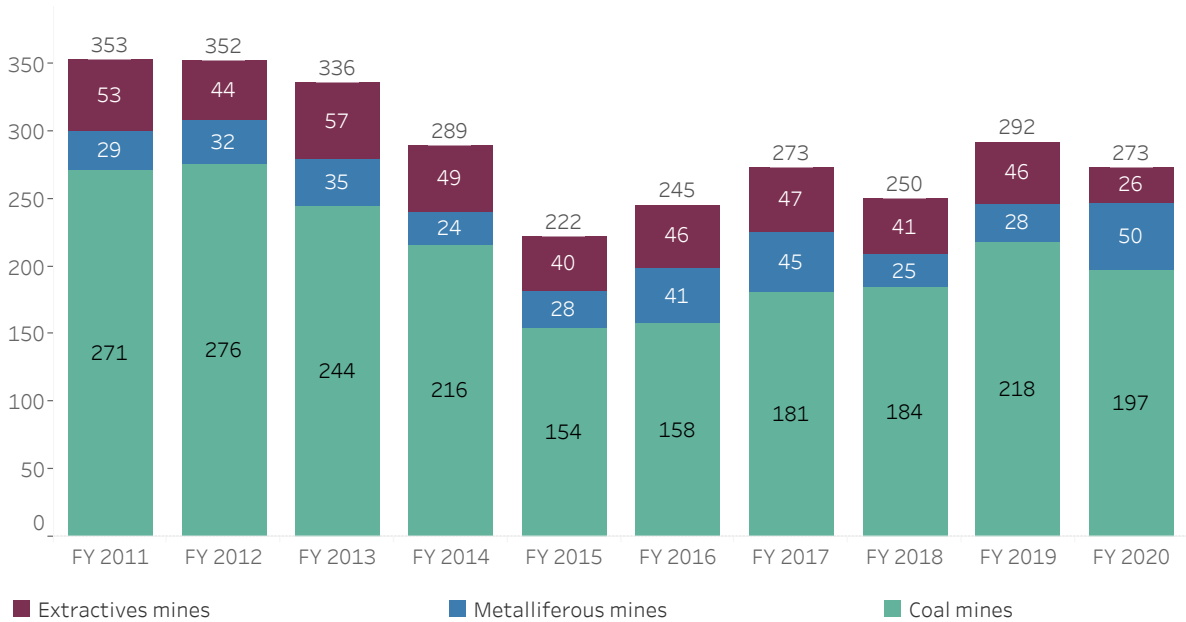
FIGURE 16: BODILY LOCATION OF SERIOUS INJURIES BY EMPLOYMENT TYPE 2017-18 TO 2019-20



Lost time injuries

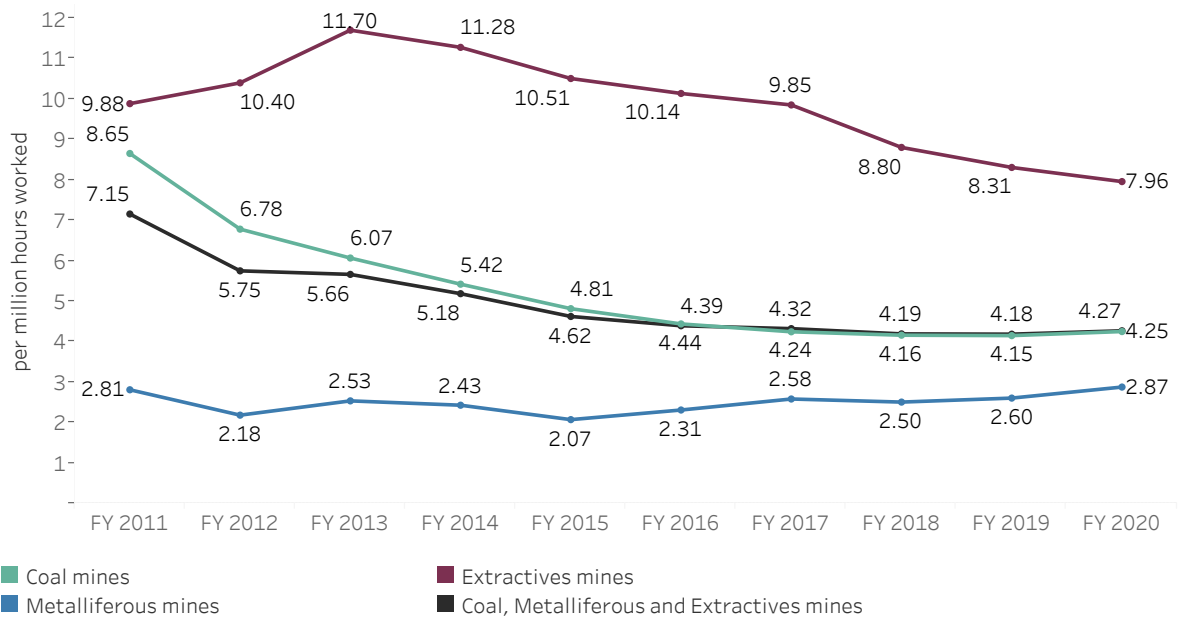
Lost time injuries by sector

FIGURE 17: COAL, METALLIFEROUS AND EXTRACTIVES LOST TIME INJURIES BY SECTOR 2010-11 TO 2019-20



Lost time injury frequency rates

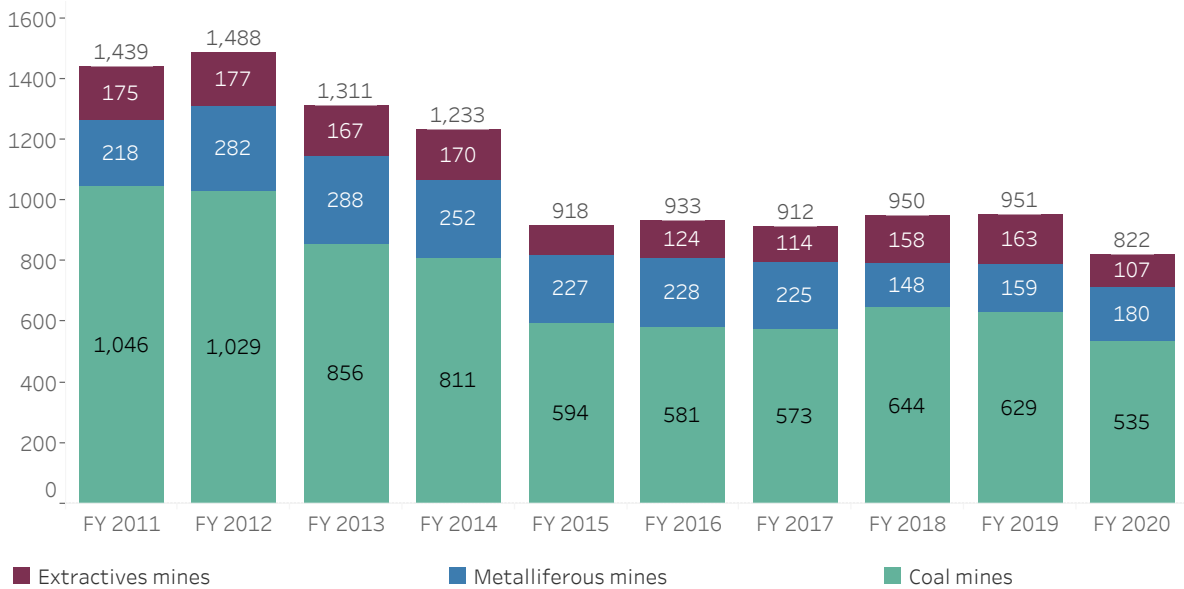
FIGURE 18: COAL, METALLIFEROUS AND EXTRACTIVES ROLLING FIVE-YEAR LTIFR 2010-11 TO 2019-20



Total recordable injuries

Total recordable injuries by sector

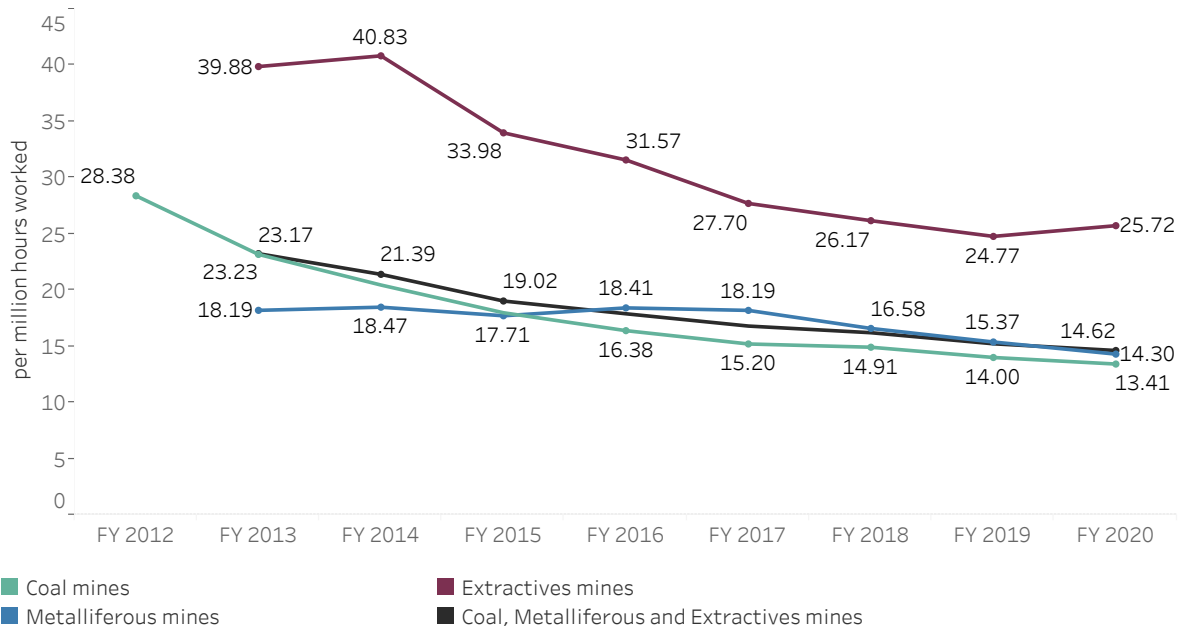
FIGURE 19: COAL, METALLIFEROUS AND EXTRACTIVES TOTAL RECORDABLE INJURIES 2010-11 TO 2019-20



Total recordable injury frequency rates

Note: A rolling five-year average TRIFR frequency rate was unable to be calculated for the whole ten-year reporting period as this information was only included in work health and safety reporting requirements for the coal sector from the beginning of 2007-08 and for the metalliferous and extractives sectors from the second quarter of 2008-09.

FIGURE 20: COAL, METALLIFEROUS AND EXTRACTIVES ROLLING FIVE-YEAR AVERAGE TRIFR 2011-12 TO 2019-20

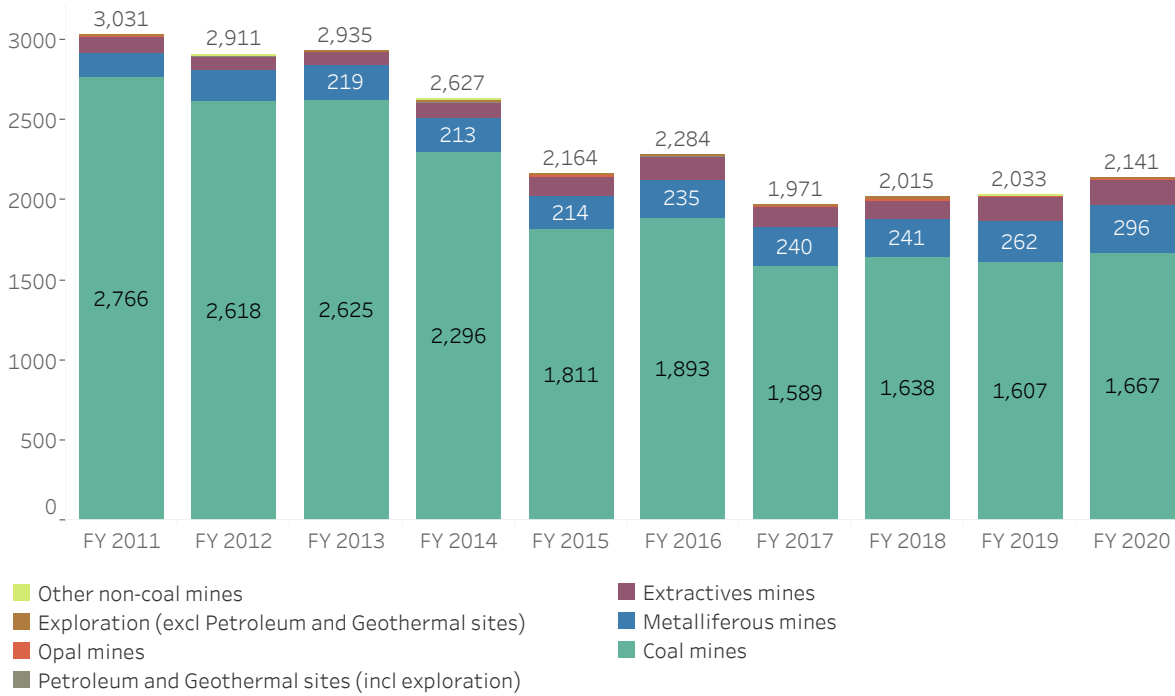


Notified incidents

Notified incidents by sector

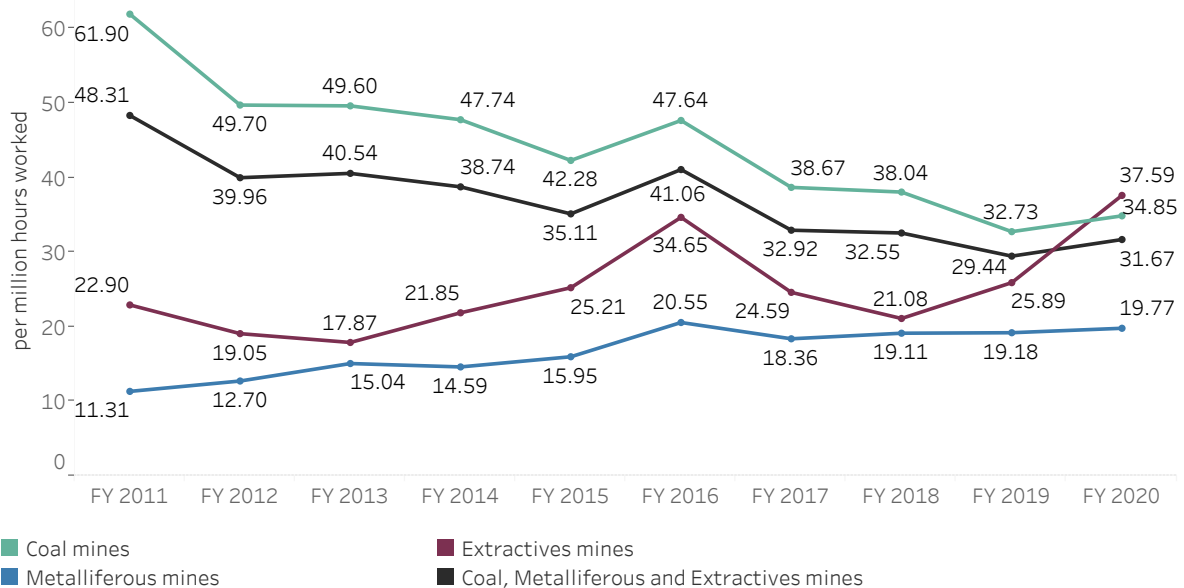
Note: Any incident notification that included multiple gas exceedances has been included as individual incident notifications in this report. See [Appendix 3](#) for details of notified incidents by sector.

FIGURE 21: NOTIFIED INCIDENTS BY SECTOR 2010-11 TO 2019-20



Incident notification rates

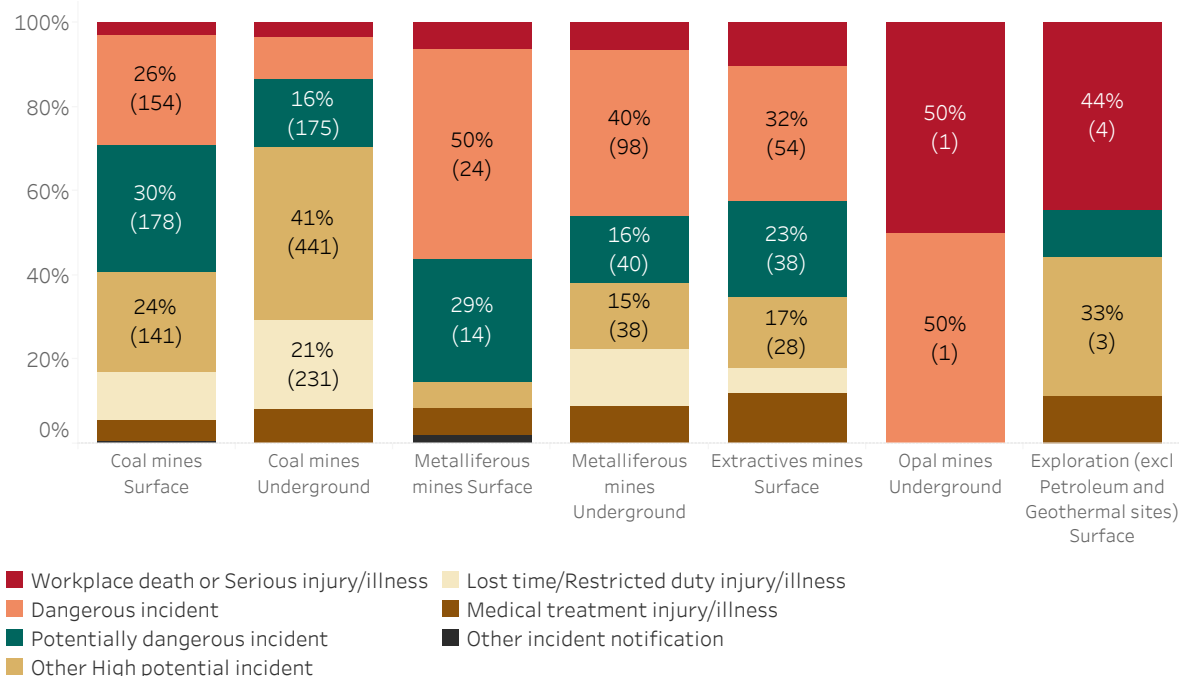
FIGURE 22: COAL, METALLIFEROUS AND EXTRACTIVES SECTOR INCIDENT NOTIFICATION RATE 2010-11 TO 2019-20



Incident notification reporting trends

INCIDENT NOTIFICATION PROFILE

FIGURE 23: INCIDENT NOTIFICATION PROFILE BY SECTOR AND OPERATION TYPE 2019-20



PROPORTION OF MINES NOTIFYING INCIDENTS

Since 2010-11 the proportion of mines notifying incidents has remained steady. On average, 6% of mines notified the regulator of an incident every year during the ten-year reporting period.

The table provided below excludes the exploration sector and the numbers will be different to those previously reported due to changes in work health and safety reporting requirements in June 2020 as outlined in the [Explanatory notes](#).

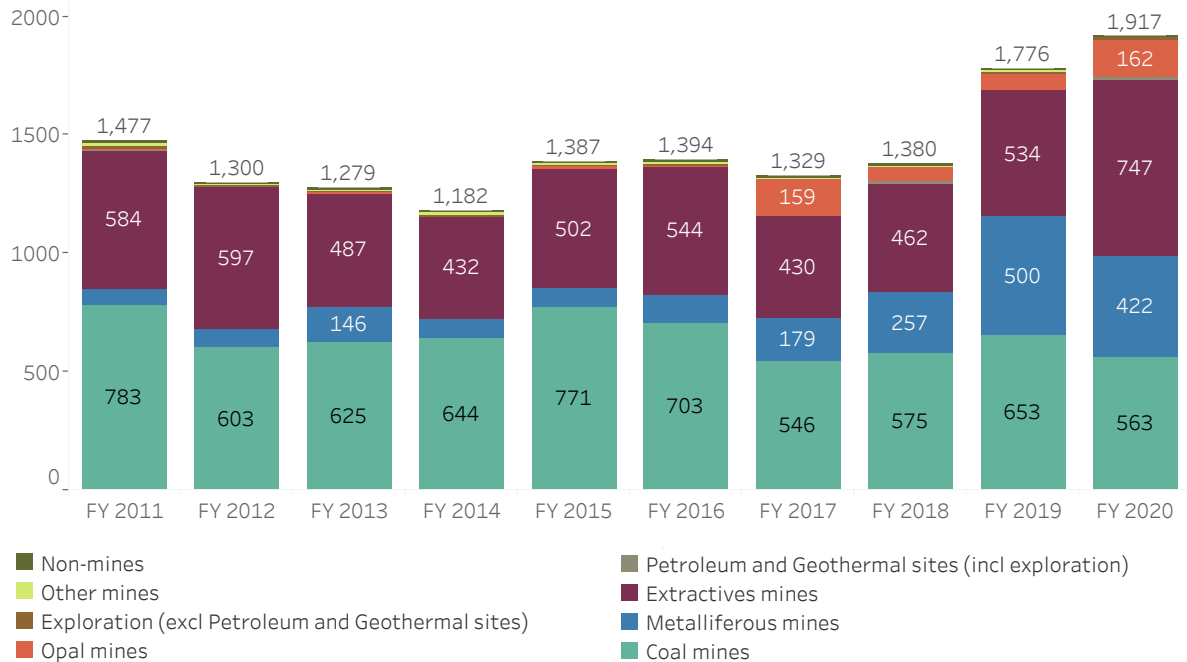
TABLE 2: PROPORTION OF COAL, METALLIFEROUS AND EXTRACTIVES MINES THAT NOTIFIED AN INCIDENT

MEASURE	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020
Total notified incidents	3,013	2,899	2,929	2,613	2,152	2,274	1,964	2,002	2,022	2,130
Number of active mines, excl exploration	2,382	2,468	2,554	2,583	2,644	2,776	2,744	2,771	2,740	2,760
Number of mines that notified an incident	160	170	151	165	165	173	165	174	173	178
% of mines, excl exploration, that notified an incident	7%	7%	6%	6%	6%	6%	6%	6%	6%	6%

Notices issued

Notices issued by sector

FIGURE 24: NOTICES ISSUED BY SECTOR 2010-11 TO 2019-20

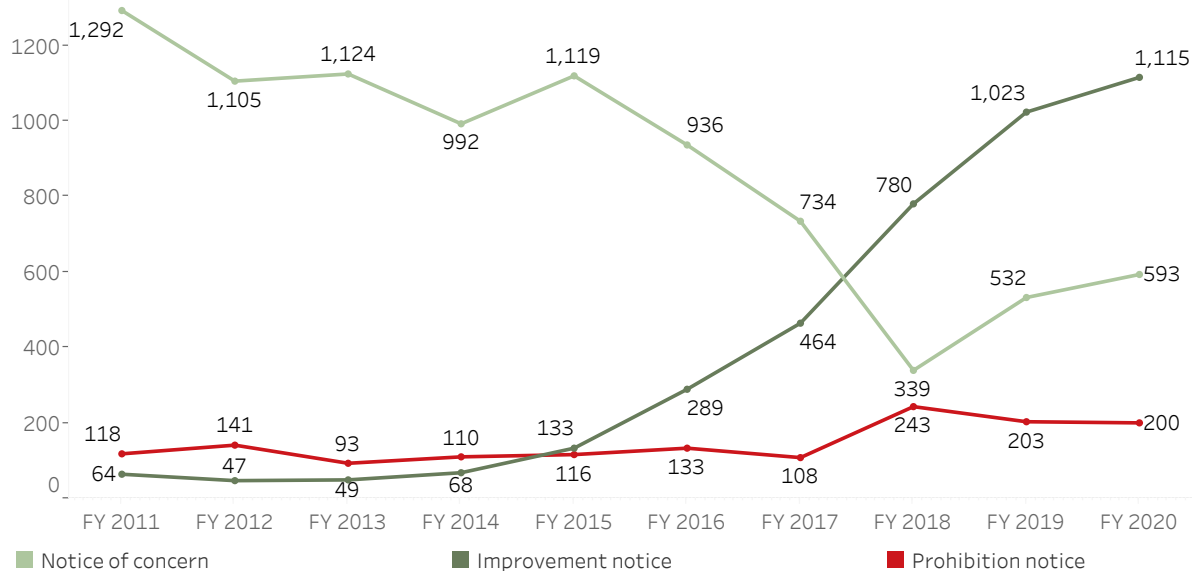


Notices issued by notice type

Since 2017-18, changes to the type of notices issued reflect the Resources Regulator’s renewed focus on incident prevention as outlined in its [Compliance and Enforcement Approach \(2017\)](#). The approach sought to clearly identify matters that necessitate the issue of an improvement notice rather than a written notice of concern.

Due to the small numbers of non-disturbance and explosives notices, these have not been included in the following figure.

FIGURE 25: NOTICES ISSUED BY NOTICE TYPE 2010-11 TO 2019-20



Sector profiles

**NSW
Resources
Regulator**

**SECTOR
REPORTING**

Coal

Open cut,
underground and coal
preparation plants

Metalliferous

Includes metals and
mineral sands

Extractives

Includes construction
and industrial
materials





Chapter 2.

Coal Sector

Coal sector

Key performance measures 2019-20

0

fatal injuries

70

serious injuries

197

lost time injuries

535

total recordable injuries

1,667

notified incidents

563

notices issued

In the coal sector in 2019-20:

- There were no work-related **fatalities** and the last work-related fatality in the coal sector was in 2018-19 (Figure 27). Downward trends have been observed since 2010-11 in the frequency rates for **serious injuries**, **lost time injuries** and **total recordable injuries** across the coal sector.
- Of the 70 **serious injuries** notified, the majority (64%) occurred in underground coal mines. Serious injuries reported in surface coal mines have increased by more than 90% from 2018-19 (from 12 to 25) but the **serious injury frequency rate** (SIFR) has shown a small downward trend since 2018-19 (Figures 28 - 29).
- There were 197 **lost time injuries** reported, with the majority (60%) occurring in underground operations. Since 2010-11, the **lost time injury frequency rate** (LTIFR) has steadily declined over the reporting decade, marking an overall 50% decrease (Figures 30 - 31).
- There were 535 **total recordable injuries**, marking a 15% decrease from 2018-19. In the ten years since 2010-11, total recordable injuries in the coal sector have also decreased by almost 50%. A downward trend in the rolling five-year average **total recordable injury frequency rate** (TRIFR) was observed across the coal sector, with an overall decrease of over 50% (Figures 32 - 33).
- There were 1,667 **incidents notified** to the Regulator by the coal sector, which is consistent with the last two years.
 - However, in the ten years since 2010-11, incidents notified by the coal sector have decreased by 40%.

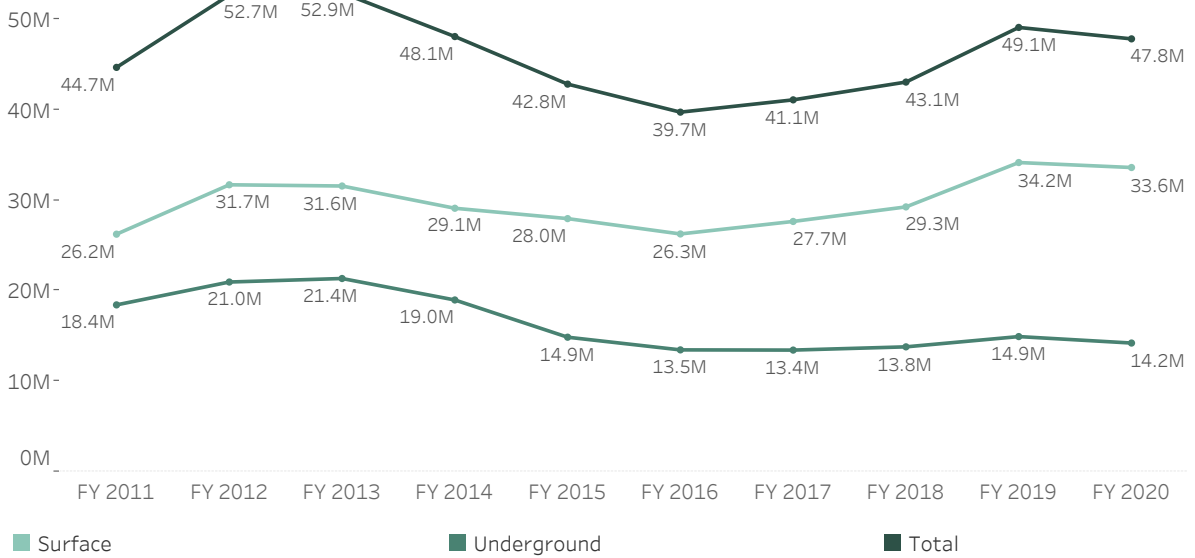
- Underground operations accounted for nearly two-thirds of incidents notified in 2019-20, however since 2010-11 underground coal notified incidents have decreased by more than 50%.
- The **incident notification frequency rate** (INFR) increased 7% compared to 2018-19. A 34% reduction in hours worked in underground coal mines from 2012-13 has contributed to the overall changes in INFR.
- **Dangerous incidents** and **potentially dangerous incidents** are the predominant incidents notified in surface coal mines while in underground coal mines, **other high potential incidents** represent the greatest proportion of incident notifications across the most recent four-year period.
- Multiple factors including legislative framework, inherent hazards and characteristics of each sector and commodity produced contribute to the differences observed across each of the operation types (Figures 34 -36).
- There were 563 **notices issued** in the coal sector, a decrease of 14% from 2018-19, with improvement notices accounting for nearly half.
 - The majority of notices (notices of concern, improvement, prohibition and non-disturbance notices) were issued to surface coal mines.
 - In all previous years of the 10-year reporting period, the majority of notices were issued to underground coal mines (Figures 37 – 38).
 - The Regulator conducted 521 **programmed assessments** which resulted in 449 notices being issued and a notice issue rate of 0.86 notice per programmed assessment which is consistent with 2018-19.
 - Overall, almost 80% of all notices issued related to programmed assessments (Table 3).

See [Appendix 3](#) for sector summary data.

Hours worked

In 2019-20 the total hours worked in the coal sector decreased slightly from 2018-19 and the majority of hours worked were in surface coal operations.

FIGURE 26: COAL SECTOR HOURS WORKED BY OPERATION TYPE 2010-11 TO 2019-20

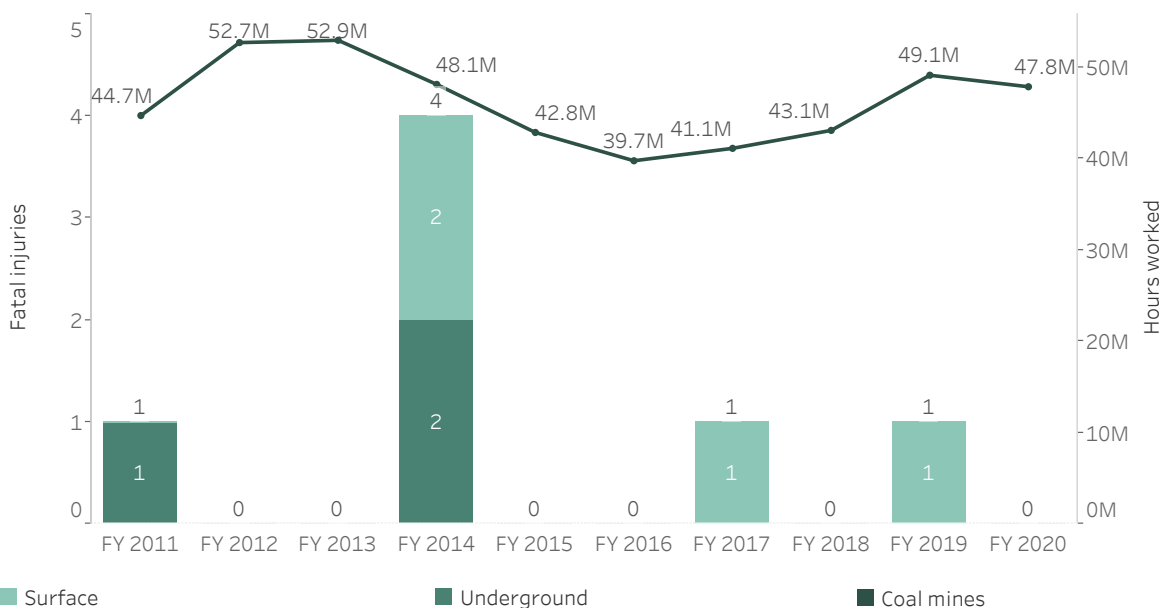


Fatal injuries

Fatal injuries and hours worked

For more information on fatal injuries in NSW coal mines for the last 100 years refer to [Figure 3](#) which shows the sustained long-term decrease in coal mining fatal injuries.

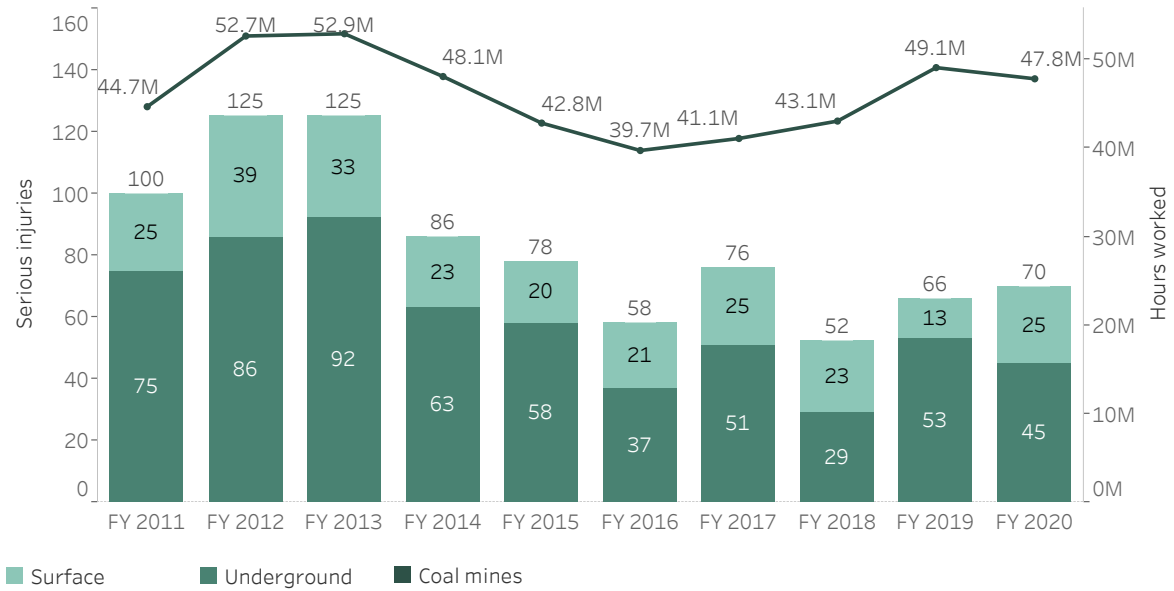
FIGURE 27: COAL SECTOR FATAL INJURIES AND HOURS WORKED 2010-11 TO 2019-20



Serious injuries

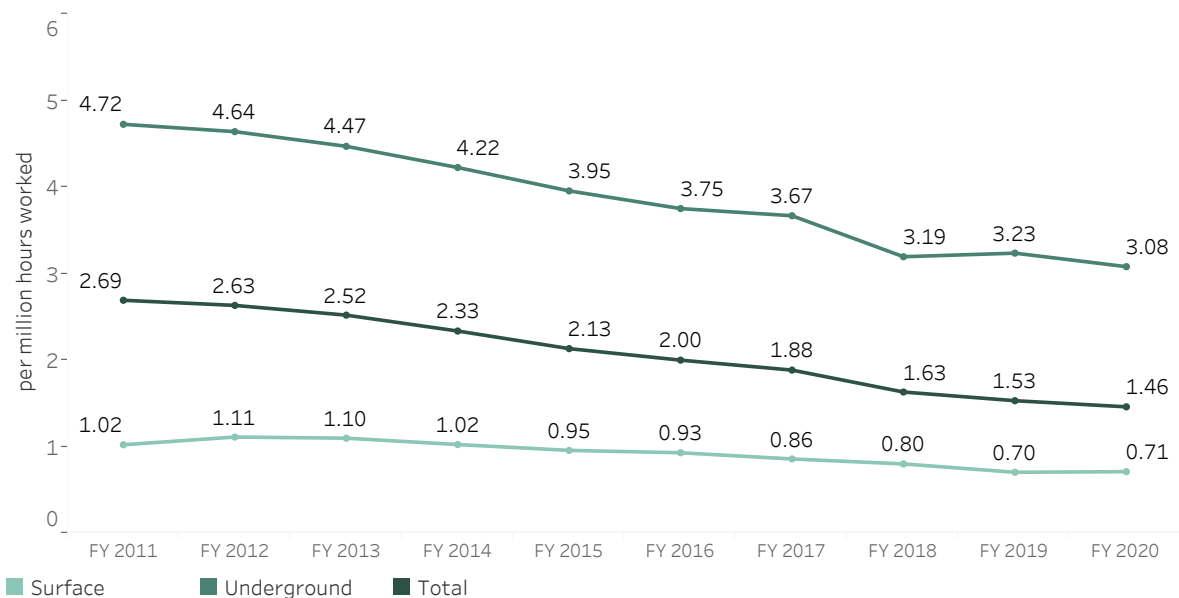
Serious injuries and hours worked

FIGURE 28: COAL SECTOR SERIOUS INJURIES AND HOURS WORKED 2010-11 TO 2019-20



Serious injury frequency rates

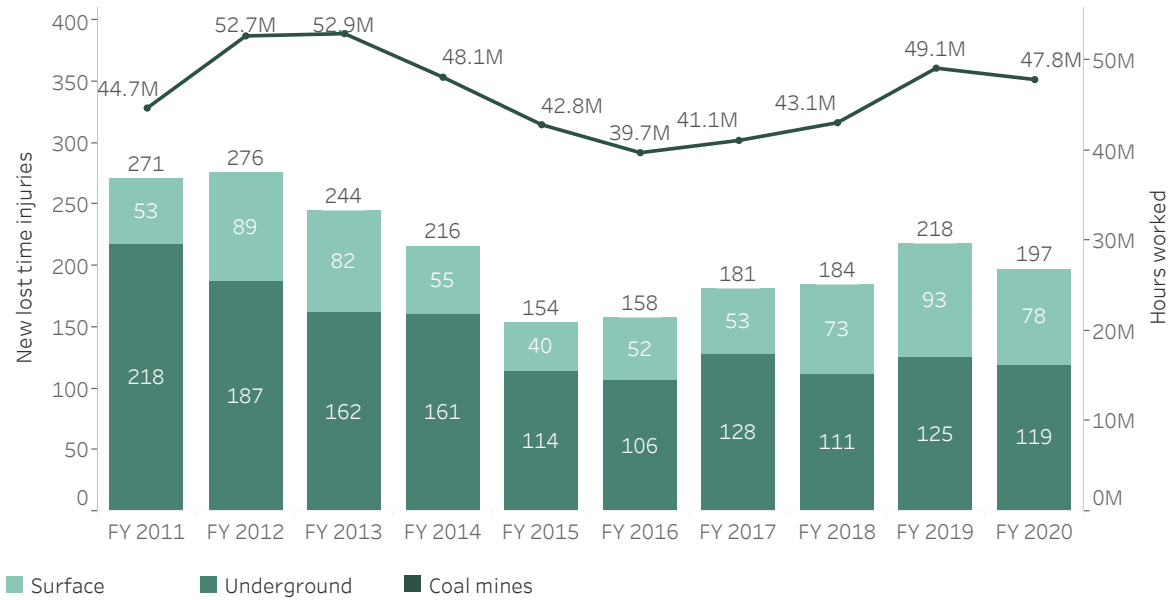
FIGURE 29: COAL SECTOR ROLLING FIVE-YEAR SERIOUS INJURY FREQUENCY RATE (SIFR) 2010-11 TO 2019-20



Lost time injuries

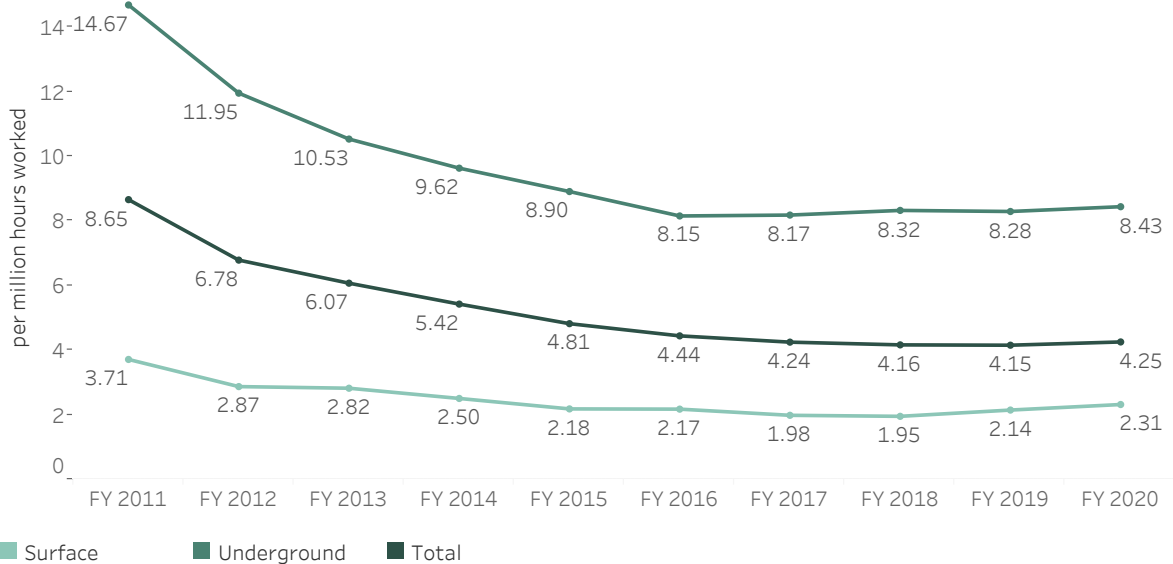
Lost time injuries and hours worked

FIGURE 30: COAL SECTOR LOST TIME INJURIES AND HOURS WORKED 2010-11 TO 2019-20



Lost time injury frequency rates

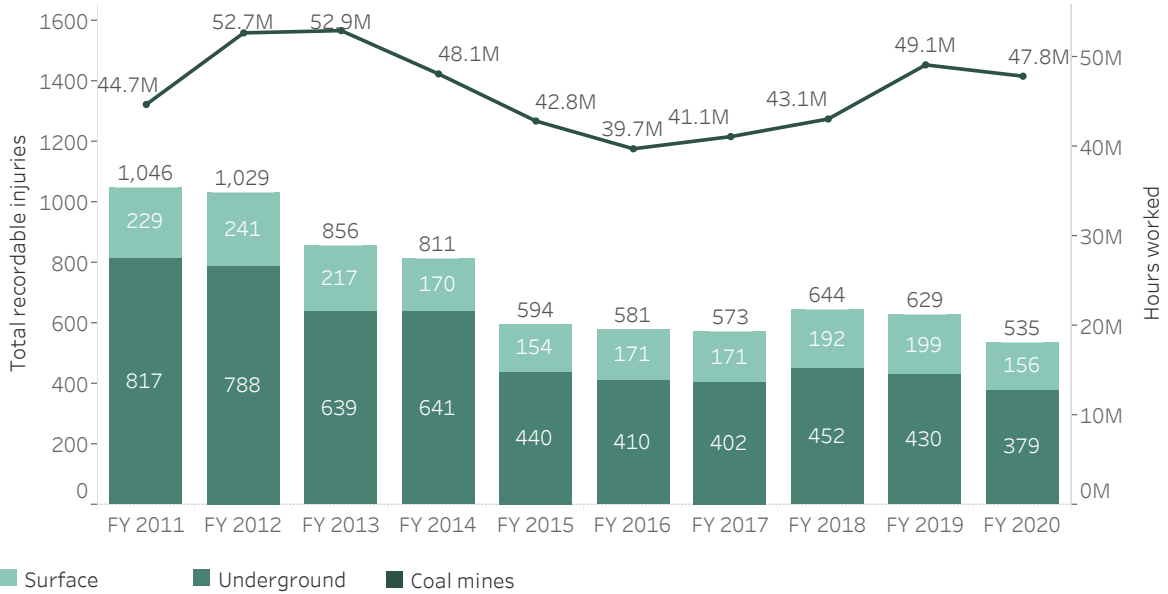
FIGURE 31: COAL SECTOR ROLLING FIVE-YEAR LTIFR 2010-11 TO 2019-20



Total recordable injuries

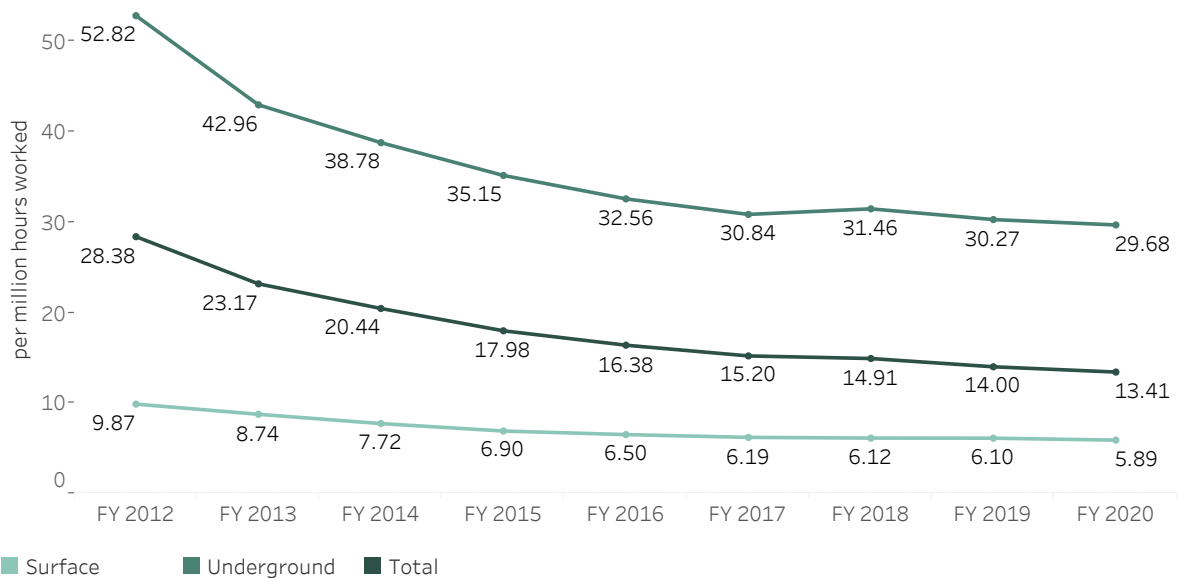
Total recordable injuries and hours worked

FIGURE 32: COAL SECTOR TOTAL RECORDABLE INJURIES AND HOURS WORKED 2010-11 TO 2019-20



Total recordable injuries frequency rates

FIGURE 33: COAL SECTOR ROLLING FIVE-YEAR AVERAGE TRIFR 2011-12 TO 2018-19

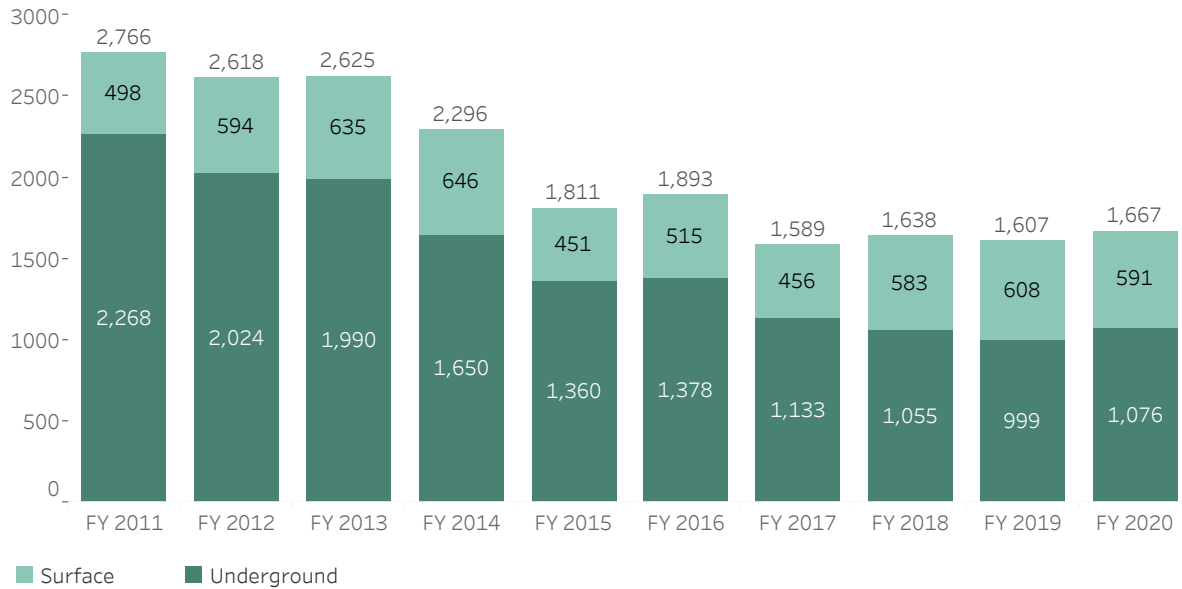


Notified incidents

Notified incidents by operation type

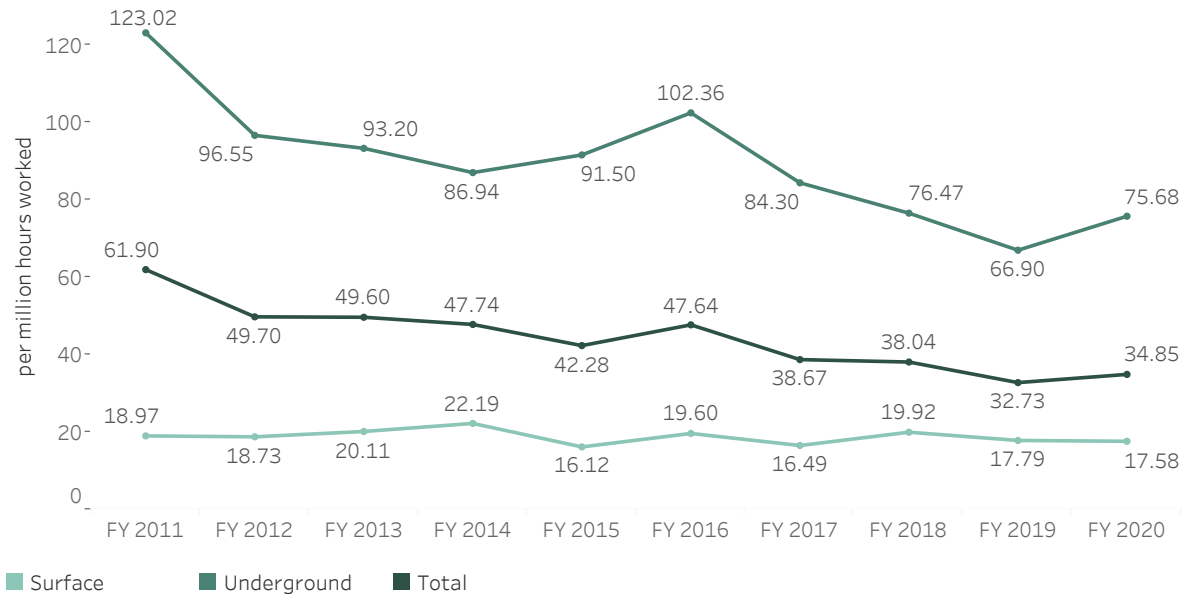
Note: Any incident notification that included multiple gas exceedances has been included as individual incident notifications in this report.

FIGURE 34: COAL SECTOR NOTIFIED INCIDENTS BY OPERATION TYPE 2010-11 TO 2019-20



Incident notification rates

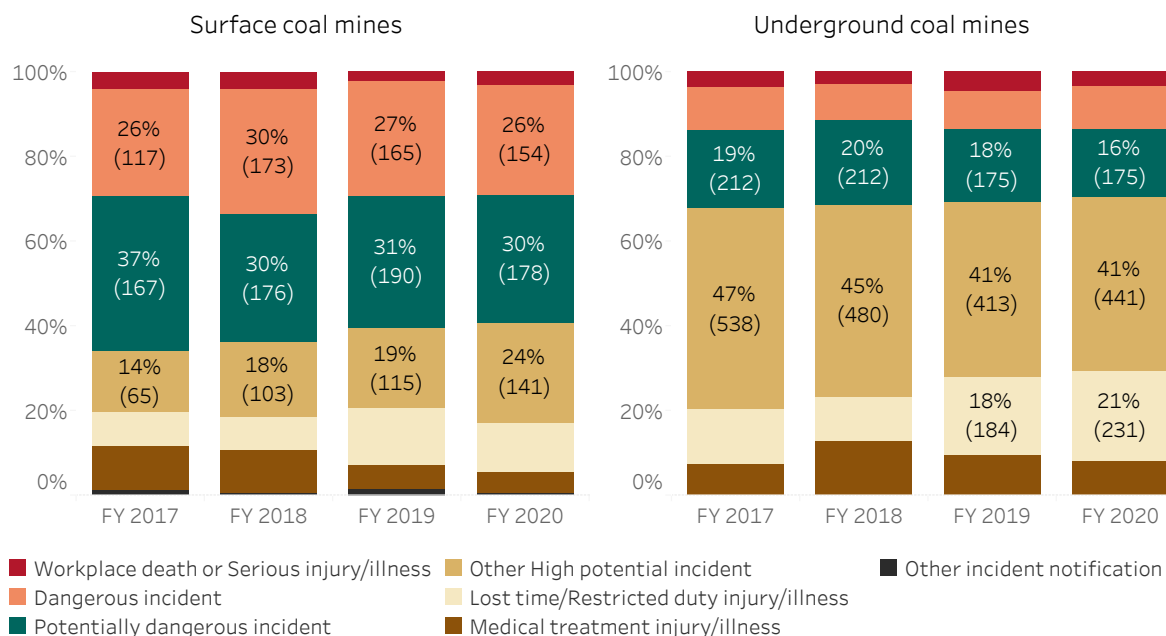
FIGURE 35: COAL SECTOR INCIDENT NOTIFICATION RATE 2010-11 TO 2019-20



Incident notification reporting trends

INCIDENT NOTIFICATION PROFILE

FIGURE 36: COAL SECTOR INCIDENT NOTIFICATION PROFILE BY OPERATION TYPE 2016-17 TO 2019-20



PROPORTION OF COAL MINES NOTIFYING INCIDENTS

The proportion of coal mines notifying incidents has decreased by 34% over the ten-year reporting period from 92% to 61%. On average, 76% of coal mines notified incidents during the ten-year reporting period.

The table provided below excludes the exploration sector and the numbers will be different to those previously reported due to changes in work health and safety reporting requirements in June 2020 as outlined in [Explanatory notes](#).

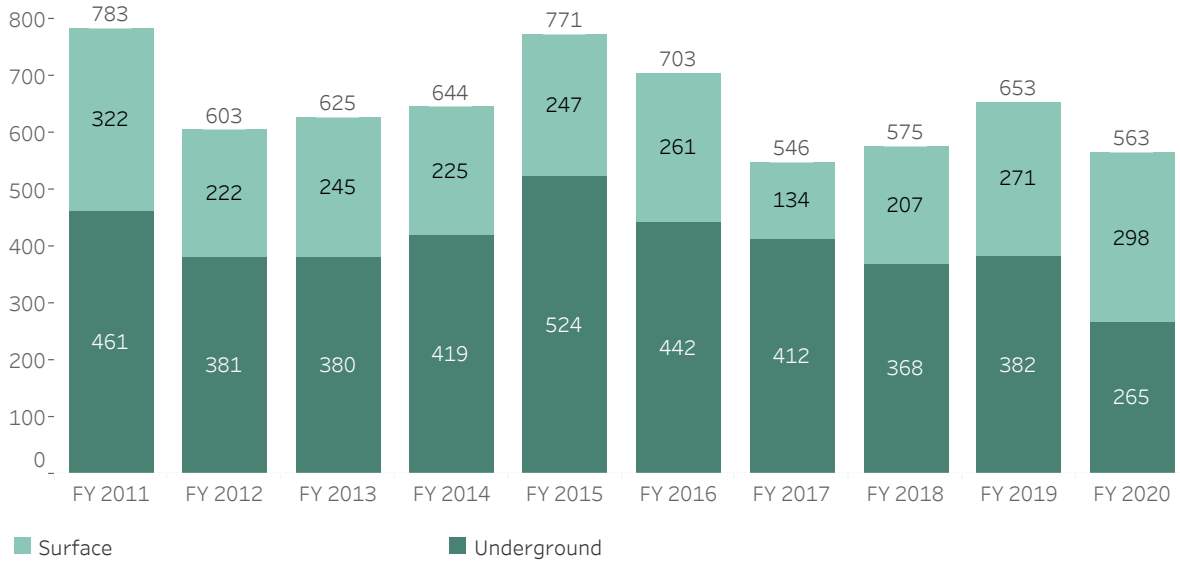
TABLE 3: COAL SECTOR PROPORTION OF MINES THAT NOTIFIED AN INCIDENT 2010-11 TO 2019-20

MEASURE	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020
Total notified incidents	2,766	2,618	2,625	2,296	1,811	1,893	1,589	1,638	1,607	1,667
Number of active mines	86	85	84	83	83	95	111	111	123	122
Number of mines that notified an incident	79	82	77	76	72	69	71	75	71	75
% of mines that notified an incident	92%	96%	92%	92%	87%	73%	64%	68%	58%	61%

Notices issued

Notices issued by operation type

FIGURE 37: COAL SECTOR NOTICES ISSUED BY OPERATION TYPE 2009-10 TO 2018-19

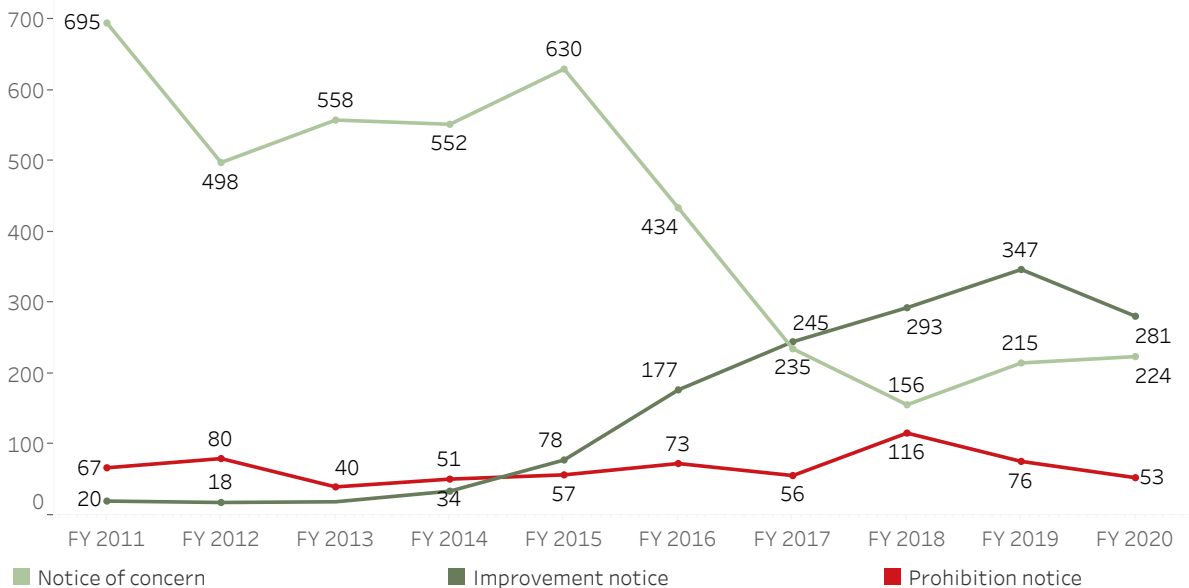


Notices issued by notice type

Since 2017-18, changes to the type of notices issued reflect the Resources Regulator’s renewed focus on incident prevention as outlined in its [Compliance and Enforcement Approach \(2017\)](#). The approach sought to clearly identify matters that necessitate the issue of an improvement notice rather than a written notice of concern.

Due to the small numbers of non-disturbance and explosives notices, these have not been included in the figure below.

FIGURE 38: COAL SECTOR NOTICES ISSUED BY NOTICE TYPE 2010-11 TO 2019-20



Chapter 3.

Metalliferous Sector



Metalliferous sector

Key performance measures 2019-20

1
fatal injury

20
serious injuries

50
lost time injuries

180
total recordable injuries

296
notified incidents

422
notices issued

In the metalliferous sector in 2019-20:

- There was one work-related **fatality**, which resulted from a vehicle incident in a surface mineral sands metalliferous mine in the state's far west (Figure 40). See the [fatal injury spotlight](#) section for further details. During the past ten years, there have been six work-related mining fatalities in the NSW metalliferous sector, four in underground operations and two in surface operations.
- While overall the **serious injury frequency rate** has been increasing in underground mines and decreasing in surface mines, an upward trend was observed in the **lost time injury frequency rate** since 2012-13, particularly in underground mines, while the **total recordable injury rate** trended down across the metalliferous sector.
- Of the 20 **serious injuries** notified, the majority occurred in underground metalliferous mines. The **serious injury frequency rate** (SIFR) remained steady from 2018-19, representative of approximately a 50% increase at underground operations and a 65% decrease at surface operations since 2015-16 (Figures 41 - 42).
- There were 50 **lost time injuries** reported, the majority occurring in underground operations which doubled from 2018-19. Since 2017-18 the **lost time injury frequency rate** (LTIFR) in underground operations has increased by 34%, while surface operations LTIFR has decreased by 15% (Figures 43 - 44).
- **Total recordable injuries** increased by 13% from 2018-19 but for the past three years total recordable injuries have been the lowest in the ten-year reporting

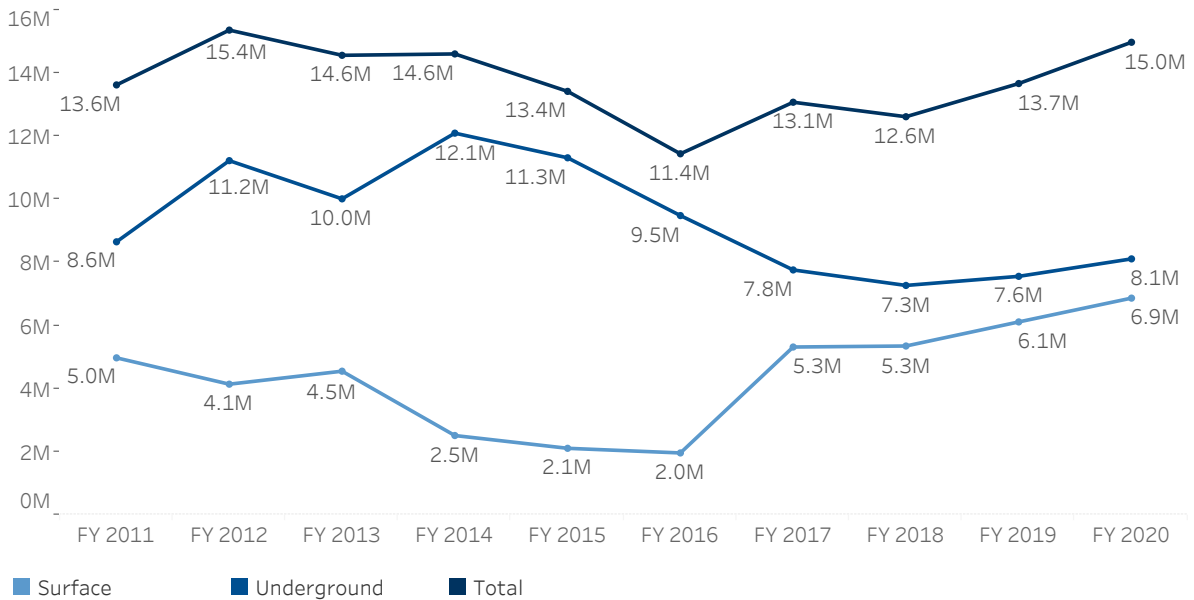
period. A steady downward trend has been observed in the rolling five-year average **total recordable injury frequency rate** (TRIFR) since 2012-13 (Figures 45 - 46).

- In the ten years since 2010-11, a steady overall increase in the number of **incidents notified** was observed in the metalliferous sector, with a 13% increase observed in 2019-20.
 - Since 2010-11 an upward trend has been observed in the **incident notification frequency rate** (INFR) for underground operations despite a substantial reduction in reported hours worked, while in surface operations a downward trend has been observed since 2015-16 along with an increase in hours worked in the same period.
 - Between 2016-17 and 2019-20, the greatest proportion of incident notifications in both surface and underground operations related to **dangerous incidents**.
 - Multiple factors including legislative framework, inherent hazards and characteristics of each sector and commodity produced contribute to the differences observed across each of the operation types.
 - While each operation type presents a distinct notification profile, comparable results were observed across the four-year period (Figures 47 - 49).
- There were 422 **notices issued** in the metalliferous sector, a 16% decrease from 2018-19 with improvement notices accounting for more than half of all notices issued in the year.
 - The majority of notices were issued to underground operations in line with the ten-year reporting period (Figures 50 - 51).
 - The Regulator conducted 227 **programmed assessments** which resulted in 342 notices issued and a notice issue rate of 1.51 notices per programmed assessment.
 - Overall, over 80% of notices issued related to programmed assessments (Table 4).

Hours worked

In 2019-20 the total hours worked for the metalliferous sector increased by 10% from 2018-19, with increases seen in both underground and surface operations. The majority of hours worked were in underground metalliferous operations.

FIGURE 39: METALLIFEROUS SECTOR HOURS WORKED BY OPERATION TYPE 2010-11 TO 2019-20

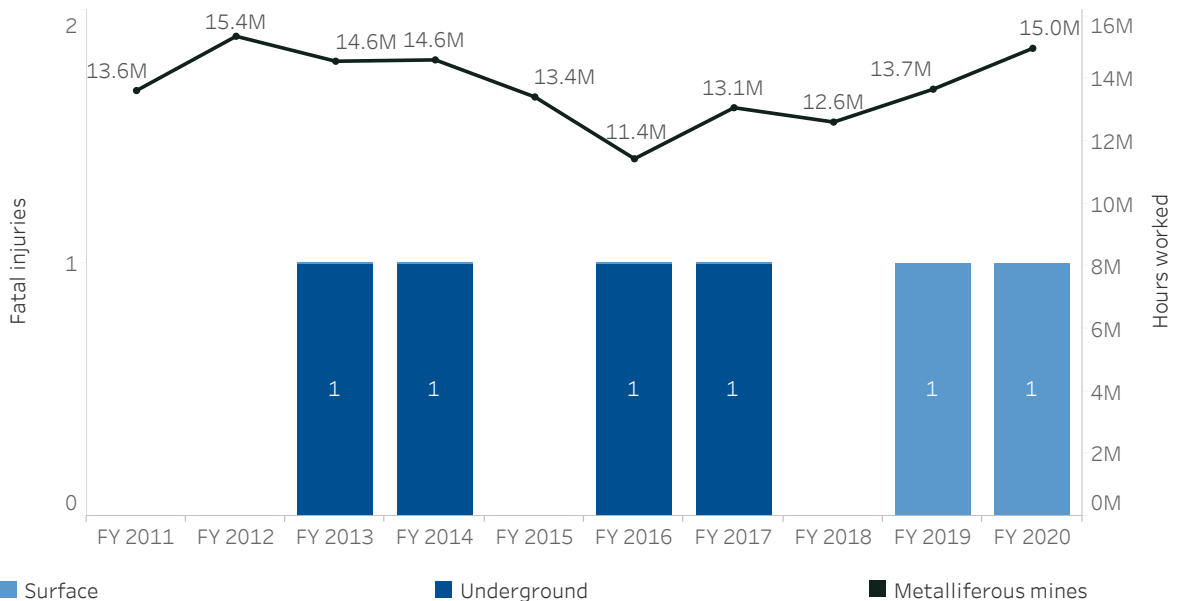


Fatal injuries

Fatal injuries and hours worked

For more information on fatal injuries in NSW metalliferous mines since 1989 refer to [Figure 3](#).

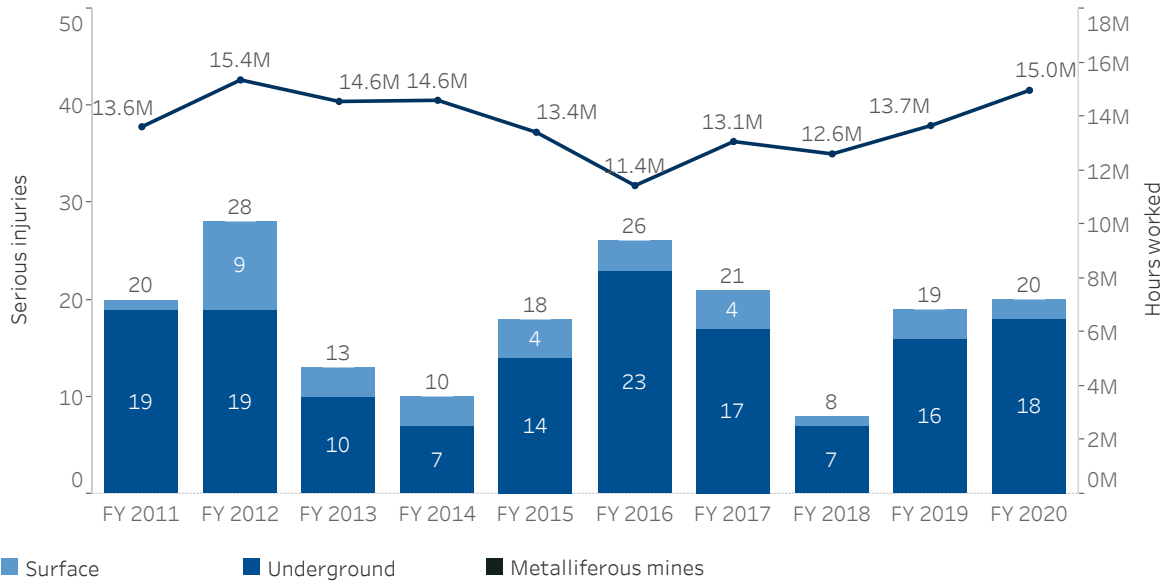
FIGURE 40: METALLIFEROUS SECTOR FATAL INJURIES AND HOURS WORKED 2010-11 TO 2019-20



Serious injuries

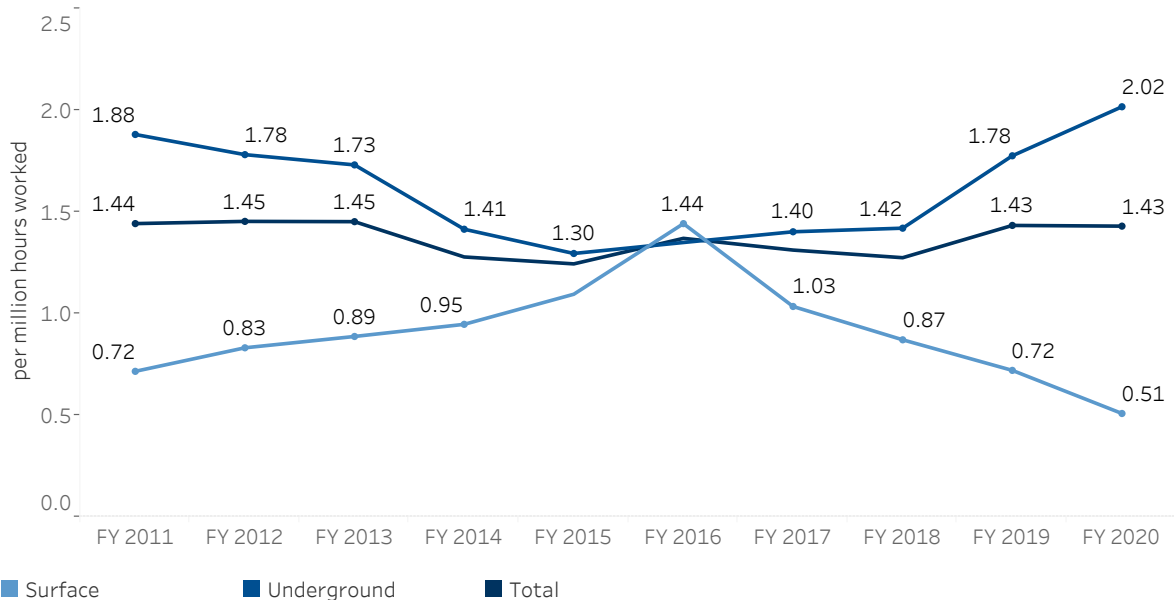
Serious injuries and hours worked

FIGURE 41: METALLIFEROUS SECTOR SERIOUS INJURIES AND HOURS WORKED 2010-11 TO 2019-20



Serious injury frequency rates

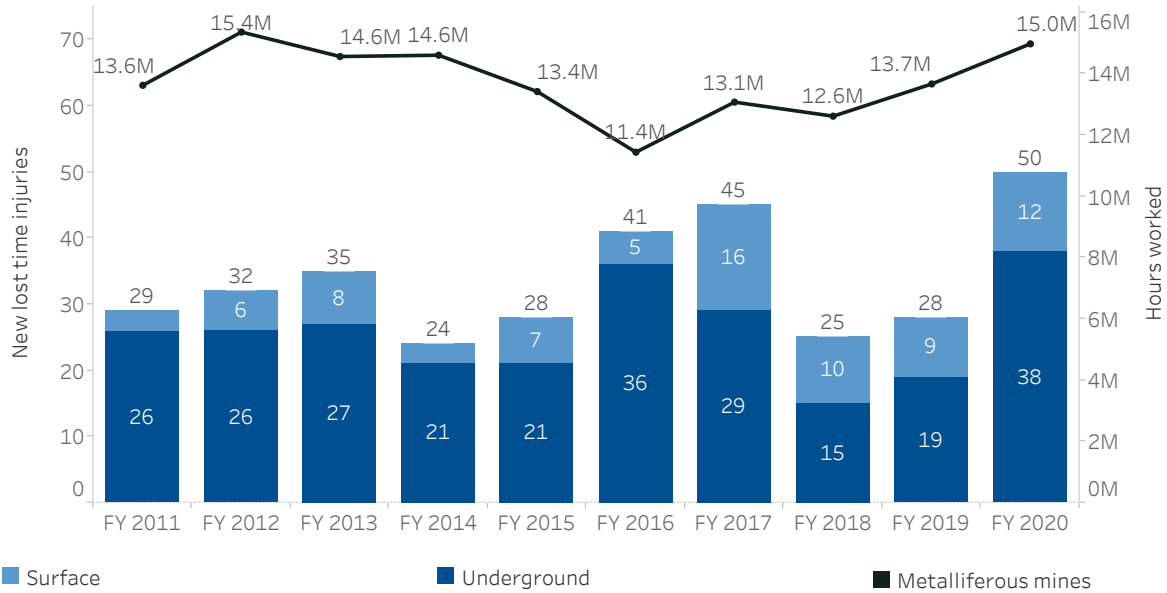
FIGURE 42: METALLIFEROUS SECTOR ROLLING FIVE-YEAR SIFR 2010-11 TO 2019-20



Lost time injuries

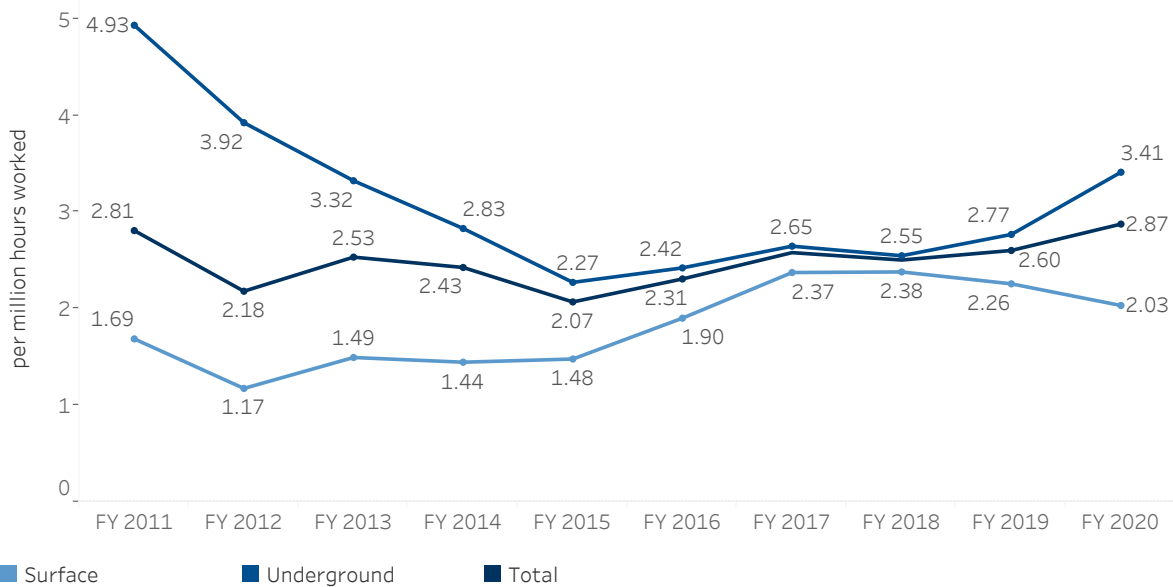
Lost time injuries and hours worked

FIGURE 43: METALLIFEROUS SECTOR LOST TIME INJURIES AND HOURS WORKED 2010-11 TO 2019-20



Lost time injury frequency rates

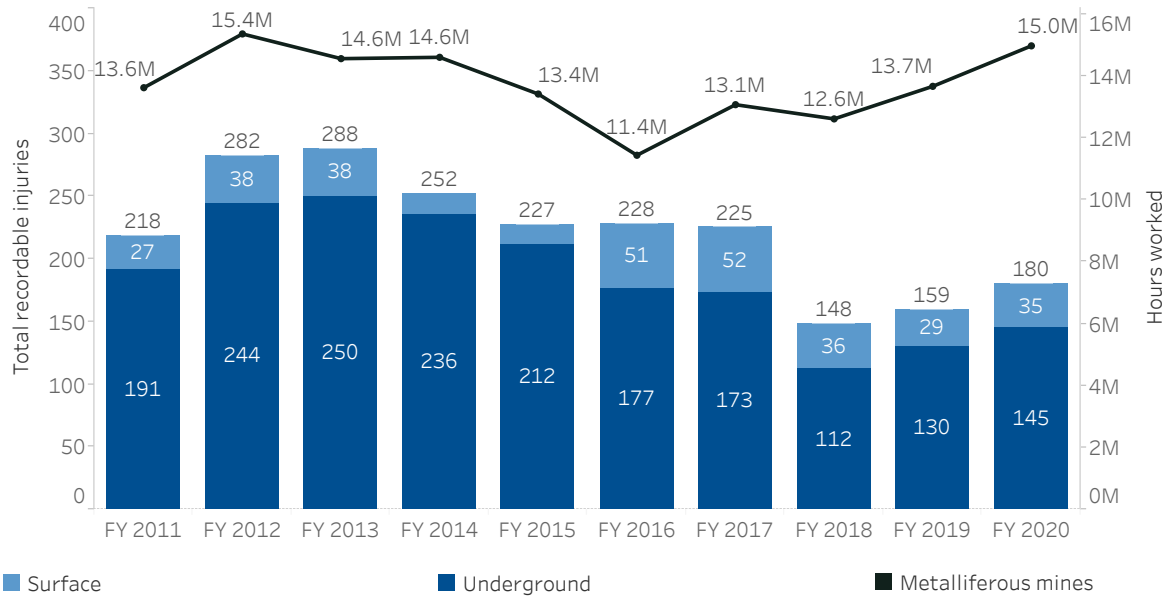
FIGURE 44: METALLIFEROUS SECTOR ROLLING FIVE-YEAR LTIFR 2010-11 TO 2019-20



Total recordable injuries

Total recordable injuries and hours worked

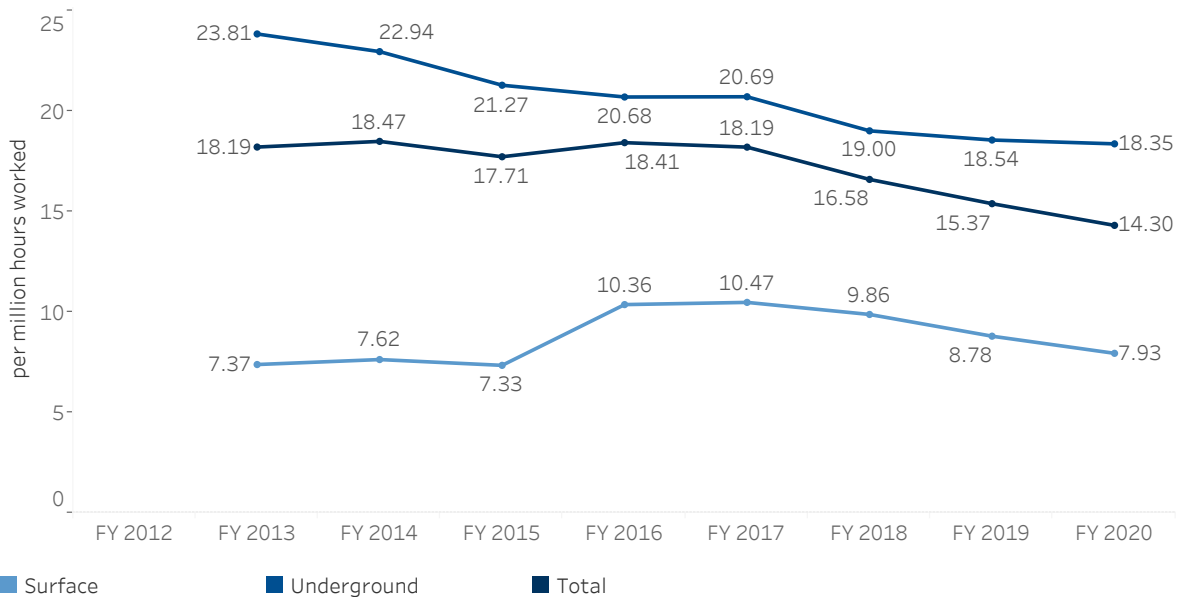
FIGURE 45: METALLIFEROUS SECTOR TOTAL RECORDABLE INJURIES AND HOURS WORKED 2010-11 TO 2019-20



Total recordable injuries frequency rates

Note: A rolling five-year average TRIFR frequency rate was unable to be calculated for the whole ten-year reporting period as this information was only included in metalliferous work health and safety reporting requirements from the second quarter of 2008-09.

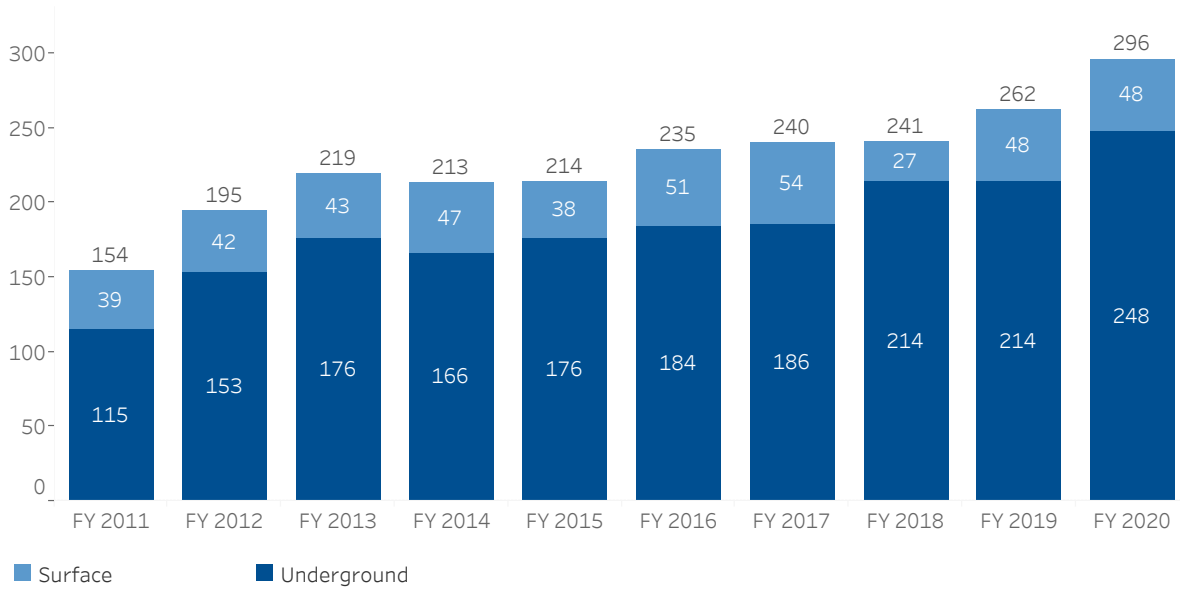
FIGURE 46: METALLIFEROUS SECTOR FIVE-YEAR AVERAGE TRIFR FY 2012 TO 2018-19



Notified incidents

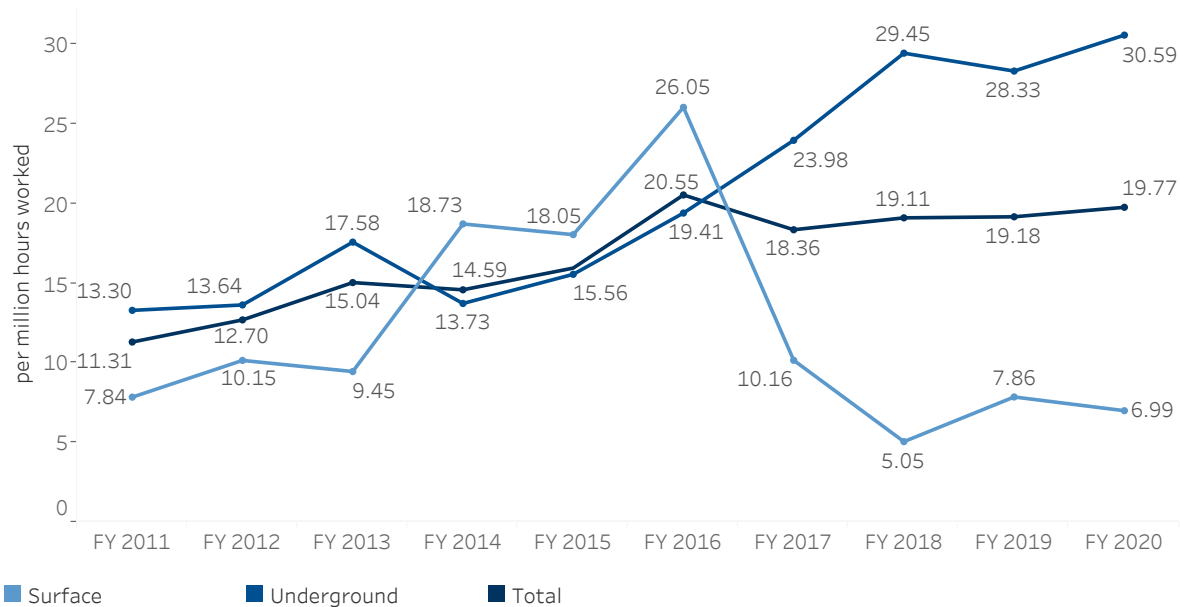
Notified incidents by operation type

FIGURE 47: METALLIFEROUS SECTOR NOTIFIED INCIDENTS BY OPERATION TYPE 2010-11 TO 2019-20



Incident notification rates

FIGURE 48: METALLIFEROUS SECTOR INCIDENT NOTIFICATION RATE 2010-11 TO 2019-20

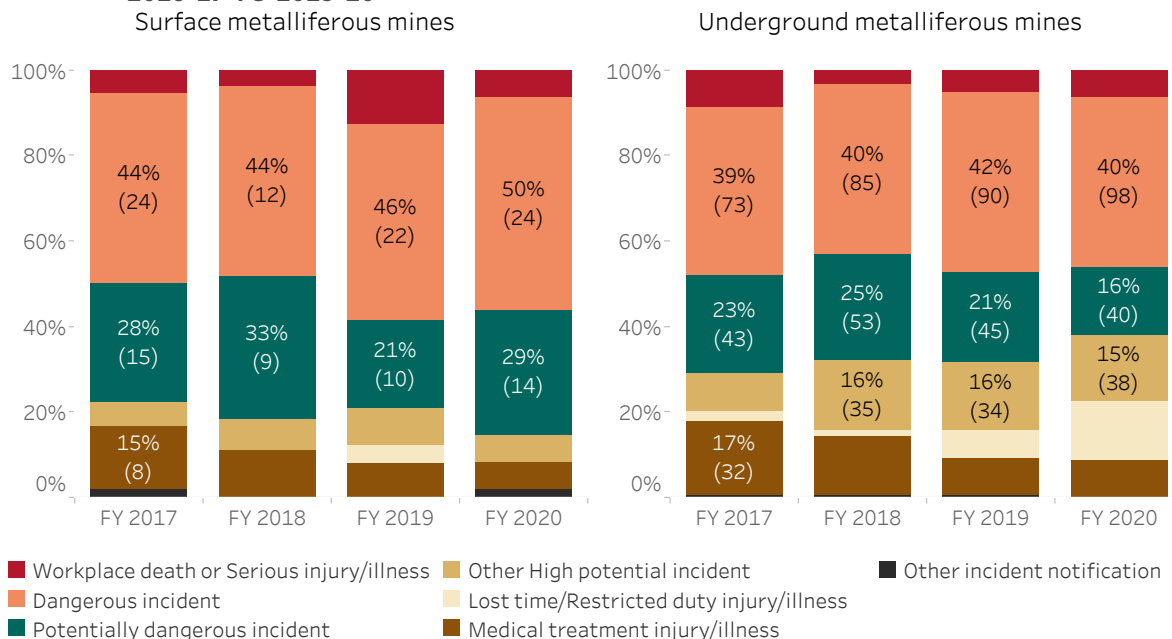


Incident notification reporting trends

INCIDENT NOTIFICATION PROFILE

Incident notification data allows the Resources Regulator to monitor compliance and respond to sector specific reporting trends. Multiple contributing factors influence the types of incidents notified by each sector and operation type. These include, but are not limited to, the legislative framework, inherent hazards and characteristics of each sector and operation type as well as the commodity produced.

FIGURE 49: **METALLIFEROUS SECTOR INCIDENT NOTIFICATION PROFILE BY OPERATION TYPE 2016-17 TO 2019-20**



PROPORTION OF METALLIFEROUS MINES NOTIFYING INCIDENTS

While the number of metalliferous mines has increased by more than 40% in the ten years since 2010-11 (from 74 mines to 105 in 2019-20), the proportion of mines notifying incidents has remained relatively steady. On average, 26% active metalliferous mines notified the regulator of an incident every year within the ten-year reporting period.

The table provided below excludes the exploration sector and the numbers will be different to those previously reported due to changes in work health and safety reporting requirements in June 2020 as outlined in the [Explanatory notes](#).

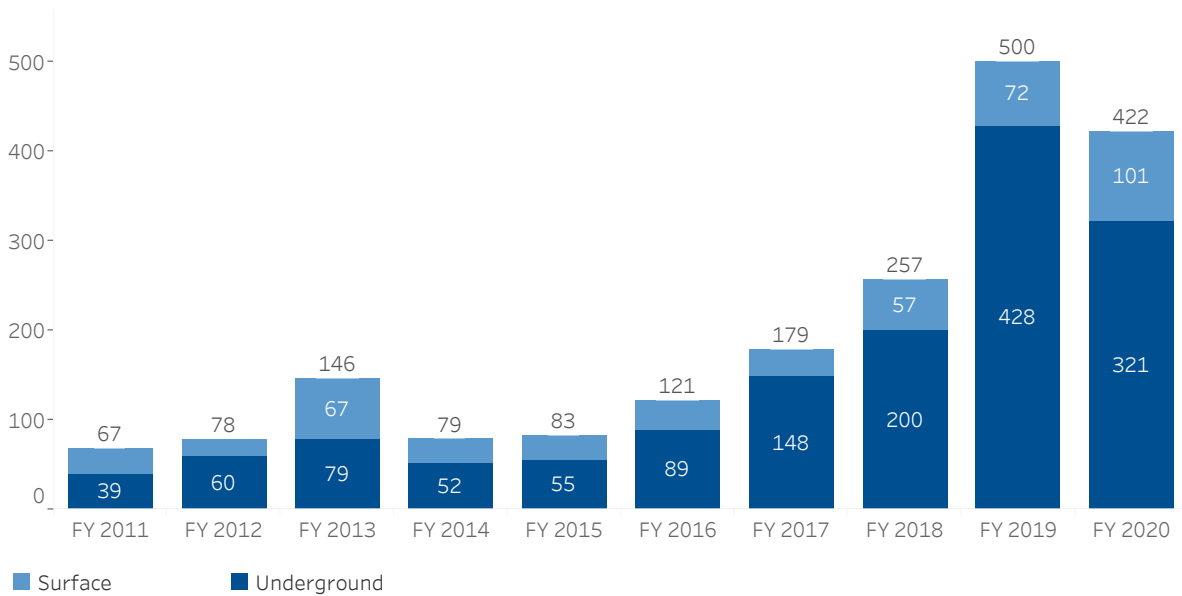
TABLE 4: **METALLIFEROUS SECTOR PROPORTION OF MINES THAT NOTIFIED AN INCIDENT 2010-11 TO 2019-20**

MEASURE	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020
Total notified incidents	154	195	219	213	214	235	240	241	262	296
Number of active mines	74	78	82	81	85	98	109	107	116	105
Number of mines that notified an incident	21	27	20	26	25	26	25	26	23	27
% of mines that notified an incident	28%	35%	24%	32%	29%	27%	23%	24%	20%	26%

Notices issued

Notices issued by operation type

FIGURE 50: METALLIFEROUS SECTOR NOTICES ISSUED BY OPERATION TYPE 2010-11 TO 2019-20

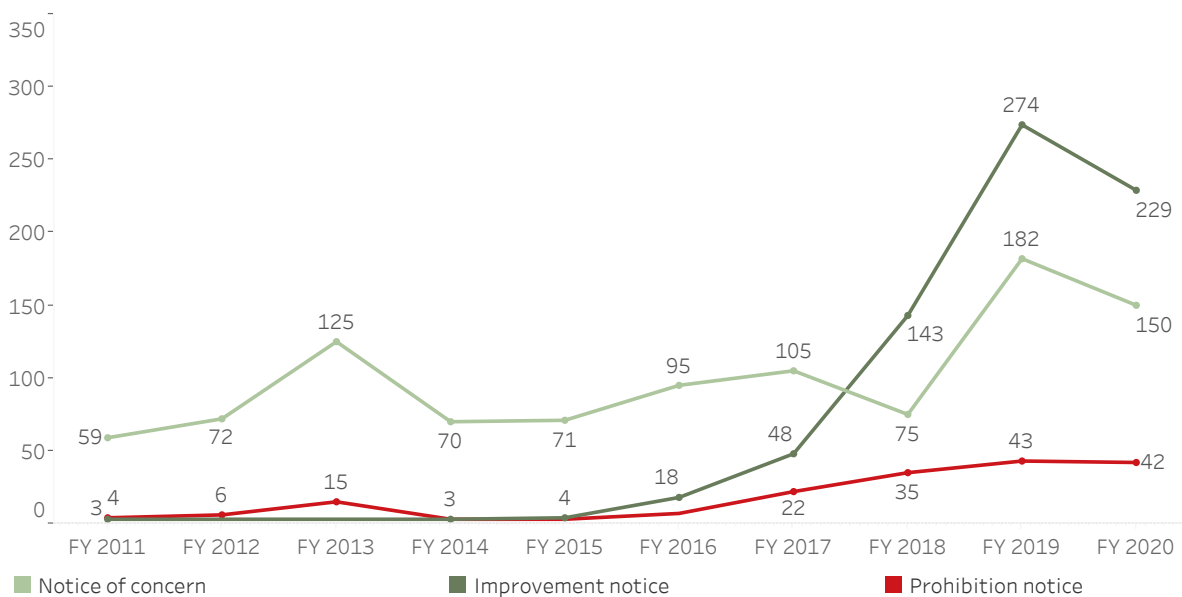


Notices issued by notice type

Since 2017-18, changes to the type of notices issued reflect the Resources Regulator’s renewed focus on incident prevention as outlined in its [Compliance and Enforcement Approach \(2017\)](#). The approach sought to clearly identify matters that necessitate the issue of an improvement notice rather than a written notice of concern.

Due to the small numbers of non-disturbance and explosives notices, these have not been included in the figure below.

FIGURE 51: METALLIFEROUS SECTOR NOTICES ISSUED BY NOTICE TYPE 2010-11 TO 2019-20





Chapter 4.

Extractives Sector

Extractives sector

Key performance measures 2019-20

0

fatal injuries

12

serious injuries

26

lost time injuries

107

total recordable injuries

167

notified incidents

747

notices issued

In the extractives sector in 2019-20:

- There were no work-related **fatalities**. The last work-related fatalities in the extractives sector were in 2014-15 (Figure 53). An upward trend was observed in the **serious injury frequency rate** for the extractives sector, while the **lost time injury frequency rate** and **total recordable injury rate** have trended downward since 2013.
- There were 12 **serious injuries** notified, an increase of 200% from 2018-19 and returning to levels observed in the previous two years. The **serious injury frequency rate** (SIFR) for the extractives sector increased by 10% from 2018-19, mirroring a 21% SIFR increase observed in 2015-16 alongside a reduction in hours worked (Figures 54 – 55).
- There were 26 **lost time injuries** reported, a decrease of 43% from 2018-19 – the lowest number in the ten-year reporting period. The rolling five-year average **lost time injury frequency rate** (LTIFR) decreased by 4%, continuing a steady downward trend observed since 2012-13 (Figures 56 – 57).
- There were 107 **total recordable injuries** marking a decrease of just over a third from 2018-19. The rolling five-year average **total recordable injury frequency rate** (TRIFR) experienced a slight increase compared to 2018-19, however overall, a downward trend was observed from 2012-13 (Figures 58 – 59).

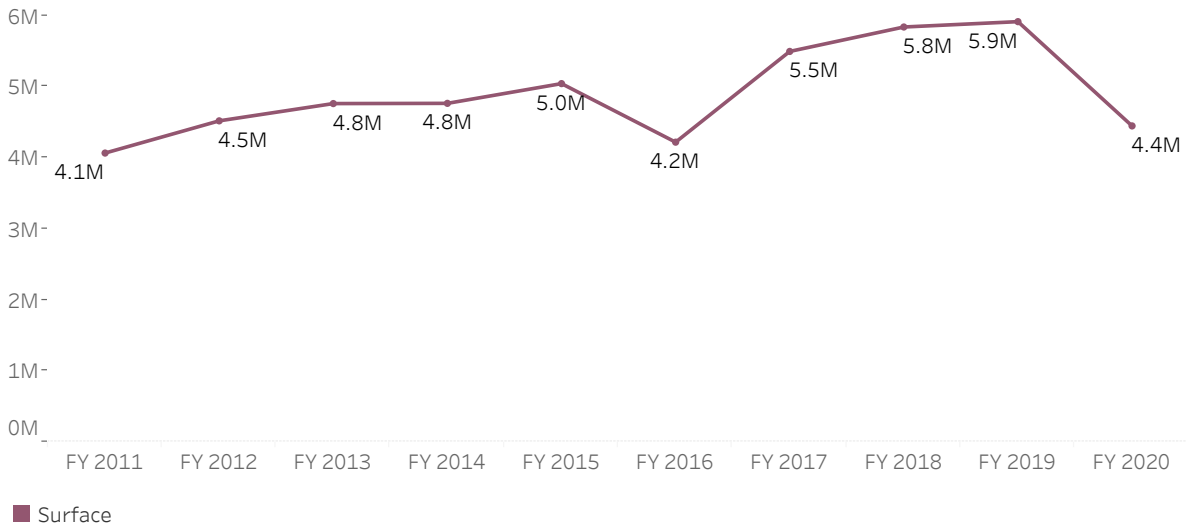
- There were 167 **incidents notified** to the Regulator, an increase of 9% and consistent with the overall upward trend observed. The incident notification frequency rate (INFR) increased by 45% to the highest INFR in the ten-year reporting period. Between 2016-17 and 2019-20, the greatest proportion of incident notifications in the extractives sector related to **dangerous incidents** (Figures 60 - 62).
- There were 747 **notices issued**, an increase of 40% from 2018-19.
 - Improvement notices accounted for more than 60% of notices issued.
 - The Regulator conducted 504 **programmed assessments** which resulted in 665 notices issued and a notice issue rate of 1.32 notices per programmed assessment (Figures 63 - 64).
 - Overall, about 89% of notices issued related to programmed assessments (Table 5).

Hours worked

In 2019-20 the total hours worked in the surface extractives sector decreased by 25% from 2018-19.

Contributing to this decrease was the change in reporting requirements where non-coal mines with total worker hours of less than 10,000 hours per year are now exempt from having to submit work health and safety reports to the Resources Regulator.

FIGURE 52: **EXTRACTIVES SECTOR HOURS WORKED BY OPERATION TYPE 2010-11 TO 2019-20**

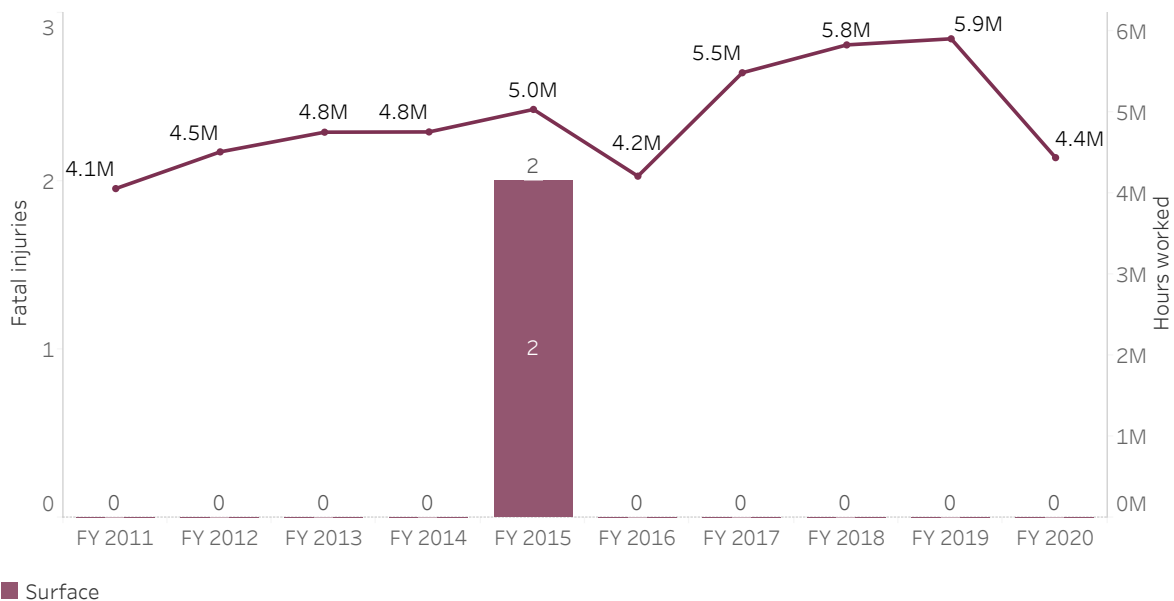


Fatal injuries

Fatal injuries and hours worked

For more information on fatal injuries in NSW extractives mines since 1989 refer to [Figure 3](#).

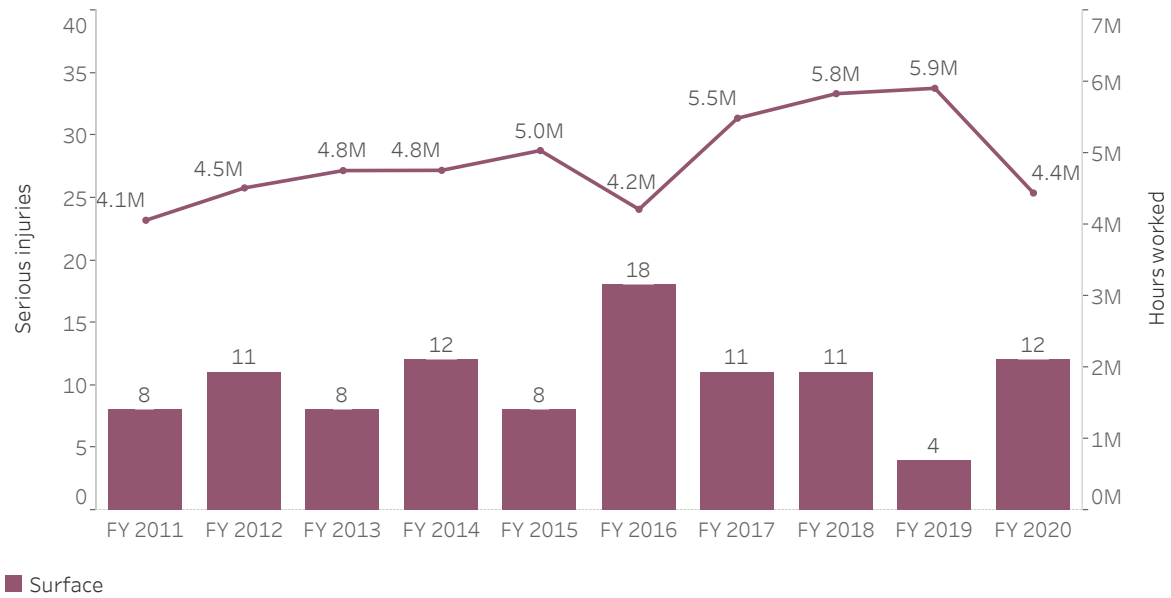
FIGURE 53: **EXTRACTIVES SECTOR FATAL INJURIES AND HOURS WORKED 2010-11 TO 2019-20**



Serious injuries

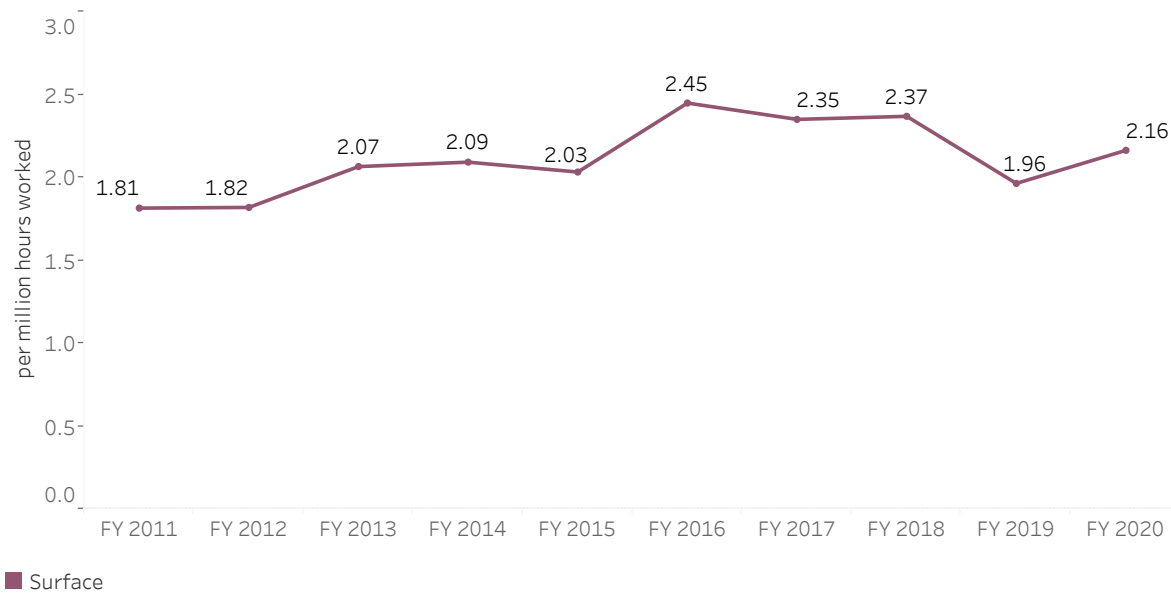
Serious injuries and hours worked

FIGURE 54: EXTRACTIVES SECTOR SERIOUS INJURIES AND HOURS WORKED 2010-11 TO 2019-20



Serious injury frequency rates

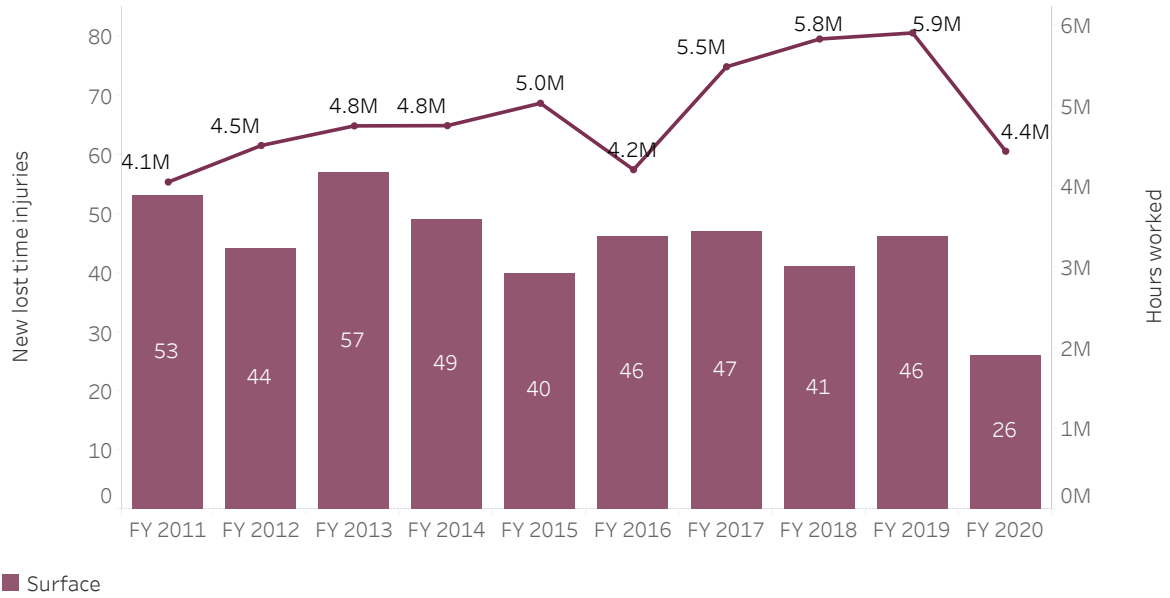
FIGURE 55: EXTRACTIVES SECTOR ROLLING FIVE-YEAR SIFR 2010-11 TO 2019-20



Lost time injuries

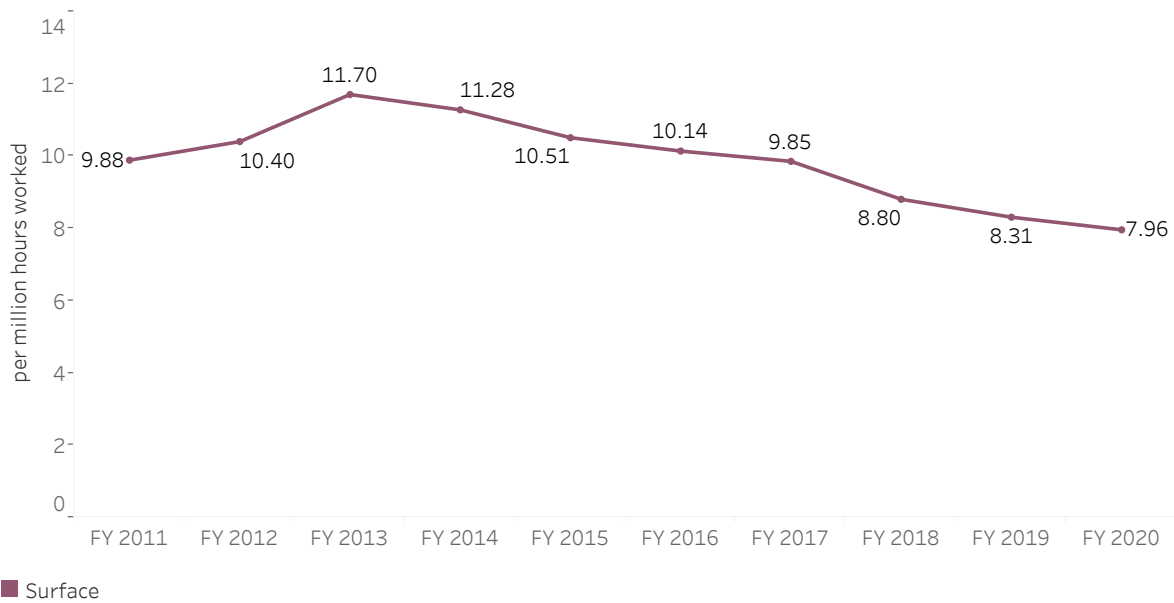
Lost time injuries and hours worked

FIGURE 56: **EXTRACTIVES SECTOR LOST TIME INJURIES AND HOURS WORKED 2010-11 TO 2019-20**



Lost time injury frequency rates

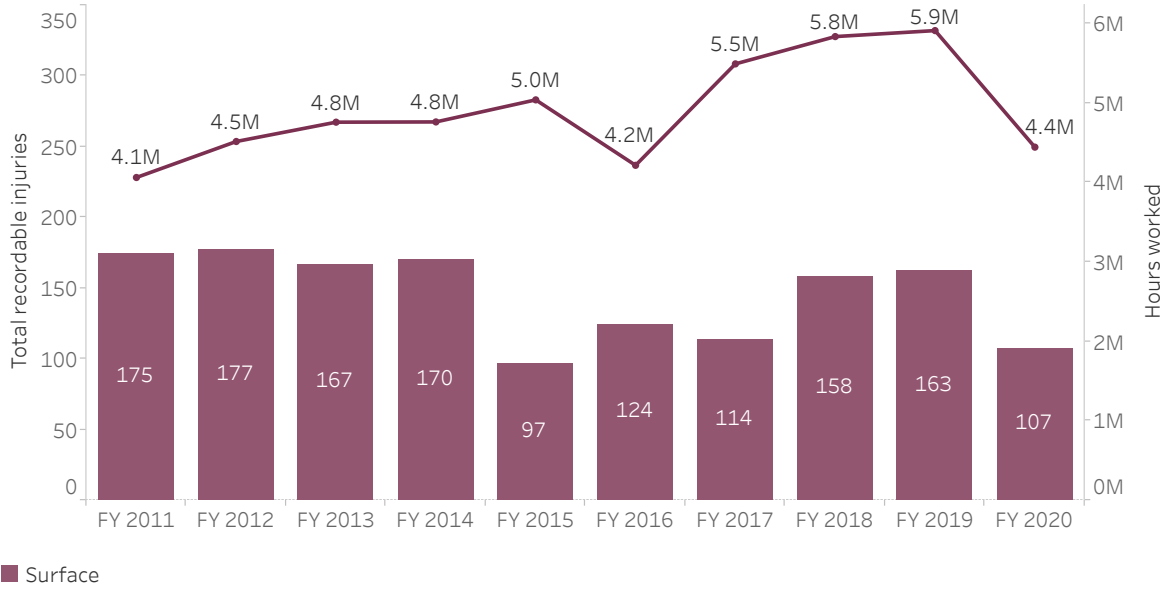
FIGURE 57: **EXTRACTIVES SECTOR ROLLING FIVE-YEAR LOST TIME INJURY FREQUENCY RATE (LTIFR) 2010-11 TO 2019-20**



Total recordable injuries

Total recordable injuries and hours worked

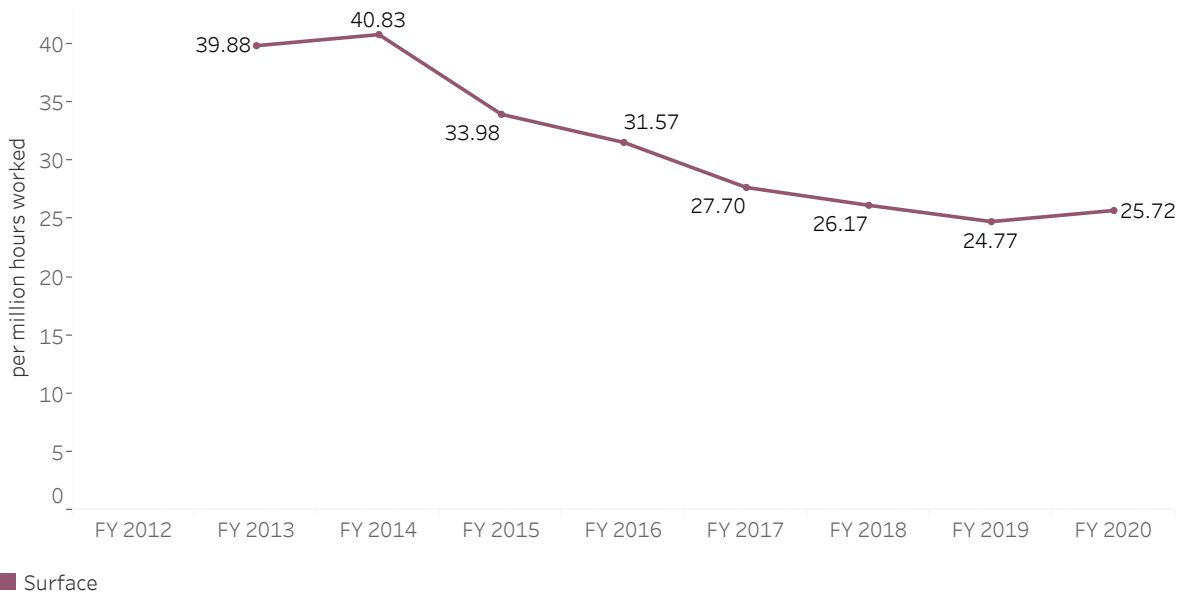
FIGURE 58: **EXTRACTIVES SECTOR TOTAL RECORDABLE INJURIES AND HOURS WORKED 2010-11 TO 2019-20**



Total recordable injury frequency rates

Note: A rolling five-year average TRIFR frequency rate was unable to be calculated for the whole ten-year reporting period as this information was only included in extractives work health and safety reporting requirements from the second quarter of 2008-09.

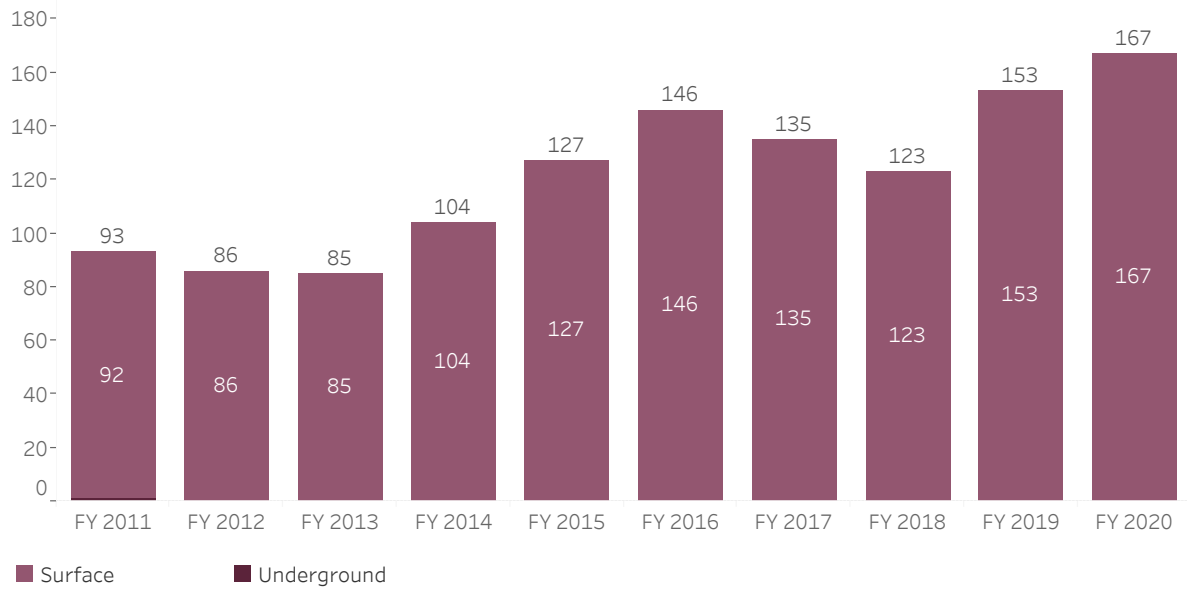
FIGURE 59: **EXTRACTIVES SECTOR ROLLING FIVE-YEAR AVERAGE TRIFR 2012-13 TO 2018-19**



Notified incidents

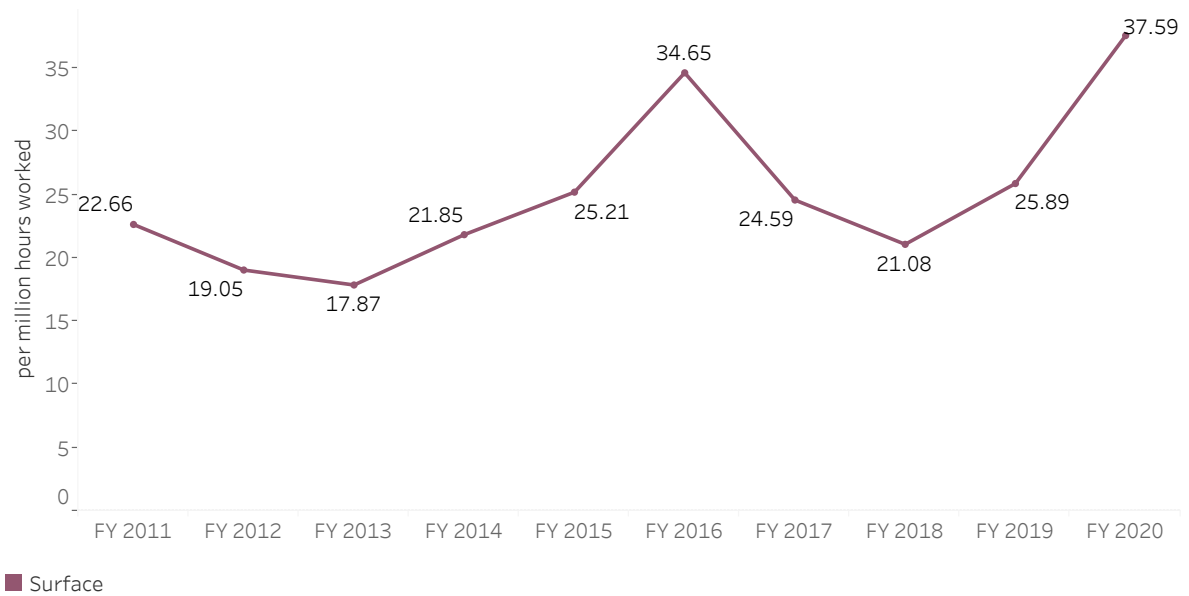
Notified incidents by operation type

FIGURE 60: **EXTRACTIVES SECTOR NOTIFIED INCIDENTS BY OPERATION TYPE 2010-11 TO 2019-20**



Incident notification rates

FIGURE 61: **EXTRACTIVES SECTOR INCIDENT NOTIFICATION RATE 2010-11 TO 2019-20**



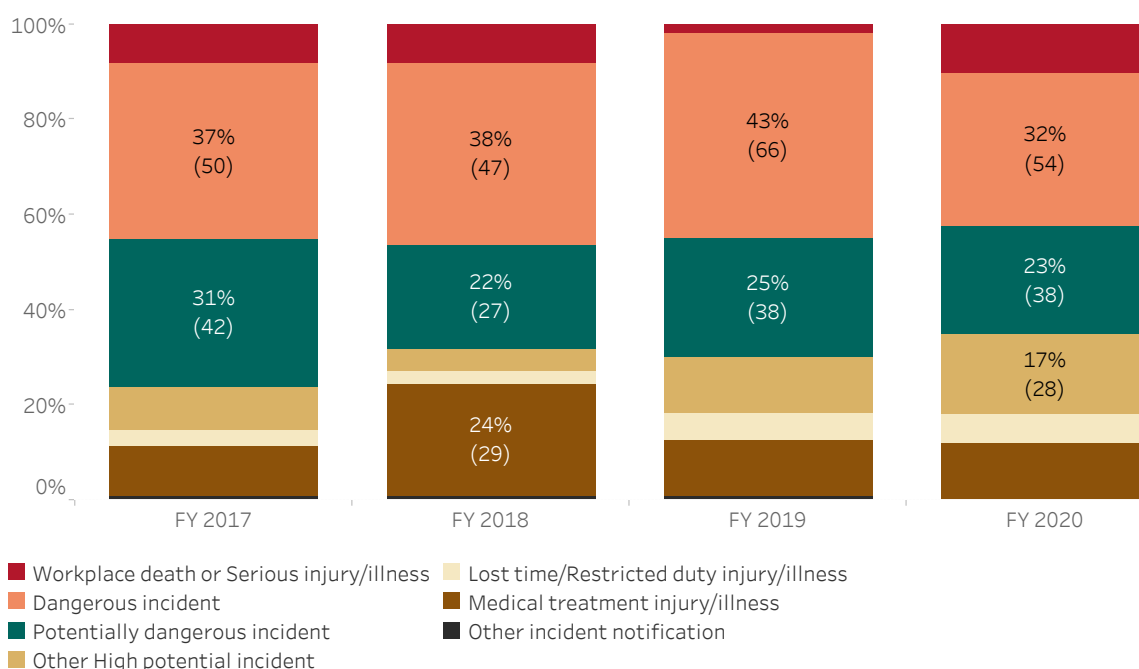
Incident notification reporting trends

INCIDENT NOTIFICATION PROFILE

Incident notification data allows the Resources Regulator to monitor compliance and respond to sector specific reporting trends. Multiple contributing factors influence the types of incidents notified by each sector. These include, but are not limited to, the legislative framework, inherent hazards and characteristics of each operation as well as the commodity produced.

The figure below shows a breakdown of the types of incidents notified by the extractives sector since 2016-17, including notifications for incidents unrelated to injury and illness. Comparable results were observed across the four-year period.

FIGURE 62: **EXTRACTIVES SECTOR INCIDENT NOTIFICATION PROFILE 2016-17 TO 2019-20**



PROPORTION OF EXTRACTIVE MINES NOTIFYING INCIDENTS

The table below excludes exploration and the numbers will be different to those previously reported due to the changes in work health and safety reporting requirements during 2020 as outlined in the [Explanatory notes](#).

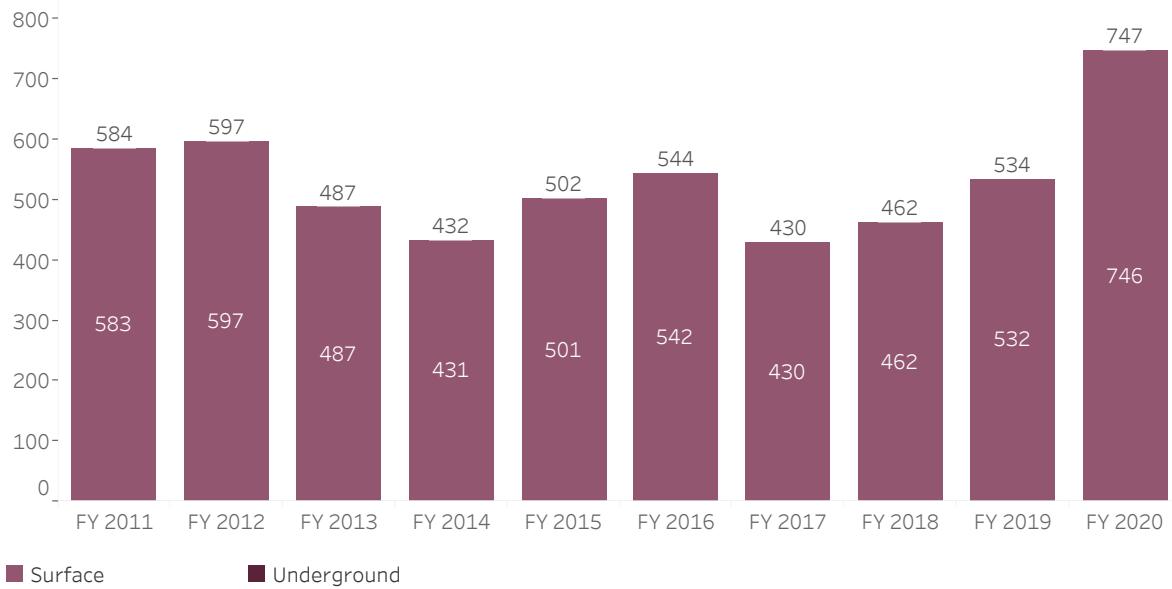
TABLE 5: **EXTRACTIVES SECTOR PROPORTION OF MINES THAT NOTIFIED AN INCIDENT 2009-10 TO 2018-19**

MEASURE	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020
Total notified incidents	93	86	85	104	127	146	135	123	153	167
Number of active mines	2,222	2,307	2,388	2,419	2,476	2,583	2,524	2,553	2,501	2,534
Number of mines that notified an incident	60	61	54	63	68	78	69	73	79	76
% of mines that notified an incident	3%	3%	2%	3%	3%	3%	3%	3%	3%	3%

Notices issued

Notices issued by operation type

FIGURE 63: EXTRACTIVES SECTOR NOTICES ISSUED BY OPERATION TYPE 2010-11 TO 2019-20

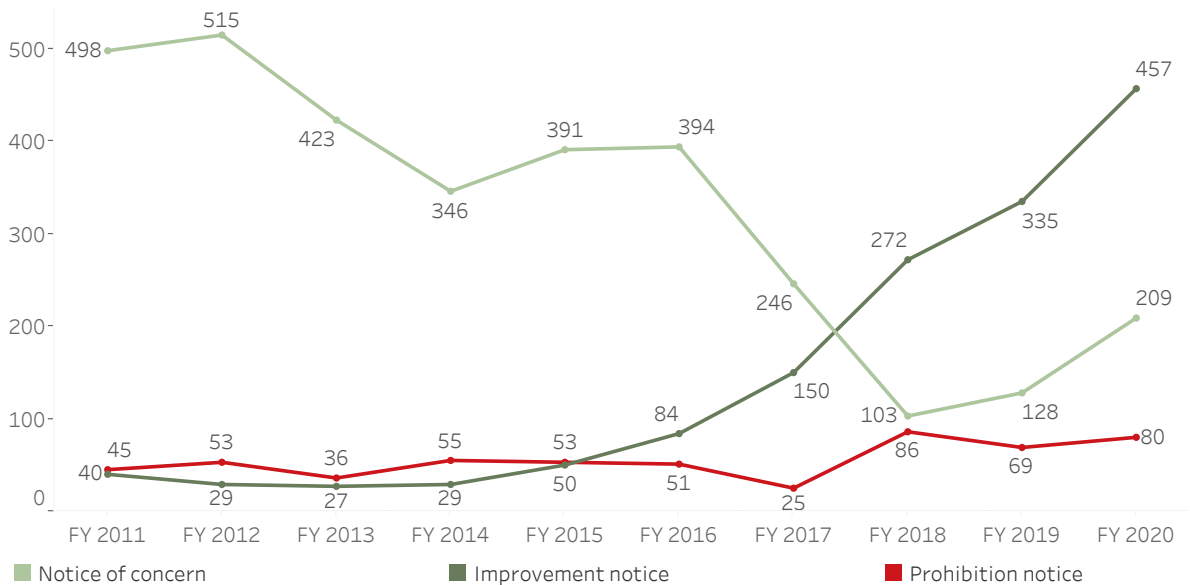


Notices issued by notice type

Changes to the type of notices issued reflect the Resources Regulator’s renewed focus on incident prevention and [Compliance and Enforcement Approach](#) published in July 2017, where we sought to clearly identify matters that necessitate the issue of an improvement notice rather than a written notice of concern.

Due to the minimal numbers of non-disturbance and explosives notices, these have not been included in the figure below.

FIGURE 64: EXTRACTIVES SECTOR NOTICES ISSUED BY NOTICE TYPE 2009-10 TO 2018-19



Appendices



Appendices

Appendix 1. Definitions

Injury type

INJURY TYPE	DEFINITION
Fatal injury (FI)	A work related injury or illness that results in death.
Permanent incapacity injury (PII)	A work-related injury or illness that resulted in permanent incapacity that occurred during the reporting period - with an upper limit of 12 months assigned to the days lost.
Lost time injury (LTI)	A work-related injury or illness that results in a minimum of one full shift absence (AS1885.1 - 1990).
Restricted duty injury (RDI)	A work-related injury or illness resulting in the affected person returning to alternative or restricted duties.
Medical treatment injury (MTI)	A work related injury or illness requiring medical treatment.
Total recordable injuries (TRI)	The sum of fatal injuries, permanent incapacity injuries, lost time injuries, restricted duty injuries and medical treatment injuries.
	A work-related injury or illness where the nature of injury or illness is defined by the relevant legislation.
	Serious injuries and illnesses are defined in section 178 of the Work Health and Safety (Mines and Petroleum Sites) Regulation 2014 (the Regulation), and include injuries and illnesses requiring immediate treatment for; amputation of any part of the body, serious head injury, serious eye injury, serious burn, separation of skin from underlying tissue, spinal injury, the loss of a bodily function, serious laceration a fracture to bone excluding hand or foot are included within the definition as well as any injury or illness, irrespective of its nature, that results in immediate treatment as an in-patient in hospital.
	With the commencement of the Regulation on 1 February 2015, the definition of a serious injury was expanded to include additional injury and illness types, as well as any injury or illness irrespective of its nature, that results in immediate treatment as an in-patient in a hospital.
Serious injury (SI)	In general, a serious injury under this definition is not directly comparable to definitions in other mining jurisdictions or SafeWork Australia.
	Prior to commencement of the WHS (MPS) Act, an injury was classified as serious if it was reported under clauses 55(a)(i)-(vi) or 55(c)(v) of the Coal Mine Health and Safety Regulation 2006 (CMHSR) or clauses 145(a)(i)-(vi) or 145(c)(iv) of the Mine Health and Safety Regulation 2007 (MHSR) - these did not include injuries resulting in hospital inpatient admission or loss of consciousness.
	If any injury - serious or non-serious - resulted in hospital inpatient admission and loss of consciousness, the applicable clauses, CMHSR 55(a)(vii) and 55(b) and MHSR 145(a)(vii) and 145(b), were recorded as injury outcomes.
	Until the inclusion of the petroleum sector in the Work Health and Safety (Mines and Petroleum Sites) Regulation 2014 in February 2016, petroleum sector serious injuries were notified at a lower threshold under the Petroleum (Onshore) Schedule 1992, 301(1).

Injury classifications

Fatal and serious injuries and illnesses are classified according to the Australian Safety and Compensation Council 'Type of occurrence classification system (TOOCS)' and in this report are based on the TOOCS major groups.

Note that to provide further detail of bodily locations on the fatal and serious body maps in Figures 8 and 13, 'hand or fingers' and 'wrist' are shown separately from the major group 'upper limbs', and 'foot or toes' and 'ankle' are shown separately from the major group 'lower limbs'.

Further details of the Australian Safety and Compensation Council Type of occurrence classification system (TOOCS) can be found [here](#).

Incidents

TERM	DEFINITION
Notified incident	<p>Mine operators must report certain types of safety incidents if they arise out of conducting business or performing any mining activities at a mine or petroleum site.</p> <p>The legislation applicable to the incident notifications in this report, and the incident notification types under the current legislation are listed below.</p> <p>Note that any multiple gas exceedances that were reported to the Regulator in a single incident notification have been included as individual incident notifications in this report.</p>

Legislation applicable to incident notifications in this report

LEGISLATION	COMMENCED	STATUS
Petroleum (Onshore) Schedule 1992	1/08/1992	Repealed
<i>Coal Industry Act 2001</i>	1/01/2002	Current
Explosives Regulation 2005	1/09/2005	Repealed
<i>Coal Mine Health and Safety Act 2002</i>	23/12/2006	Repealed
Coal Mine Health and Safety Regulation 2006		
<i>Mine Health and Safety Act 2004</i>	1/09/2008	Repealed
Mine Health and Safety Regulation 2007		
Explosives Regulation 2013	1/09/2013	Current
<i>Work Health and Safety (Mines and Petroleum Sites) Act 2013</i>	1/02/2015	Current
Work Health and Safety (Mines and Petroleum Sites) Regulation 2014		

Incident notification types under current legislation

INCIDENT TYPE		LEGISLATION	SECTION OR CLAUSE
Death of a person		<i>Work Health and Safety (Mines and Petroleum Sites) Act 2013</i>	s 14(a)
Serious injury		<i>Work Health and Safety (Mines and Petroleum Sites) Act 2013</i>	s 14(b)
		Work Health and Safety (Mines and Petroleum Sites) Regulation 2014	cl 178
Dangerous incident		<i>Work Health and Safety (Mines and Petroleum Sites) Act 2013</i>	s 14(c)
		Work Health and Safety (Mines and Petroleum Sites) Regulation 2014	cl 179
High Potential incident	Potentially dangerous incident	Work Health and Safety (Mines and Petroleum Sites) Regulation 2014	cl 128(5)(a)
	Other high potential incident	Work Health and Safety (Mines and Petroleum Sites) Regulation 2014	cl 128(5)(b)-(v) (except those notified under cl 128 (5)(n) and cl 128(5)(o))
	Lost time/ Restricted duty injury/illness >= 7 days	Work Health and Safety (Mines and Petroleum Sites) Regulation 2014	cl 128(5)(n) cl 128(5)(o)
Medical treatment injury		Work Health and Safety (Mines and Petroleum Sites) Regulation 2014	cl 128(1)(a)
Other incidents	Loss or theft of explosives	Explosives Regulation 2013	cl 102
	Serious incident involving explosives		cl 103
	Event at mine rescue station	<i>Coal Industry Act 2001</i>	s 45

Work health and safety report

Under clause 130 of the Work Health and Safety (Mine and Petroleum Sites) Regulation 2014 (and relevant former legislation), mine operators are required to submit work health and safety reports to the Regulator. In accordance with Schedule 9 to the regulation, reports must contain relevant information about injuries and illness occurring in the year, as well as other information such as the total number of hours worked at the mine. This information is used for preparing key injury measures for coal, metalliferous and extractives mining sectors including frequency rates.

Notice categories

NOTICE CATEGORY	DEFINITION	LEGISLATION AND NOTICE TYPE		
Notice of concern	Notice raising concerns regarding health, safety or welfare to the attention of operators.	<i>Coal Mine Health and Safety Act 2002 (repealed 1 Feb 2015)</i>	s 150	Bringing of concerns regarding health, safety or welfare to the attention of operators
		<i>Mine Health and Safety Act 2004 (repealed 1 Feb 2015)</i>	s 131	Bringing of concerns regarding health, safety or welfare to the attention of operators
		<i>Work Health and Safety (Mines and Petroleum Sites) Act 2013</i>	s 23	Notice of concern
Improvement notice	Notice directing remedy or prevention of a contravention or potential contravention.	<i>Occupational Health and Safety Act 2000 (repealed 1 Jan 2012)</i>	s 91	Issue of improvement notices
		<i>Work Health and Safety Amendment Act 2011</i>	s 191	Issue of improvement notices
Prohibition notice	Notice prohibiting carrying on of an activity or carrying on of an activity in a way that involves or will involve serious risk to health and safety. In an underground mine this may require removal of workers from underground areas.	<i>Occupational Health and Safety Act 2000 (repealed 1 Jan 2012)</i>	s 93	Issue of prohibition notices
		<i>Coal Mine Health Safety Regulation 2006 (repealed 1 Feb 2015)</i>	cl 51	Chief Inspector may impose prohibitions or restrictions or direct evacuation or closure of coal operation
		<i>Mine Health Safety Regulation 2007 (repealed 1 Feb 2015)</i>	cl 158	Chief Inspector may impose prohibitions or restrictions or direct evacuation or closure of mine
		<i>Work Health and Safety Act 2011</i>	s 195	Power to issue prohibition notices
Non-disturbance notice	Notice requiring the person to preserve the site or prevent the disturbance of a particular site.	<i>Occupational Health and Safety Act 2000 (repealed 1 Jan 2012)</i>	s 89	Investigation notice to stop plant or prevent disturbance of premises to allow investigation
		<i>Work Health and Safety Act 2011</i>	s 198	Issue of a non-disturbance notice

Frequency rates

TERM	DEFINITION
Fatal injury frequency rate (FIFR)	The number of fatal injuries and illnesses per, million hours worked.
Lost time injury frequency rate (LITFR)	The number of lost time injuries and illnesses, per million hours worked.
Serious injury frequency rate (SIFR)	The number of serious injuries and illnesses, per million hours worked.
Total recordable injury frequency rate (TRIFR)	The total number of fatal, lost time, medical treatment and restricted duties injuries and illnesses, per million hours worked.
Incident notification frequency rate (INFR)	The number of notified incidents per million hours worked.
Rolling five-year rates	The total number of injuries/illnesses or incidents in five years divided by total hours worked in five years, per million hours worked.

Appendix 2. Mine definitions

This appendix is included to help readers understand the different types of mines and how they are classified into mining sectors. In this report exploration is included in surface operations. Both surface and underground activity occurring at an underground operation is considered as underground activity.

Mining sectors and mine types

MINING SECTOR	MINE TYPE
Coal mines	<ul style="list-style-type: none"> Coal Declared plant - CPP
Metalliferous mines	<ul style="list-style-type: none"> Metals Mineral sands
Extractive mines	<ul style="list-style-type: none"> Construction materials Industrial minerals
Petroleum and Geothermal sites	<ul style="list-style-type: none"> Petroleum Geothermal
Opal mines	<ul style="list-style-type: none"> Small Scale Titles Opal claim Gemstones or precious stones with Operation type of Opal Mining (All Types)
Exploration sites	<ul style="list-style-type: none"> Excludes Petroleum and Geothermal sites
Other mines	<ul style="list-style-type: none"> Gemstones or precious stones (excluding Operation type of Opal Mining (All Types)) Readymix or bitumen Ancillary to mining Waste mining Treatment plant

Mine operation types

MINING SECTOR OPERATION TYPE	MINE OPERATION TYPE
Underground	<ul style="list-style-type: none"> Underground
Surface	<ul style="list-style-type: none"> Open cut Processing Borrow pit Dredging Exploration Exploration wells Opal mining (all types) Production wells

Active mines

Active mines include mines that are:

- open
- operate intermittently
- under care and maintenance
- open tourist mines
- planned mines
- small-scale titles that are current or pending.

Appendix 3. Sector data

Surface coal mines

Measure	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20
Active mines	53	54	54	54	53	57	68	68	77	79
Hours worked	26,249,904	31,709,298	31,575,110	29,115,708	27,971,027	26,274,561	27,656,810	29,264,621	34,168,785	33,619,129
Full time equivalent workers	13,125	15,855	15,788	14,558	13,986	13,137	13,828	14,632	17,084	16,810
Fatal injuries	0	0	0	2	0	0	1	0	1	0
Fatal injury 5 year average frequency rate	0.000	0.000	0.000	0.014	0.014	0.014	0.021	0.021	0.014	0.013
Serious injuries	25	39	33	23	20	21	25	23	13	25
Serious injury 5 year average frequency rate	1.02	1.11	1.10	1.02	0.95	0.93	0.86	0.80	0.70	0.71
Lost time injuries	53	89	82	55	40	52	53	73	93	78
Lost time injury 5 year average frequency rate	3.71	2.87	2.82	2.50	2.18	2.17	1.98	1.95	2.14	2.31
Total recordable injuries	229	241	217	170	154	171	171	192	199	156
Total recordable injury 5 year average frequency rate		9.87	8.74	7.72	6.90	6.50	6.19	6.12	6.10	5.89
Incident notifications	498	594	635	646	451	515	456	583	608	591
Incident notification annual frequency rate	18.97	18.73	20.11	22.19	16.12	19.60	16.49	19.92	17.79	17.58
% of mines that notified an incident	91%	91%	83%	81%	75%	72%	62%	66%	58%	59%
Workplace death or Serious injury/illness notifications							17	23	13	17
Dangerous Incident notifications							117	173	165	154
Potentially dangerous incident notifications							167	176	190	178
Other High Potential incident notifications							65	103	115	141
Lost time/Restricted duty injury/illness >= 7 days notifications							37	46	81	69
Medical treatment injury notifications							48	58	36	28
Other incident notifications							5	4	8	4
Notices issued	322	222	245	225	247	261	134	207	271	298
Notices of concern issued	298	178	220	185	196	155	63	65	78	121
Improvement notices issued	5	11	11	15	31	71	58	105	153	151
Prohibition notices issued	19	32	12	21	18	22	13	33	34	21
Non-disturbance notices issued	0	1	2	4	2	13	0	4	6	5

Underground coal mines

Measure	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20
Active mines	33	31	30	29	30	38	43	43	46	43
Hours worked	18,435,310	20,962,203	21,350,886	18,977,766	14,863,344	13,461,814	13,439,336	13,797,079	14,932,163	14,218,301
Full time equivalent workers	9,218	10,481	10,675	9,489	7,432	6,731	6,720	6,899	7,466	7,109
Fatal injuries	1	0	0	2	0	0	0	0	0	0
Fatal injury 5 year average frequency rate	0.062	0.045	0.042	0.031	0.032	0.022	0.024	0.027	0.000	0.000
Serious injuries	75	86	92	63	58	37	51	29	53	45
Serious injury 5 year average frequency rate	4.72	4.64	4.47	4.22	3.95	3.75	3.67	3.19	3.23	3.08
Lost time injuries	218	187	162	161	114	106	128	111	125	119
Lost time injury 5 year average frequency rate	14.67	11.95	10.53	9.62	8.90	8.15	8.17	8.32	8.28	8.43
Total recordable injuries	817	788	639	641	440	410	402	452	430	379
Total recordable injury 5 year average frequency rate		52.82	42.96	38.78	35.15	32.56	30.84	31.46	30.27	29.68
Incident notifications	2,268	2,024	1,990	1,650	1,360	1,378	1,133	1,055	999	1,076
Incident notification annual frequency rate	123.02	96.55	93.20	86.94	91.50	102.36	84.30	76.47	66.90	75.68
% of mines that notified an incident	94%	106%	107%	110%	107%	74%	67%	70%	57%	65%
Workplace death or Serious injury/illness notifications							41	30	43	37
Dangerous Incident notifications							112	90	89	106
Potentially dangerous incident notifications							212	212	175	175
Other High Potential incident notifications							538	480	413	441
Lost time/Restricted duty injury/illness >= 7 days notifications							147	108	184	231
Medical treatment injury notifications							83	135	95	86
Other incident notifications							0	0	0	0
Notices issued	461	381	380	419	524	442	412	368	382	265
Notices of concern issued	397	320	338	367	434	279	172	91	137	103
Improvement notices issued	15	7	8	19	47	106	187	188	194	130
Prohibition notices issued	48	48	28	30	39	51	43	83	42	32
Non-disturbance notices issued	1	6	6	3	4	6	10	6	9	0

All coal mines

Measure	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20
Active mines	86	85	84	83	83	95	111	111	123	122
Hours worked	44,685,214	52,671,501	52,925,996	48,093,474	42,834,371	39,736,375	41,096,146	43,061,700	49,100,948	47,837,430
Full time equivalent workers	22,343	26,336	26,463	24,047	21,417	19,868	20,548	21,531	24,550	23,919
Fatal injuries	1	0	0	4	0	0	1	0	1	0
Fatal injury 5 year average frequency rate	0.028	0.019	0.018	0.021	0.021	0.017	0.022	0.023	0.009	0.009
Serious injuries	100	125	125	86	78	58	76	52	66	70
Serious injury 5 year average frequency rate	2.69	2.63	2.52	2.33	2.13	2.00	1.88	1.63	1.53	1.46
Lost time injuries	271	276	244	216	154	158	181	184	218	197
Lost time injury 5 year average frequency rate	8.65	6.78	6.07	5.42	4.81	4.44	4.24	4.16	4.15	4.25
Total recordable injuries	1,046	1,029	856	811	594	581	573	644	629	535
Total recordable injury 5 year average frequency rate		28.38	23.17	20.44	17.98	16.38	15.20	14.91	14.00	13.41
Incident notifications	2,766	2,618	2,625	2,296	1,811	1,893	1,589	1,638	1,607	1,667
Incident notification annual frequency rate	61.90	49.70	49.60	47.74	42.28	47.64	38.67	38.04	32.73	34.85
% of mines that notified an incident	92%	96%	92%	92%	87%	73%	64%	68%	58%	61%
Workplace death or Serious injury/illness notifications							58	53	56	54
Dangerous Incident notifications							229	263	254	260
Potentially dangerous incident notifications							379	388	365	353
Other High Potential incident notifications							603	583	528	582
Lost time/Restricted duty injury/illness >= 7 days notifications							184	154	265	300
Medical treatment injury notifications							131	193	131	114
Other incident notifications							5	4	8	4
Notices issued	783	603	625	644	771	703	546	575	653	563
Notices of concern issued	695	498	558	552	630	434	235	156	215	224
Improvement notices issued	20	18	19	34	78	177	245	293	347	281
Prohibition notices issued	67	80	40	51	57	73	56	116	76	53
Non-disturbance notices issued	1	7	8	7	6	19	10	10	15	5

Surface metalliferous mines

Measure	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20
Active mines	35	40	44	44	46	52	68	65	69	58
Hours worked	4,971,552	4,136,747	4,548,471	2,509,887	2,104,969	1,957,807	5,314,480	5,346,293	6,109,629	6,863,880
Full time equivalent workers	2,486	2,068	2,274	1,255	1,052	979	2,657	2,673	3,055	3,432
Fatal injuries	0	0	0	0	0	0	0	0	1	1
Fatal injury 5 year average frequency rate	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.048	0.078
Serious injuries	1	9	3	3	4	3	4	1	3	2
Serious injury 5 year average frequency rate	0.72	0.83	0.89	0.95	1.09	1.44	1.03	0.87	0.72	0.51
Lost time injuries	3	6	8	3	7	5	16	10	9	12
Lost time injury 5 year average frequency rate	1.69	1.17	1.49	1.44	1.48	1.90	2.37	2.38	2.26	2.03
Total recordable injuries	27	38	38	16	15	51	52	36	29	35
Total recordable injury 5 year average frequency rate			7.37	7.62	7.33	10.36	10.47	9.86	8.78	7.93
Incident notifications	39	42	43	47	38	51	54	27	48	48
Incident notification annual frequency rate	7.84	10.15	9.45	18.73	18.05	26.05	10.16	5.05	7.86	6.99
% of mines that notified an incident	26%	28%	14%	18%	17%	13%	12%	12%	7%	17%
Workplace death or Serious injury/illness notifications							3	1	6	3
Dangerous Incident notifications							24	12	22	24
Potentially dangerous incident notifications							15	9	10	14
Other High Potential incident notifications							3	2	4	3
Lost time/Restricted duty injury/illness >= 7 days notifications							0	0	2	0
Medical treatment injury notifications							8	3	4	3
Other incident notifications							1	0	0	1
Notices issued	28	18	67	27	28	32	31	57	72	101
Notices of concern issued	24	18	55	26	26	25	20	18	30	28
Improvement notices issued	2	0	3	1	1	6	8	26	38	57
Prohibition notices issued	2	0	9	0	1	0	3	11	4	16
Non-disturbance notices issued	0	0	0	0	0	1	0	2	0	0

Underground metalliferous mines

Measure	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20
Active mines	39	38	38	37	39	46	41	42	47	47
Hours worked	8,648,244	11,219,977	10,009,650	12,091,598	11,310,300	9,479,785	7,756,909	7,265,704	7,553,978	8,107,462
Full time equivalent workers	4,324	5,610	5,005	6,046	5,655	4,740	3,878	3,633	3,777	4,054
Fatal injuries	0	0	1	1	0	1	1	0	0	0
Fatal injury 5 year average frequency rate	0.031	0.000	0.023	0.041	0.038	0.055	0.079	0.063	0.046	0.050
Serious injuries	19	19	10	7	14	23	17	7	16	18
Serious injury 5 year average frequency rate	1.88	1.78	1.73	1.41	1.30	1.35	1.40	1.42	1.78	2.02
Lost time injuries	26	26	27	21	21	36	29	15	19	38
Lost time injury 5 year average frequency rate	4.93	3.92	3.32	2.83	2.27	2.42	2.65	2.55	2.77	3.41
Total recordable injuries	191	244	250	236	212	177	173	112	130	145
Total recordable injury 5 year average frequency rate			23.81	22.94	21.27	20.68	20.69	19.00	18.54	18.35
Incident notifications	115	153	176	166	176	184	186	214	214	248
Incident notification annual frequency rate	13.30	13.64	17.58	13.73	15.56	19.41	23.98	29.45	28.33	30.59
% of mines that notified an incident	31%	42%	37%	49%	44%	41%	41%	43%	38%	36%
Workplace death or Serious injury/illness notifications							16	7	11	16
Dangerous Incident notifications							73	85	90	98
Potentially dangerous incident notifications							43	53	45	40
Other High Potential incident notifications							16	35	34	38
Lost time/Restricted duty injury/illness >= 7 days notifications							5	3	14	34
Medical treatment injury notifications							32	30	19	22
Other incident notifications							1	1	1	0
Notices issued	39	60	79	52	55	89	148	200	428	321
Notices of concern issued	35	54	70	44	45	70	85	57	152	122
Improvement notices issued	1	0	0	2	3	12	40	117	236	172
Prohibition notices issued	2	6	6	3	2	7	19	24	39	26
Non-disturbance notices issued	1	0	3	3	5	0	4	2	1	1

All metalliferous mines

Measure	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20
Active mines	74	78	82	81	85	98	109	107	116	105
Hours worked	13,619,796	15,356,724	14,558,121	14,601,485	13,415,269	11,437,592	13,071,389	12,611,997	13,663,607	14,971,342
Full time equivalent workers	6,810	7,678	7,279	7,301	6,708	5,719	6,536	6,306	6,832	7,486
Fatal injuries	0	0	1	1	0	1	1	0	1	1
Fatal injury 5 year average frequency rate	0.019	0.000	0.015	0.029	0.028	0.043	0.060	0.046	0.047	0.061
Serious injuries	20	28	13	10	18	26	21	8	19	20
Serious injury 5 year average frequency rate	1.44	1.45	1.45	1.28	1.24	1.37	1.31	1.27	1.43	1.43
Lost time injuries	29	32	35	24	28	41	45	25	28	50
Lost time injury 5 year average frequency rate	2.81	2.18	2.53	2.43	2.07	2.31	2.58	2.50	2.60	2.87
Total recordable injuries	218	282	288	252	227	228	225	148	159	180
Total recordable injury 5 year average frequency rate			18.19	18.47	17.71	18.41	18.19	16.58	15.37	14.30
Incident notifications	154	195	219	213	214	235	240	241	262	296
Incident notification annual frequency rate	11.31	12.70	15.04	14.59	15.95	20.55	18.36	19.11	19.18	19.77
% of mines that notified an incident	28%	35%	24%	32%	29%	27%	23%	24%	20%	26%
Workplace death or Serious injury/illness notifications							19	8	17	19
Dangerous Incident notifications							97	97	112	122
Potentially dangerous incident notifications							58	62	55	54
Other High Potential incident notifications							19	37	38	41
Lost time/Restricted duty injury/illness >= 7 days notifications							5	3	16	34
Medical treatment injury notifications							40	33	23	25
Other incident notifications							2	1	1	1
Notices issued	67	78	146	79	83	121	179	257	500	422
Notices of concern issued	59	72	125	70	71	95	105	75	182	150
Improvement notices issued	3	0	3	3	4	18	48	143	274	229
Prohibition notices issued	4	6	15	3	3	7	22	35	43	42
Non-disturbance notices issued	1	0	3	3	5	1	4	4	1	1

Surface extractives mines

Measure	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20
Active mines	2221	2305	2386	2417	2475	2581	2523	2552	2500	2533
Hours worked	4,060,831	4,513,877	4,756,898	4,760,106	5,037,716	4,214,099	5,490,414	5,834,016	5,909,380	4,442,693
Full time equivalent workers	2030	2257	2378	2380	2519	2107	2745	2917	2955	2221
Fatal injuries	0	0	0	0	2	0	0	0	0	0
Fatal injury 5 year average frequency rate	0.000	0.000	0.000	0.000	0.086	0.086	0.082	0.079	0.076	0.000
Serious injuries	8	11	8	12	8	18	11	11	4	12
Serious injury 5 year average frequency rate	1.81	1.82	2.07	2.09	2.03	2.45	2.35	2.37	1.96	2.16
Lost time injuries	53	44	57	49	40	46	47	41	46	26
Lost time injury 5 year average frequency rate	9.88	10.40	11.70	11.28	10.51	10.14	9.85	8.80	8.31	7.96
Total recordable injuries	175	177	167	170	97	124	114	158	163	107
Total recordable injury 5 year average frequency rate			39.88	40.83	33.98	31.57	27.70	26.17	24.77	25.72
Incident notifications	92	86	85	104	127	146	135	123	153	167
Incident notification annual frequency rate	22.66	19.05	17.87	21.85	25.21	34.65	24.59	21.08	25.89	37.59
% of mines that notified an incident	3%	3%	2%	3%	3%	3%	3%	3%	3%	3%
Workplace death or Serious injury/illness notifications							11	10	3	17
Dangerous Incident notifications							50	47	66	54
Potentially dangerous incident notifications							42	27	38	38
Other High Potential incident notifications							12	6	18	28
Lost time/Restricted duty injury/illness >= 7 days notifications							5	3	9	10
Medical treatment injury notifications							14	29	18	20
Other incident notifications							1	1	1	0
Notices issued	583	597	487	431	501	542	430	462	532	746
Notices of concern issued	497	515	423	345	390	392	246	103	127	208
Improvement notices issued	40	29	27	29	50	84	150	272	334	457
Prohibition notices issued	45	53	36	55	53	51	25	86	69	80
Non-disturbance notices issued	1	0	1	2	8	15	9	1	2	1

Coal, metalliferous and surface extractives mines

Measure	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20
Active mines	2381	2468	2552	2581	2643	2774	2743	2770	2739	2760
Hours worked	62,365,841	72,542,102	72,241,015	67,455,065	61,287,356	55,388,066	59,657,949	61,507,713	68,673,935	67,251,465
Full time equivalent workers	31,183	36,271	36,121	33,728	30,644	27,694	29,829	30,754	2,955	33,626
Fatal injuries	1	0	1	5	2	1	2	0	2	1
Fatal injury 5 year average frequency rate	0.024	0.014	0.016	0.021	0.027	0.027	0.035	0.033	0.023	0.019
Serious injuries	128	164	146	108	104	102	108	71	89	102
Serious injury 5 year average frequency rate	2.36	2.33	2.27	2.10	1.94	1.90	1.80	1.61	1.55	1.51
Lost time injuries	353	352	336	289	222	245	273	250	292	273
Lost time injury 5 year average frequency rate	7.15	5.75	5.66	5.18	4.62	4.39	4.32	4.19	4.18	4.27
Total recordable injuries	1,439	1,488	1,311	1,233	918	933	912	950	951	822
Total recordable injury 5 year average frequency rate			23.23	21.39	19.02	17.89	16.79	16.20	15.22	14.62
Incident notifications	3,013	2,899	2,929	2,613	2,152	2,274	1,964	2,002	2,022	2,130
Incident notification annual frequency rate	48.31	39.96	40.54	38.74	35.11	41.06	32.92	32.55	29.44	31.67
% of mines that notified an incident	7%	7%	6%	6%	6%	6%	6%	6%	6%	6%
Workplace death or Serious injury/illness notifications							88	71	76	90
Dangerous Incident notifications							376	407	432	436
Potentially dangerous incident notifications							479	477	458	445
Other High Potential incident notifications							634	626	584	651
Lost time/Restricted duty injury/illness >= 7 days notifications							194	160	290	344
Medical treatment injury notifications							185	255	172	159
Other incident notifications							8	6	10	5
Notices issued	1,433	1,278	1,258	1,154	1,355	1,366	1,155	1,294	1,685	1,731
Notices of concern issued	1,251	1,085	1,106	967	1,091	921	586	334	524	582
Improvement notices issued	63	47	49	66	132	279	443	708	955	967
Prohibition notices issued	116	139	91	109	113	131	103	237	188	175
Non-disturbance notices issued	3	7	12	12	19	35	23	15	18	7

Appendix 4. Other sectors

**NSW
Resources
Regulator**

**SECTOR
REPORTING**

Petroleum and geothermal

Onshore petroleum
and geothermal sites

Opal mines

Small scale titles and
opal claims, gemstones
or precious stones

Exploration

Exploration sites

Petroleum and geothermal sector

FATAL INJURIES, SERIOUS INJURIES, NOTIFIED INCIDENTS AND ACTIVE MINES

In 2019-20 there were no fatal injuries, serious injuries or notified incidents in the petroleum and geothermal sector. In the ten years since 2010-11, there has been no fatal injuries, one serious injury and 22 notified incidents.

Note that the petroleum and geothermal sector is not required to submit work health and safety reports and therefore frequency rates for these measures have not been calculated.

In the 2019-20, there were 194 active petroleum and geothermal sites, a decrease of 27% compared to 2018-19.

TABLE: **PETROLEUM AND GEOTHERMAL SECTOR FATAL INJURIES, SERIOUS INJURIES AND NOTIFIED INCIDENTS 2010-11 TO 2019-20**

MEASURE	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	TOTAL
Fatal injuries	0	0	0	0	0	0	0	0	0	0	0
Serious injuries	1	0	0	0	0	0	0	0	0	0	1
Notified incidents	8	2	1	4	4	3	0	0	0	0	22
Number of active mines	15	53	270	283	258	239	405	403	267	194	N/A

NOTICES ISSUED

In 2019-20 the Resources Regulator issued eight notices to the petroleum and geothermal sector, comprising four improvement notices and four notices of concerns.

TABLE: **PETROLEUM AND GEOTHERMAL SECTOR NOTICES ISSUED 2010-11 TO 2019-20**

MEASURE	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	TOTAL
Notices issued	2	0	0	0	0	1	0	9	0	8	20

Opal sector

FATAL INJURIES, SERIOUS INJURIES, NOTIFIED INCIDENTS AND ACTIVE MINES

In 2019-20 there were no fatal injuries, one serious injury and two notified incidents in the opal sector. In the ten years since 2010-11 there has been one fatal injury, eight serious injuries and 22 notified incidents in the opal sector.

Note the opal sector is not required to submit work health and safety reports and therefore frequency rates for these measures have not been calculated.

In 2019-20 there were 3,944 active opal mines, the highest number in the ten-year reporting period.

TABLE: **OPAL SECTOR FATAL INJURIES, SERIOUS INJURIES, NOTIFIED INCIDENTS AND NUMBER OF ACTIVE MINES 2010-11 TO 2019-20**

MEASURE	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	TOTAL
Fatal injuries	0	0	0	0	0	0	1	0	0	0	1
Serious injuries	0	0	0	0	1	2	0	2	2	1	8
Notified incidents	1	0	1	4	1	4	1	4	4	2	22
Number of active mines	3,500	3,500	3,500	3,500	3,288	3,354	3,487	3,478	3,564	3,944	N/A

NOTICES ISSUED

In 2019-20 the Resources Regulator issued 162 notices in the opal sector, comprising 131 improvement notices, 17 prohibition notices, 12 non-disturbance or explosives notices, and two notices of concern.

TABLE: **OPAL SECTOR NOTICES ISSUED 2010-11 TO 2019-20**

MEASURE	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	TOTAL
Notices issued	6	0	1	3	16	1	159	63	72	1	483

Exploration sector

FATAL INJURIES, SERIOUS INJURIES, NOTIFIED INCIDENTS AND ACTIVE MINES

In 2019-20 there were no fatal injuries, serious injuries or notified incidents in the exploration sector. In the ten years since 2010-11, there has been no fatal injuries, 24 serious injuries and 89 notified incidents.

Note that from June 2020 the exploration sector is not required to submit work health and safety reports and therefore frequency rates for these measures have not been calculated.

In the 2019-20, there were 785 active exploration sites excluding petroleum and geothermal, a 4% increase from 2018-19.

TABLE: **EXPLORATION SECTOR FATAL INJURIES, SERIOUS INJURIES, NOTIFIED INCIDENTS AND NUMBER OF ACTIVE MINES 2010-11 TO 2019-20**

MEASURE	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	TOTAL
Fatal injuries	0	0	0	0	0	0	0	0	0	0	0
Serious injuries	5	1	2	2	2	0	1	5	3	3	24
Notified incidents	17	11	5	9	11	6	6	9	6	9	89
Number of active mines	560	721	823	872	876	822	714	715	753	785	N/A

NOTICES ISSUED

In 2019-20 the Resources Regulator issued 162 notices in the opal sector, comprising 131 improvement notices, 17 prohibition notices, 12 non-disturbance or explosives notices, and two notices of concern.

TABLE: **OPAL SECTOR NOTICES ISSUED 2010-11 TO 2019-20**

MEASURE	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	TOTAL
Notices issued	6	0	1	3	16	1	159	63	72	1	483

