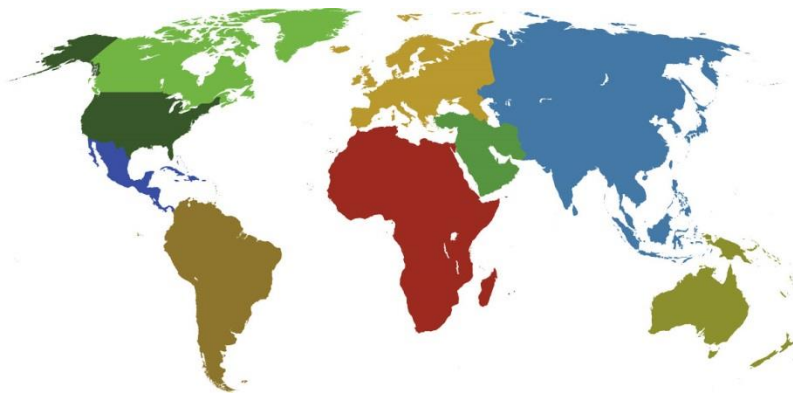




**IADC**

**IADC  
ISP PROGRAM**

**2016**



**Summary of Occupational  
Incidents  
(Industry Totals)**

*Issued 1 July 2017*

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## Summary of Occupational Incidents Introductory Briefing:

**Data gathered in the IADC Incident Statistics Program (ISP) data base, shows that the oil and gas well drilling industry continues work toward reducing incidents on rigs. Even though there was a decrease in rig demand in 2016, the incidence rates improved slightly over 2015. Although IADC ISP calculates both Incidence rates and Frequency rates, this report is based on Incidence rates which are calculated on incidents per 200,000 man-hours.**

The Summary of Occupational Incidents (SOI) is compiled annually from data volunteered by drilling contractors worldwide to the IADC ISP Program. During 2016, 95 contractors participated in the ISP representing a total of 396,233,172 million man-hours worked. Contractors striving for safety improvement by participating in the ISP program reported 909 Recordable incidents, 254 Lost Time incidents including 9 fatalities.

### Regional Reporting

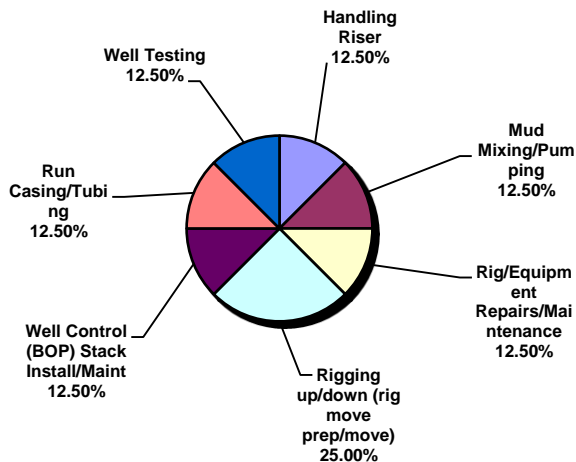
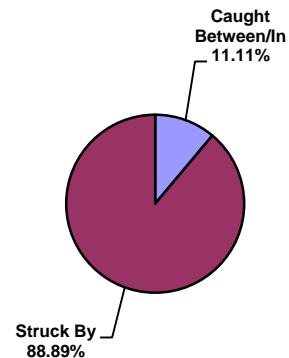
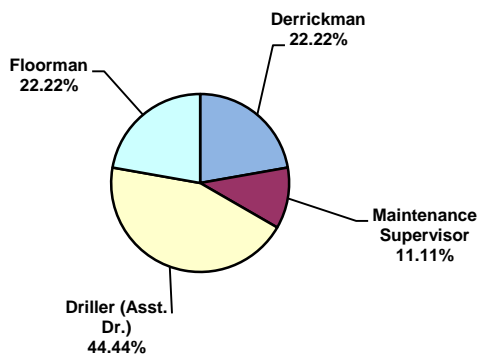
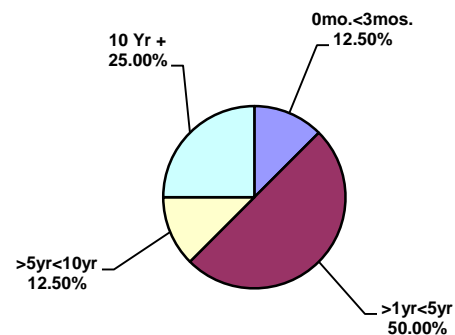
Safety data is compiled separately for Land and Offshore operations for nine geographic regions. This report is not designed to measure region against region, but to provide companies operating within each region tools to measure their efforts and make improvement in their safety efforts year over year.

### Industry Improvement

2016 saw the drilling industry's worldwide Lost Time Incidence Rate improve to 0.13 which is an 27.78% improvement of the 2015 report of 0.18. The 2016 Recordable Incident rate improved to 0.46 which is a 23.33% improvement over the 2015 report of 0.60. The oil and gas well drilling industry's efforts towards safety have resulted in the industry's occupational LTI Incidence rate to improve from more than 14.00 in 1963 to 0.13 in 2016, which is a 107 fold improvement.

### Fatalities:

In 2016 the industry's fatalities increased to 9 incidents compared to 8 incidents reported in 2015. According to the data reported in 2016, two (2) fatalities occurred to an employee who had ten or more years of service with the company. Four (4) fatalities occurred to employees who had more than one year but less than five years of service and one (1) with less than three months of service. One (1) victim had worked for the company between five years and ten years. Two (2) fatalities occurred during Rigging up/down. Eight (8) victims were struck-by while one (1) was due to a caught between incidents. Two (2) of the fatalities occurred to floormen, four (4) fatalities occurred to Drillers (Assistant Driller), two (2) fatalities occurred to derrickmen, and one (1) fatality occurred to a maintenance supervisor.

**Fatal Incidents by activity**

**Fatal Incidents by type**

**Fatalities by Occupation**

**Fatalities by Time in Service**


### Regional Summaries: Man-Hours vs Fatalities

**European Land and Offshore** categories together worked more than 68 million man-hours in 2016 with one (1) fatality. European offshore accounted for 28.5 million man-hours with no fatalities while European Land had 40.2 million man-hours and one (1) fatality. **US Land and Offshore** contractors together worked more than 62 million man-hours with four (4) fatalities. US Land had 34 million man-hours with three (3) fatalities while US water had 27.75 million man-hours and one (1) fatality. **Canadian** contractors accounted for 2.29 million man-hours and zero (0) fatalities. Canadian Land had 746 thousand man-hours and no fatalities while offshore had 1.5 million man-hours and no

fatalities. **Central America and Caribbean** accounted for 4.7 million man-hours with zero (0) fatalities. Land operations reported 1 million man-hours and no fatalities while water operations reported just over 3.6 million man-hours and no fatalities. **Africa** combined land and offshore accounted for 38 million man-hours with zero (0) fatalities. Africa Land accounted for 17.86 million man-hours with zero (0) fatalities while Africa Water had 20 million man-hours and no fatalities. The **Middle East** region accounted for 149 million man-hours with three (3) fatalities. The Land division had 100 million man-hours and three (3) fatalities while there were 48 million man-hours and no fatalities for the offshore division. **Asia Pacific** accounted for 43.4 million man-hours and one (1) fatality.

Water had 34.36 million man-hours and one (1) fatality while the Land Division had 9 million man-hours with no fatalities. **South America** made up 23.77 million man-hours with no fatalities. Land had 11.88 million man-hours and no fatalities while Water had 11.88 million man-hours and no fatalities. **Australasia** made up 3.76 million man-hours with no fatalities. Land had 1.25 million man-hours with no fatalities while offshore had 2.5 million man-hours with no fatalities.

**Lost Time and Recordable Incidents by Region**

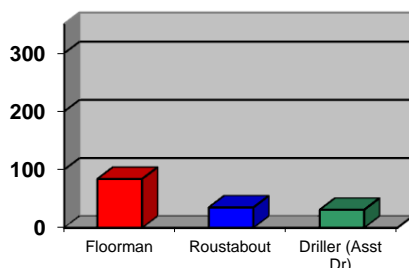
Lost time incidents among **US Offshore** workers was better by 25% from 0.12 in 2015 to 0.09 in 2016. The Total Recordable Incidence Rate also improved 12.5% from 0.56 in 2015 to 0.49 in 2016. **US Land** LTI Incidence rate worsened 12.9% from 0.31 in 2015 to 0.35 in 2016 and Recordable Incidence Rate improved 1.64% from 1.22 in 2015 to 1.20 in 2016. **European Land** workers saw their LTI rate worsen 13.3% from 0.15 for 2015 to 0.17 for 2016. The Recordable Incidence Rate remained the same in 2015 and 2016 at 0.23. **European Offshore** workers LTI rate improved 36.8% from 0.19 in 2015 to 0.12 in 2016 while the Recordable Incidence rate improved 20.63% from 0.63 in 2015 to 0.50 in 2016. **Canada Land** had a 2015 LTI rate of 0.14 which worsened 285.7% to 0.54 for 2016, while their Recordable Incidence improved 1.47% from 1.36 in 2015 to 1.34 for 2016. **Canada Offshore** workers saw their 2015 LTI rate of 0.0 remain the same for 2016. The Recordable Incidence rate of 0.80 for 2015 improved 67.5% to 0.26 for 2016. **Central America and Caribbean Land** 2015 LTI rate of 0.98 improved 43.88% to 0.55 for 2016. Their 2015 Recordable Incidence rate of 1.59 worsened 3.14% to 1.64 for 2016. **Central America and Caribbean Water** 2015 LTI Rate of 0.18 improved 38.89% to 0.11 in 2016. The Recordable rate of 0.61 for 2015 improved 45.9% to 0.33 for 2016. **Africa Land** LTI rate for 2015 was 0.39 improved 71.79% for 0.11 in

2016. The Recordable Incidence rate improved 66.38% from 1.16 in 2015 to 0.39 in 2016. **Africa Water** LTI rate of 0.09 for 2015 improved 88.89% to 0.01 for 2016 and their Recordable Incidence rate improved 41.18% from 0.34 in 2015 to 0.20 in 2016. In 2015, **Middle East Land** had a LTI rate of 0.14 which improved 7.14% to 0.13 in 2016. Their 2015 Recordable Incidence rate of 0.60 improved 18.3% to 0.49 in 2016. **Middle East Water** LTI rate of 0.10 in 2015 improved 50% to 0.05 in 2016 and their Recordable Incidence rate improved 16.1% from 0.31 in 2015 to 0.26 in 2016. **Asia Pacific Land** 2015 LTI rate was 0.11 and improved 36.36% to 0.07 in 2016, while their Recordable Incidence rate improved 47.06% from 0.34 in 2015 to 0.18 in 2016. **Asia Pacific Water** 2015 LTI rate of 0.05 worsened 120% to 0.11 for 2016 and their Recordable Incidence rate worsened 30.43% from 0.23 in 2015 to 0.30 in 2016. In 2015, **South America Land** had an LTI rate of 0.25 which worsened 8% to 0.27 in 2016 and a 2015 Recordable rate of 0.72 which improved 1.39% to 0.71 in 2016. **South America Water** 2015 LTI rate was 0.22 which improved 54.54% to 0.10 in 2016 and a 2015 Recordable rate of 0.52 that also improved 34.62% to 0.34 in 2016. **Australasia Land** had a 2015 LTI rate of 0.15 which improved to 0.00 for 2016 and Recordable incident rate of 0.53 for 2015 which improved 9.43% to 0.48 for 2016. **Australasia Water** had a 2015 LTI rate of 0.10 which improved to 0.00 for 2016 and a 2015 Recordable incident rate of 0.55 which improved 12.73% to 0.48 for 2016.

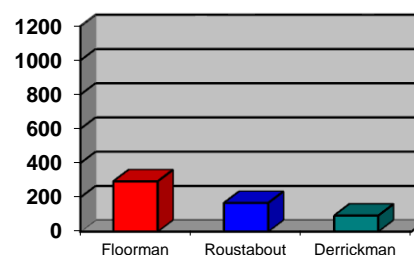
**Greatest Risks:**

Incidents occur in many places around the rig and to all crewmembers. Many types of equipment and rig operations are involved in incidents and all parts of the body are at risk. Incident data are analyzed by occupation, body part, incident type, equipment type, operation, location time in service and time of day the incident occurred.

**LTI by Occupation**  
(Based on 251 incidents)

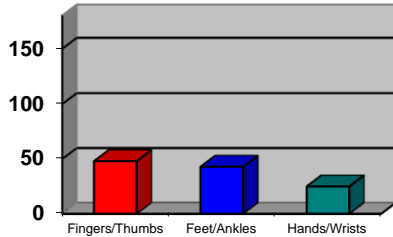


**REC by Occupation**  
(Based on 900 incidents)

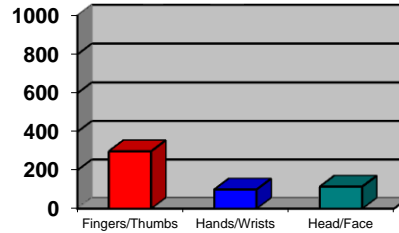


Data from the IADC ISP show that of all the categories, as with previous years, the Floorman position suffers the largest percentage of Lost Time and Recordable injuries.

**LTI by Body Part**  
(Based on 251 incidents)

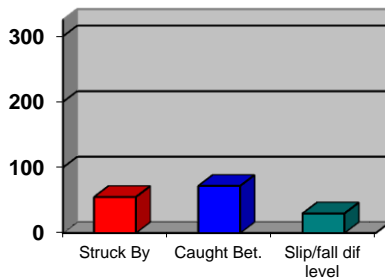


**REC by Body Part**  
(Based on 897 incidents)

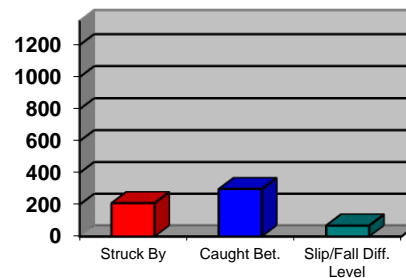


Fingers remained the most vulnerable part of the body.

**LTI by Incident Type**  
(Based on 249 incidents)

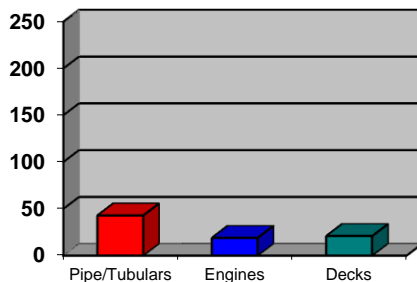


**REC by Incident Type**  
(Based on 892 incidents)

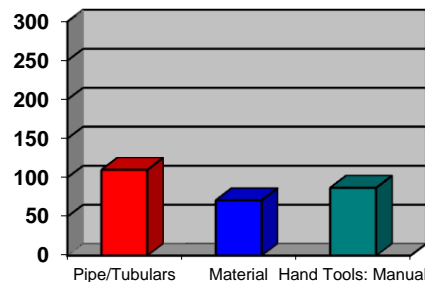


Caught Between accounted for most Lost Time and Recordable injuries and was closely followed by Struck by injuries.

**LTI by Equipment**  
(Based on 242 incidents)

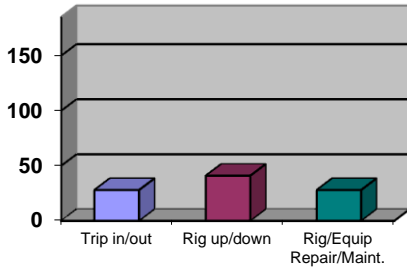


**REC by Equipment**  
(Based on 850 incidents)

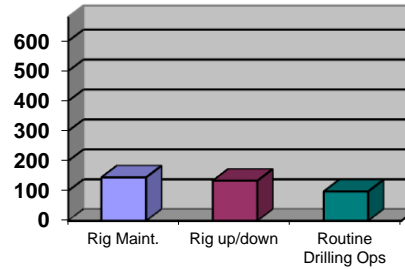


Pipe/Tubulars is the equipment responsible for the most Lost Time and Recordable incidents.

**LTI by Activity**  
(Based on 251 incidents)

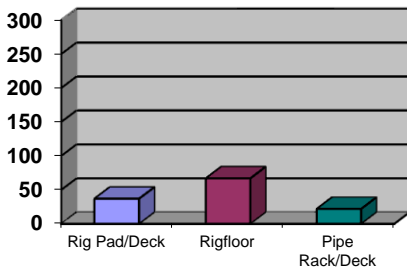


**REC by Activity**  
(Based on 898 incidents)

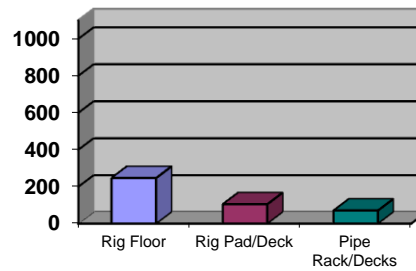


“Rigging up/down” accounted for the most LTI. The most recordable incidents occurred during “Rig/Equipment Repair/Maintenance”.

**LTI by Location**  
(Based on 249 incidents)

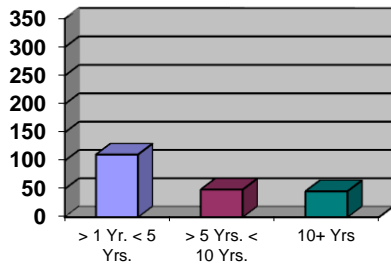


**REC by Location**  
(Based on 892 incidents)

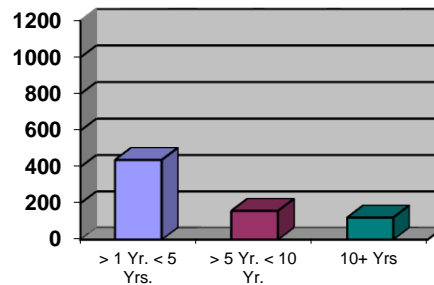


The most Lost Time and Recordable injuries in drilling operations occur on the rig floor.

**LTI by Time In Service**  
(Based on 250 incidents)

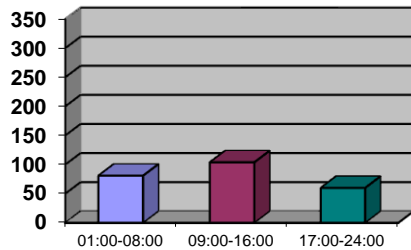


**REC by Time In Service**  
(Based on 897 incidents)

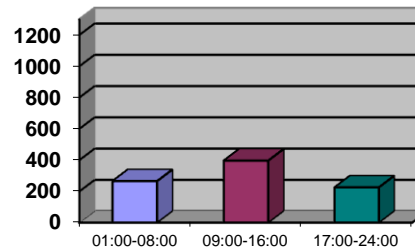


Lost Time and Recordable injuries based on Time in Service were led by employees with between one to five years of service.

**LTI by Time of Day**  
(Based on 245 incidents)

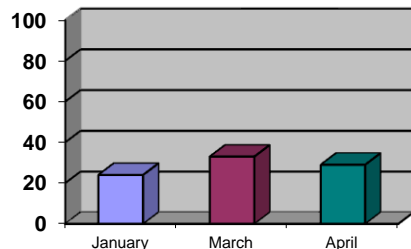


**REC by Time of Day**  
(Based on 889 incidents)

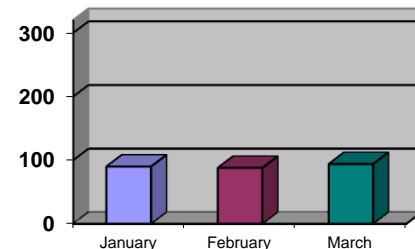


The Most LTI and Recordable incidents occurred between 09:00-16:00 hours.

**LTI by Month**  
(Based on 251 incidents)

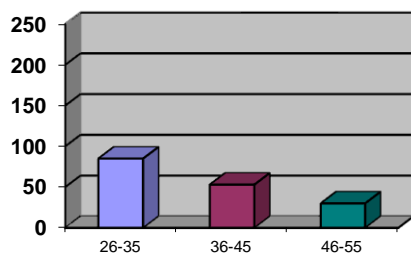


**REC by Month**  
(Based on 901 incidents)

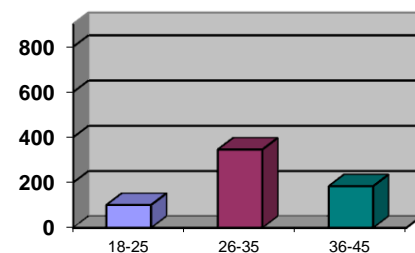


March accounted for the most Lost Time and Recordable incidents.

**LTI by Age**  
(Based on 216 incidents)



**REC by Age**  
(Based on 754 incidents)



26 – 35 age range accounted for the most Lost Time and Recordable incidents.

**Conclusion:**

Activity in most sectors of the industry decreased in 2016. Overall, Lost Time incidents rates and Recordable incident rates improved in 2016 as compared to 2015. The industry also saw the number of fatalities increase by 1, but the total number of incidents decreased significantly from 1511 in 2015 to 909 in 2016. Although some regions did not see improvement in 2015, the overall incident and frequency rates are still trending downward.





## 2016 ISP Program Industry Totals

### IADC ISP Program 2016 Final Report (Table 1)

January – December

Note: Figures are unaudited

| CATEGORY                                    | TOTAL<br>MANHOURS  | TOTAL<br>MTOs | TOTAL<br>RWCs | TOTAL<br>LTIs | TOTAL<br>FTLs | TOTAL<br>RCRD | LTI<br>INCD.<br>RATE | LTI<br>FREQ.<br>RATE | DART<br>INCD.<br>RATE | DART<br>FREQ.<br>RATE | RCRD<br>INCD.<br>RATE | RCRD<br>FREQ.<br>RATE |
|---|--------------------|---------------|---------------|---------------|---------------|---------------|----------------------|----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| US - Land                                   | 34,454,892         | 72            | 74            | 57            | 3             | 206           | 0.35                 | 1.74                 | 0.78                  | 3.89                  | 1.20                  | 5.98                  |
| US - Water                                  | 27,758,082         | 27            | 29            | 11            | 1             | 68            | 0.09                 | 0.43                 | 0.30                  | 1.48                  | 0.49                  | 2.45                  |
| Canada - Land                               | 746,777            | 0             | 3             | 2             | 0             | 5             | 0.54                 | 2.68                 | 1.34                  | 6.70                  | 1.34                  | 6.70                  |
| Canada - Water                              | 1,550,957          | 0             | 2             | 0             | 0             | 2             | 0.00                 | 0.00                 | 0.26                  | 1.29                  | 0.26                  | 1.29                  |
| Central America & Caribbean - Land          | 1,098,397          | 3             | 3             | 3             | 0             | 9             | 0.55                 | 2.73                 | 1.09                  | 5.46                  | 1.64                  | 8.19                  |
| Central America & Caribbean - Water         | 3,625,577          | 1             | 3             | 2             | 0             | 6             | 0.11                 | 0.55                 | 0.28                  | 1.38                  | 0.33                  | 1.65                  |
| European - Land                             | 40,293,752         | 7             | 5             | 33            | 1             | 46            | 0.17                 | 0.84                 | 0.19                  | 0.97                  | 0.23                  | 1.14                  |
| European - Water                            | 28,551,227         | 36            | 19            | 17            | 0             | 72            | 0.12                 | 0.60                 | 0.25                  | 1.26                  | 0.50                  | 2.52                  |
| Africa - Land                               | 17,869,835         | 17            | 8             | 10            | 0             | 35            | 0.11                 | 0.56                 | 0.20                  | 1.01                  | 0.39                  | 1.96                  |
| Africa - Water                              | 20,158,743         | 9             | 10            | 1             | 0             | 20            | 0.01                 | 0.05                 | 0.11                  | 0.55                  | 0.20                  | 0.99                  |
| Middle East - Land                          | 100,829,919        | 125           | 56            | 62            | 3             | 246           | 0.13                 | 0.64                 | 0.24                  | 1.20                  | 0.49                  | 2.44                  |
| Middle East - Water                         | 48,357,670         | 19            | 31            | 13            | 0             | 63            | 0.05                 | 0.27                 | 0.18                  | 0.91                  | 0.26                  | 1.30                  |
| Asia Pacific - Land                         | 9,037,458          | 3             | 2             | 3             | 0             | 8             | 0.07                 | 0.33                 | 0.11                  | 0.55                  | 0.18                  | 0.89                  |
| Asia Pacific - Water                        | 34,362,981         | 21            | 12            | 18            | 1             | 52            | 0.11                 | 0.55                 | 0.18                  | 0.90                  | 0.30                  | 1.51                  |
| South America Land                          | 11,885,011         | 7             | 19            | 16            | 0             | 42            | 0.27                 | 1.35                 | 0.59                  | 2.94                  | 0.71                  | 3.53                  |
| South America Water                         | 11,885,667         | 8             | 6             | 6             | 0             | 20            | 0.10                 | 0.50                 | 0.20                  | 1.01                  | 0.34                  | 1.68                  |
| Australasia – Land                          | 1,250,447          | 0             | 3             | 0             | 0             | 3             | 0.00                 | 0.00                 | 0.48                  | 2.40                  | 0.48                  | 2.40                  |
| Australasia – Water                         | 2,515,780          | 4             | 2             | 0             | 0             | 6             | 0.00                 | 0.00                 | 0.16                  | 0.79                  | 0.48                  | 2.38                  |
| <b>US Combined</b>                          | <b>62,212,974</b>  | <b>99</b>     | <b>103</b>    | <b>68</b>     | <b>4</b>      | <b>274</b>    | <b>0.23</b>          | <b>1.16</b>          | <b>0.56</b>           | <b>2.81</b>           | <b>0.88</b>           | <b>4.40</b>           |
| <b>Canada Combined</b>                      | <b>2,297,734</b>   | <b>0</b>      | <b>5</b>      | <b>2</b>      | <b>0</b>      | <b>7</b>      | <b>0.17</b>          | <b>0.87</b>          | <b>0.61</b>           | <b>3.05</b>           | <b>0.61</b>           | <b>3.05</b>           |
| <b>Central America &amp; Caribbean Com.</b> | <b>4,723,974</b>   | <b>4</b>      | <b>6</b>      | <b>5</b>      | <b>0</b>      | <b>15</b>     | <b>0.21</b>          | <b>1.06</b>          | <b>0.47</b>           | <b>2.33</b>           | <b>0.64</b>           | <b>3.18</b>           |
| <b>European Combined</b>                    | <b>68,844,979</b>  | <b>43</b>     | <b>24</b>     | <b>50</b>     | <b>1</b>      | <b>118</b>    | <b>0.15</b>          | <b>0.74</b>          | <b>0.22</b>           | <b>1.09</b>           | <b>0.34</b>           | <b>1.71</b>           |
| <b>Africa Combined</b>                      | <b>38,028,578</b>  | <b>26</b>     | <b>18</b>     | <b>11</b>     | <b>0</b>      | <b>55</b>     | <b>0.06</b>          | <b>0.29</b>          | <b>0.15</b>           | <b>0.76</b>           | <b>0.29</b>           | <b>1.45</b>           |
| <b>Middle East Combined</b>                 | <b>149,187,589</b> | <b>144</b>    | <b>87</b>     | <b>75</b>     | <b>3</b>      | <b>309</b>    | <b>0.10</b>          | <b>0.52</b>          | <b>0.22</b>           | <b>1.11</b>           | <b>0.41</b>           | <b>2.07</b>           |
| <b>Asia Pacific Combined</b>                | <b>43,400,439</b>  | <b>24</b>     | <b>14</b>     | <b>21</b>     | <b>1</b>      | <b>60</b>     | <b>0.10</b>          | <b>0.51</b>          | <b>0.17</b>           | <b>0.83</b>           | <b>0.28</b>           | <b>1.38</b>           |
| <b>South America Combined</b>               | <b>23,770,678</b>  | <b>15</b>     | <b>25</b>     | <b>22</b>     | <b>0</b>      | <b>62</b>     | <b>0.19</b>          | <b>0.93</b>          | <b>0.40</b>           | <b>1.98</b>           | <b>0.52</b>           | <b>2.61</b>           |
| <b>Australasia Combined</b>                 | <b>3,766,227</b>   | <b>4</b>      | <b>5</b>      | <b>0</b>      | <b>0</b>      | <b>9</b>      | <b>0.00</b>          | <b>0.00</b>          | <b>0.27</b>           | <b>1.33</b>           | <b>0.48</b>           | <b>2.39</b>           |
| <b>INDUSTRY TOTAL</b>                       | <b>396,233,172</b> | <b>359</b>    | <b>287</b>    | <b>254</b>    | <b>9</b>      | <b>909</b>    | <b>0.13</b>          | <b>0.66</b>          | <b>0.28</b>           | <b>1.39</b>           | <b>0.46</b>           | <b>2.29</b>           |

|                            |  |  |
|----------------------------|--|--|
| MTO=Medical Treatment Only | INCD = Incidence Rate (200,000 man-hours) :  | $LTI\ INCD\ Rate = (LTI\ s + FTLs) * 200000 / Total\ Man\ -hours$<br>$DART\ INCD\ Rate = (RWC + LTI + FTL) * 200000 / Total\ Man\ -hours$<br>$RCRD\ INCD\ Rate = (MTOs + RWCs + LTIs + FTLs) * 200000 / Total\ Man\ -hours$    |
| RWC =Restricted Work Case  |  |  |
| LTI =Lost Time Incident    | FREQ = Frequency Rate (1,000,000 man-hours): | $LTI\ FREQ\ Rate = (LTI\ s + FTLs) * 1000000 / Total\ Man\ -hours$<br>$DART\ FREQ\ Rate = (RWC + LTI + FTL) * 1000000 / Total\ Man\ -hours$<br>$RCRD\ FREQ\ Rate = (MTOs + RWCs + LTIs + FTLs) * 1000000 / Total\ Man\ -hours$ |
| FTL =Fatalities            |  |  |
| RCRD =Total Recordables    |  |  |

**IADC ISP Program  
5 Year Summary Report (Table 2)  
Lost Time and Total Recordable Incidence/Frequency Rate**

| CATEGORIES                        | TYPE  | 2016      |           | 2015      |           | 2014      |           | 2013  |           | 2012      |           |
|-----------------------------------|-------|-----------|-----------|-----------|-----------|-----------|-----------|---|-----------|-----------|-----------|
|                                   |       | INCD Rate | FREQ Rate | INCD Rate | FREQ Rate | INCD Rate | FREQ Rate | INCD Rate                                       | FREQ Rate | INCD Rate | FREQ Rate |
| US Land                           | LTI:  | 0.35      | 1.74      | 0.31      | 1.55      | 0.41      | 2.07      | 0.51  | 2.54      | 0.51      | 2.55      |
|                                   | DART: | 0.78      | 3.89      | 0.72      | 3.58      | 0.93      | 4.67      | 0.96  | 4.81      | 1.16      | 5.79      |
|                                   | RCRD: | 1.20      | 5.98      | 1.22      | 6.10      | 1.54      | 7.72      | 1.58  | 7.92      | 1.97      | 9.87      |
| US Water                          | LTI:  | 0.09      | 0.43      | 0.12      | 0.61      | 0.14      | 0.71      | 0.15  | 0.74      | 0.19      | 0.93      |
|                                   | DART: | 0.30      | 1.48      | 0.35      | 1.77      | 0.32      | 1.60      | 0.45  | 2.24      | 0.44      | 2.21      |
|                                   | RCRD: | 0.49      | 2.45      | 0.56      | 2.82      | 0.64      | 3.19      | 0.78  | 3.91      | 0.93      | 4.64      |
| Canada Land                       | LTI:  | 0.54      | 2.68      | 0.14      | 0.68      | 0.29      | 1.46      | 0.61  | 3.05      | 0.69      | 3.44      |
|                                   | DART: | 1.34      | 6.70      | 0.41      | 2.04      | 0.73      | 3.64      | 0.76  | 3.82      | 1.31      | 6.53      |
|                                   | RCRD: | 1.34      | 6.70      | 1.36      | 6.79      | 2.33      | 11.66     | 1.98  | 9.92      | 2.68      | 13.41     |
| Canada Water                      | LTI:  | 0.00      | 0.00      | 0.00      | 0.00      | 0.00      | 0.00      | 0.00  | 0.00      | 0.00      | 0.00      |
|                                   | DART: | 0.26      | 1.29      | 0.53      | 2.67      | 0.42      | 2.09      | 0.24  | 1.20      | 0.56      | 2.78      |
|                                   | RCRD: | 0.26      | 1.29      | 0.80      | 4.01      | 0.70      | 3.49      | 0.24  | 1.20      | 1.39      | 6.95      |
| Central America & Caribbean Land  | LTI:  | 0.55      | 2.73      | 0.98      | 4.92      | 0.43      | 2.16      | 0.27  | 1.37      | 0.29      | 1.45      |
|                                   | DART: | 1.09      | 5.46      | 1.09      | 5.47      | 0.48      | 2.39      | 0.46  | 2.28      | 0.45      | 2.25      |
|                                   | RCRD: | 1.64      | 8.19      | 1.59      | 7.93      | 0.65      | 3.23      | 0.64  | 3.20      | 0.51      | 2.57      |
| Central America & Caribbean Water | LTI:  | 0.11      | 0.55      | 0.18      | 0.90      | 0.34      | 1.68      | 0.22  | 1.11      | 0.21      | 1.03      |
|                                   | DART: | 0.28      | 1.38      | 0.43      | 2.16      | 0.45      | 2.24      | 0.37  | 1.86      | 0.29      | 1.44      |
|                                   | RCRD: | 0.33      | 1.65      | 0.61      | 3.05      | 0.90      | 4.48      | 0.54  | 2.72      | 0.58      | 2.89      |
| South America Land                | LTI:  | 0.27      | 1.35      | 0.25      | 1.25      | 0.19      | 0.97      | 0.16  | 0.79      | 0.17      | 0.84      |
|                                   | DART: | 0.59      | 2.94      | 0.55      | 2.73      | 0.42      | 2.10      | 0.37  | 1.84      | 0.33      | 1.67      |
|                                   | RCRD: | 0.71      | 3.53      | 0.72      | 3.62      | 0.54      | 2.69      | 0.51  | 2.54      | 0.42      | 2.11      |
| South America Water               | LTI:  | 0.10      | 0.50      | 0.22      | 1.09      | 0.26      | 1.28      | 0.27  | 1.33      | 0.31      | 1.57      |
|                                   | DART: | 0.20      | 1.01      | 0.40      | 1.98      | 0.38      | 1.92      | 0.48  | 2.38      | 0.50      | 2.49      |
|                                   | RCRD: | 0.34      | 1.68      | 0.52      | 2.60      | 0.54      | 2.71      | 0.66  | 3.29      | 0.88      | 4.38      |
| European Land                     | LTI:  | 0.17      | 0.84      | 0.15      | 0.75      | 0.24      | 1.18      | 0.34  | 1.69      | 0.26      | 1.29      |
|                                   | DART: | 0.19      | 0.97      | 0.18      | 0.89      | 0.30      | 1.50      | 0.39  | 1.94      | 0.31      | 1.55      |
|                                   | RCRD: | 0.23      | 1.14      | 0.23      | 1.14      | 0.35      | 1.77      | 0.48  | 2.39      | 0.35      | 1.76      |
| European Water                    | LTI:  | 0.12      | 0.60      | 0.19      | 0.93      | 0.19      | 0.97      | 0.27  | 1.34      | 0.27      | 1.37      |
|                                   | DART: | 0.25      | 1.26      | 0.40      | 2.02      | 0.39      | 1.93      | 0.44  | 2.20      | 0.51      | 2.55      |
|                                   | RCRD: | 0.50      | 2.52      | 0.63      | 3.17      | 0.73      | 3.64      | 0.85  | 4.24      | 0.82      | 4.11      |
| Africa Land                       | LTI:  | 0.11      | 0.56      | 0.39      | 1.95      | 0.32      | 1.59      | 0.38  | 1.92      | 0.38      | 1.88      |
|                                   | DART: | 0.20      | 1.01      | 0.94      | 4.71      | 0.86      | 4.28      | 0.86  | 4.32      | 0.50      | 2.50      |
|                                   | RCRD: | 0.39      | 1.96      | 1.16      | 5.78      | 1.04      | 5.18      | 1.07  | 5.36      | 0.84      | 4.19      |
| Africa Water                      | LTI:  | 0.01      | 0.05      | 0.09      | 0.47      | 0.18      | 0.89      | 0.16  | 0.81      | 0.19      | 0.95      |
|                                   | DART: | 0.11      | 0.55      | 0.22      | 1.11      | 0.41      | 2.06      | 0.30  | 1.48      | 0.36      | 1.78      |
|                                   | RCRD: | 0.20      | 0.99      | 0.34      | 1.72      | 0.65      | 3.26      | 0.52  | 2.61      | 0.55      | 2.73      |
| Middle East Land                  | LTI:  | 0.13      | 0.64      | 0.14      | 0.69      | 0.14      | 0.68      | 0.14  | 0.72      | 0.17      | 0.86      |
|                                   | DART: | 0.24      | 1.20      | 0.32      | 1.59      | 0.32      | 1.59      | 0.39  | 1.95      | 0.39      | 1.96      |
|                                   | RCRD: | 0.49      | 2.44      | 0.60      | 2.98      | 0.54      | 2.70      | 0.65  | 3.23      | 0.73      | 3.65      |
| Middle East Water                 | LTI:  | 0.05      | 0.27      | 0.10      | 0.48      | 0.08      | 0.42      | 0.08  | 0.39      | 0.06      | 0.31      |
|                                   | DART: | 0.18      | 0.91      | 0.22      | 1.12      | 0.26      | 1.29      | 0.22  | 1.10      | 0.28      | 1.39      |
|                                   | RCRD: | 0.26      | 1.30      | 0.31      | 1.55      | 0.35      | 1.74      | 0.29  | 1.47      | 0.46      | 2.28      |
| Asia Pacific Land                 | LTI:  | 0.07      | 0.33      | 0.11      | 0.53      | 0.24      | 1.18      | 0.22  | 1.08      | 0.21      | 1.05      |
|                                   | DART: | 0.11      | 0.55      | 0.19      | 0.93      | 0.31      | 1.53      | 0.58  | 2.89      | 0.66      | 3.28      |
|                                   | RCRD: | 0.18      | 0.89      | 0.34      | 1.69      | 0.45      | 2.27      | 0.94  | 4.70      | 1.06      | 5.32      |
| Asia Pacific Water                | LTI:  | 0.11      | 0.55      | 0.05      | 0.27      | 0.15      | 0.73      | 0.15  | 0.76      | 0.18      | 0.89      |
|                                   | DART: | 0.18      | 0.90      | 0.12      | 0.61      | 0.30      | 1.48      | 0.35  | 1.73      | 0.31      | 1.53      |
|                                   | RCRD: | 0.30      | 1.51      | 0.23      | 1.17      | 0.40      | 2.02      | 0.54  | 2.72      | 0.47      | 2.33      |
| Australasia Land                  | LTI:  | 0.00      | 0.00      | 0.15      | 0.75      | 0.23      | 1.17      | For Australasia data prior to 2014 contact IADC |           |           |           |
|                                   | DART: | 0.48      | 2.40      | 0.23      | 1.13      | 0.70      | 3.50      |   |           |           |           |
|                                   | RCRD: | 0.48      | 2.40      | 0.53      | 2.63      | 1.37      | 6.83      |   |           |           |           |
| Australasia Water                 | LTI:  | 0.00      | 0.00      | 0.10      | 0.50      | 0.06      | 0.30      | For Australasia data prior to 2014 contact IADC |           |           |           |
|                                   | DART: | 0.16      | 0.79      | 0.45      | 2.25      | 0.43      | 2.13      |   |           |           |           |
|                                   | RCRD: | 0.48      | 2.38      | 0.55      | 2.75      | 0.61      | 3.05      |   |           |           |           |
| INDUSTRY TOTALS                   | LTI:  | 0.13      | 0.66      | 0.18      | 0.88      | 0.23      | 1.14      | 0.26  | 1.29      | 0.26      | 1.31      |
|                                   | DART: | 0.28      | 1.39      | 0.38      | 1.92      | 0.48      | 2.41      | 0.52  | 2.576     | 0.53      | 2.645     |
|                                   | RCRD: | 0.46      | 2.29      | 0.60      | 3.02      | 0.75      | 3.76      | 0.81  | 4.03      | 0.88      | 4.41      |

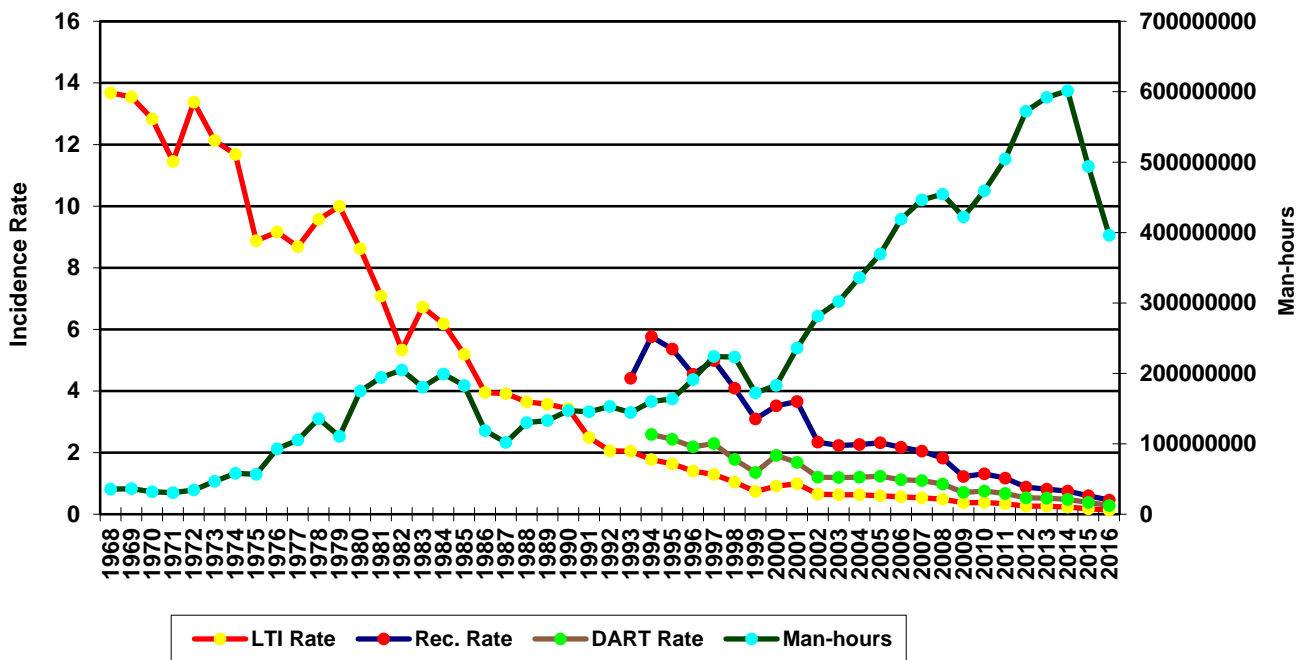
## 2016 - IADC INDUSTRY TOTALS (Table 3)

|  | LAND        | WATER       | COMBINED    |
|--|-------------|-------------|-------------|
| <b>TOTAL MANHOURS</b>                    | 217,466,488 | 178,766,684 | 396,233,172 |
| <b>TOTAL MEDICAL TREATMENT INCIDENTS</b> | 234         | 125         | 359         |
| <b>TOTAL RESTRICTED WORK INCIDENTS</b>   | 173         | 114         | 287         |
| <b>TOTAL LOST TIME INCIDENTS</b>         | 186         | 68          | 254         |
| <b>TOTAL FATALITIES</b>                  | 7           | 2           | 9           |
| <b>TOTAL RECORDABLES</b>                 | 600         | 309         | 909         |
| <b>MTO INCIDENCE RATE</b>                | 0.22        | 0.14        | 0.18        |
| <b>RWC INCIDENCE RATE</b>                | 0.16        | 0.13        | 0.14        |
| <b>LTI INCIDENCE RATE</b>                | 0.18        | 0.08        | 0.13        |
| <b>LTI FREQUENCY RATE</b>                | 0.89        | 0.39        | 0.66        |
| <b>DART INCIDENCE RATE</b>               | 0.34        | 0.21        | 0.28        |
| <b>DART FREQUENCY RATE</b>               | 1.68        | 1.03        | 1.39        |
| <b>RECORDABLE INCIDENCE RATE</b>         | 0.55        | 0.35        | 0.46        |
| <b>RECORDABLE FREQUENCY RATE</b>         | 2.76        | 1.73        | 2.29        |

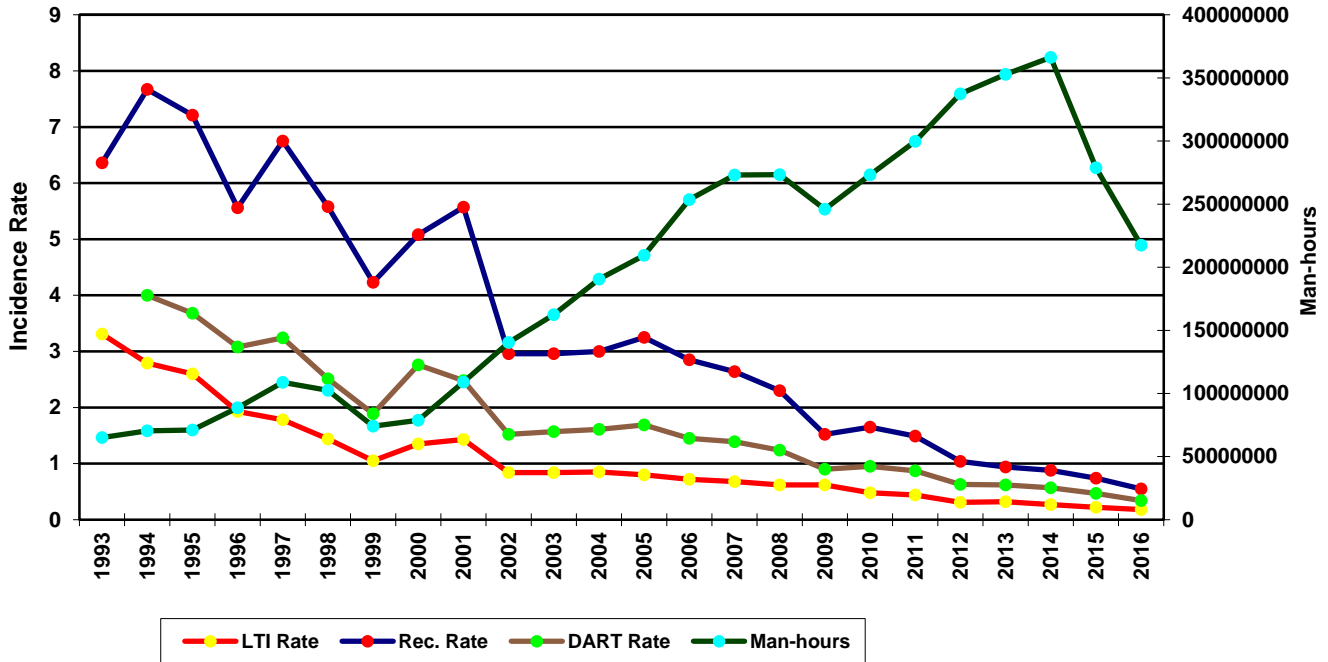
MEDICAL TREATMENT INCIDENCE RATE = MTOs X 200,000 / MAN-HOURS (LTIs NOT INCLUDED)  
 RESTRICTED WORK INCIDENCE RATE = RWCs X 200,000 / MAN-HOURS (LTIs NOT INCLUDED)  
 LOST TIME INCIDENCE RATE = (LTIs+FTLs) X 200,000 / MAN-HOURS  
 LOST TIME FREQUENCY RATE = (LTIs+FTLs) X 1,000,000 / MAN-HOURS  
 DART INCIDENCE RATE = (LTIs+FTLs+RWCs) X 200,000 / MAN-HOURS  
 DART INCIDENCE RATE = (LTIs+FTLs+RWCs) X 1,000,000 / MAN-HOURS  
 RECORDABLE INCIDENCE RATE = RECORDABLES X 200,000 / MAN-HOURS  
 RECORDABLE FREQUENCY RATE = RECORDABLES X 1,000,000 / MAN-HOURS

Number of participating companies: 95 – Total; 59 – Land; 51 – Water

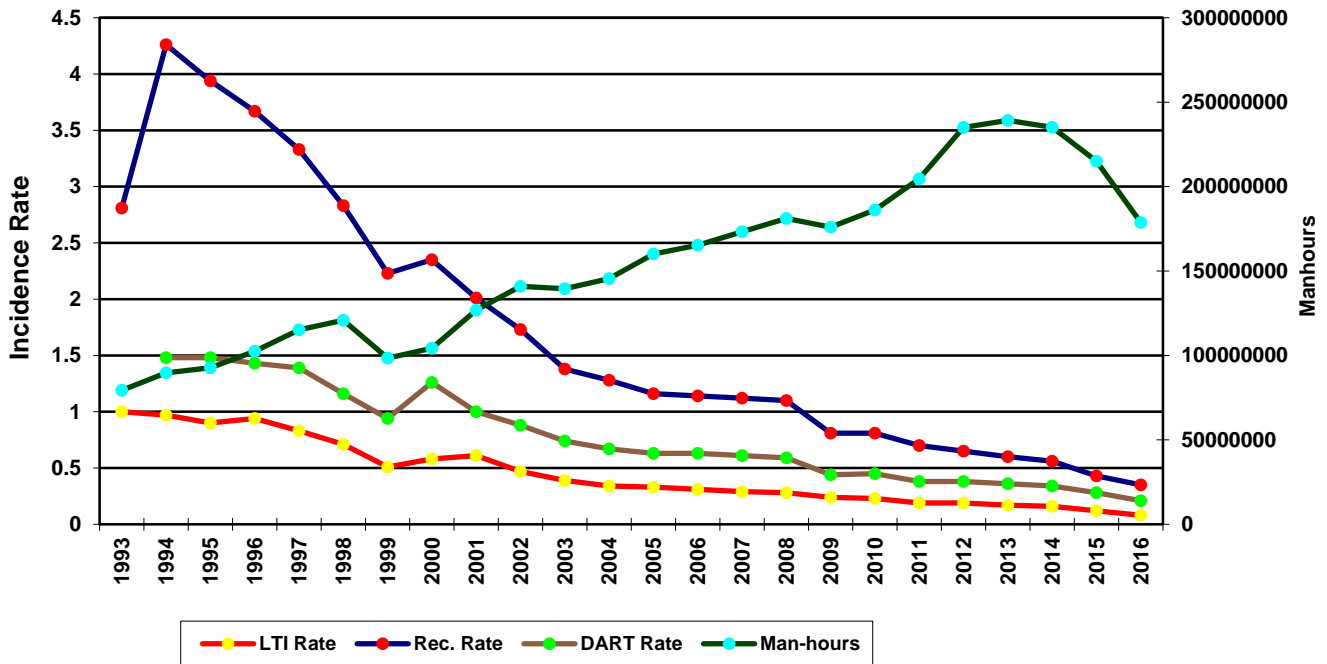
**Total Industry LTI & Recordable Incidence Rates vs Man-hours (Figure 1)**



Total Industry Land LTI & Recordable Incidence Rates vs Man-hours (Figure 2)



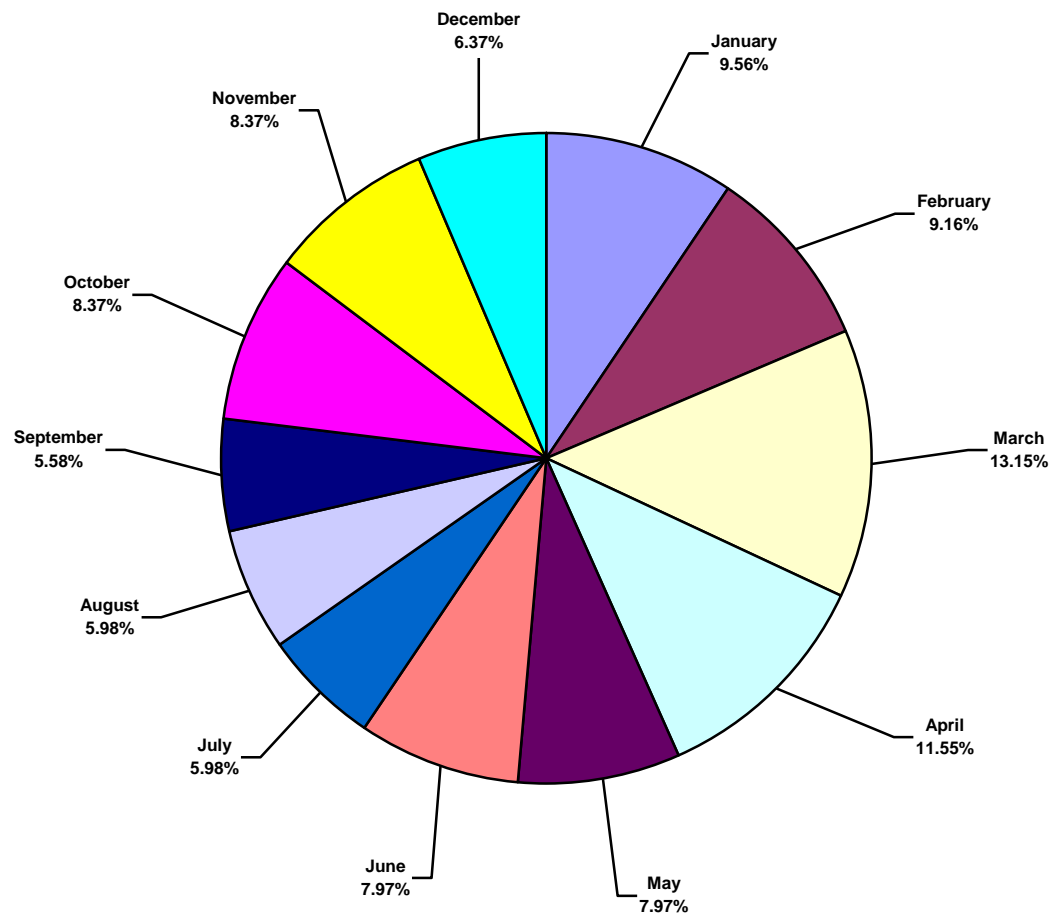
Total Industry Water LTI & Recordable Incidence Rates vs Man-hours (Figure 3)



## IADC 2016 Total Industry Charts

### Total Industry Lost Time Incidents by Month (Chart 1)

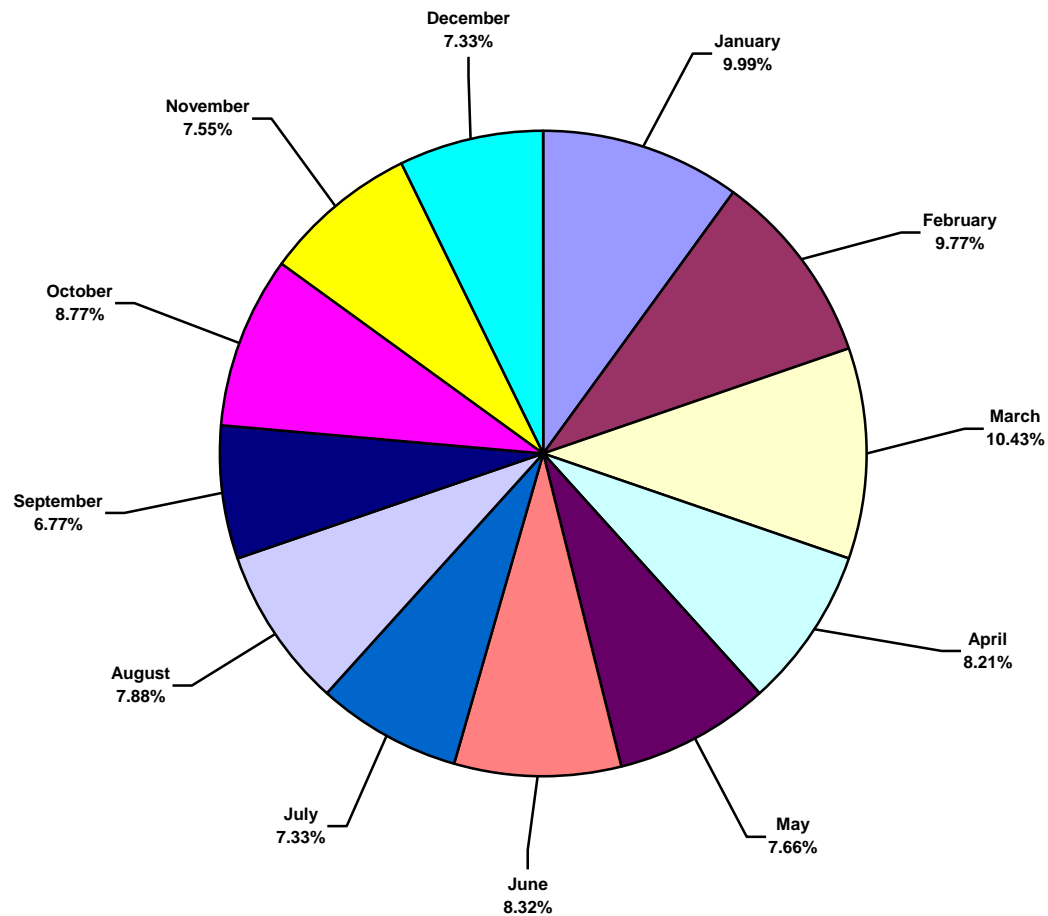
Based on 251 Incidents



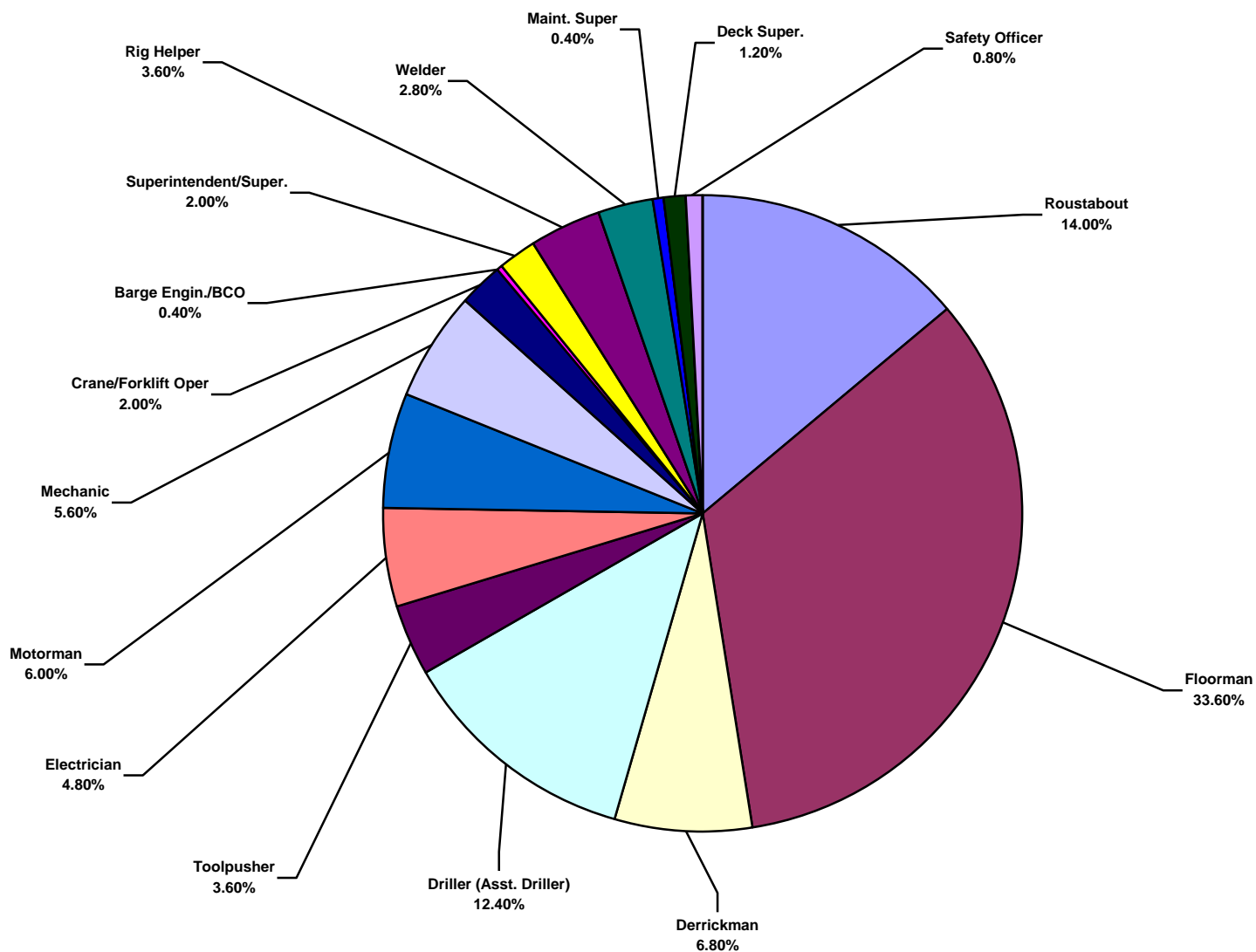
### Total Industry Recordable Incidents by Month (Chart 2)

Based on 901 Incidents

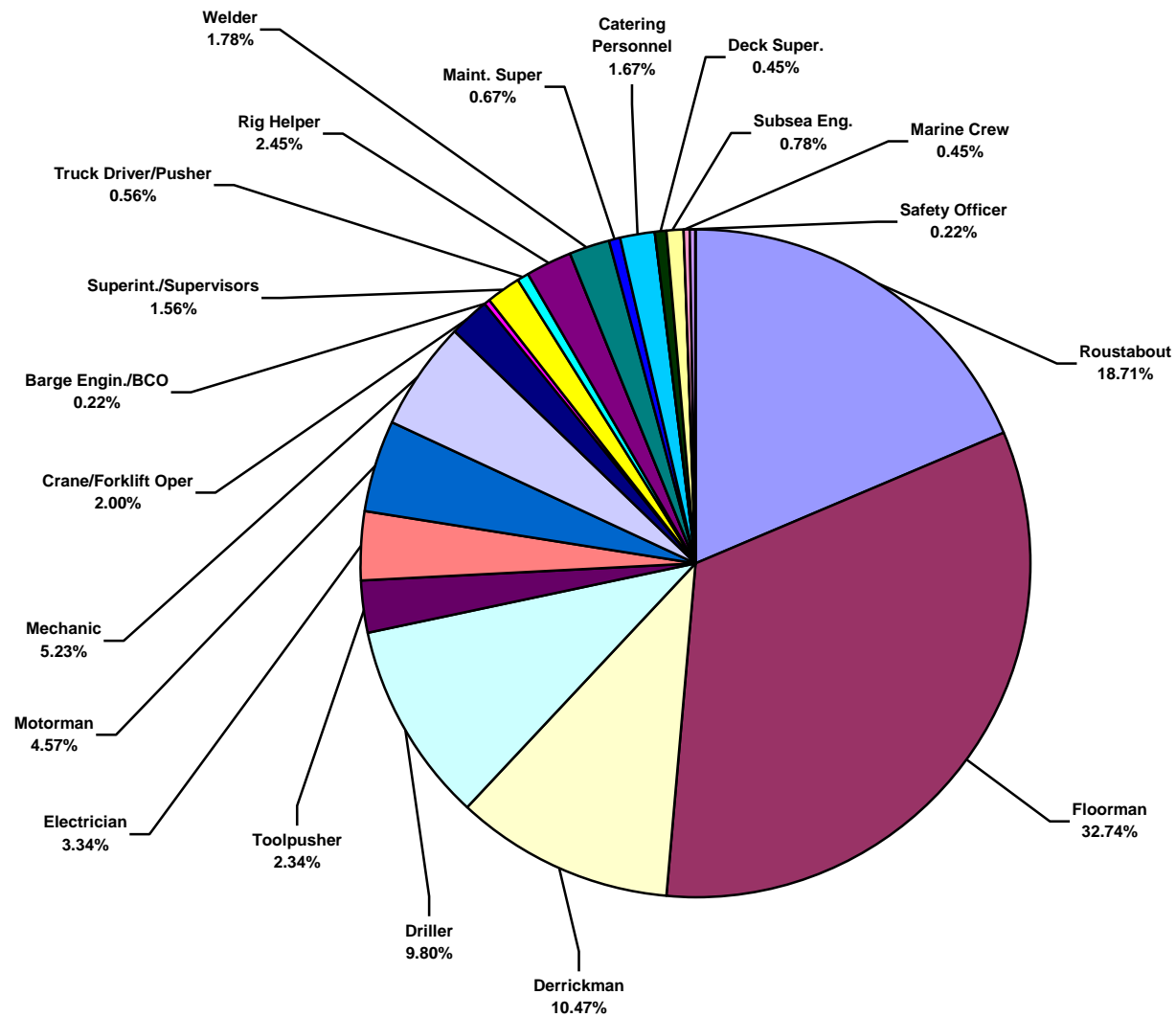
Note: Some pie charts may not appear to show all the slices due to the small percentage the slice represents.



**Total Industry Lost Time Incidents by Occupation (Chart 3)**  
Based on 250 Incidents

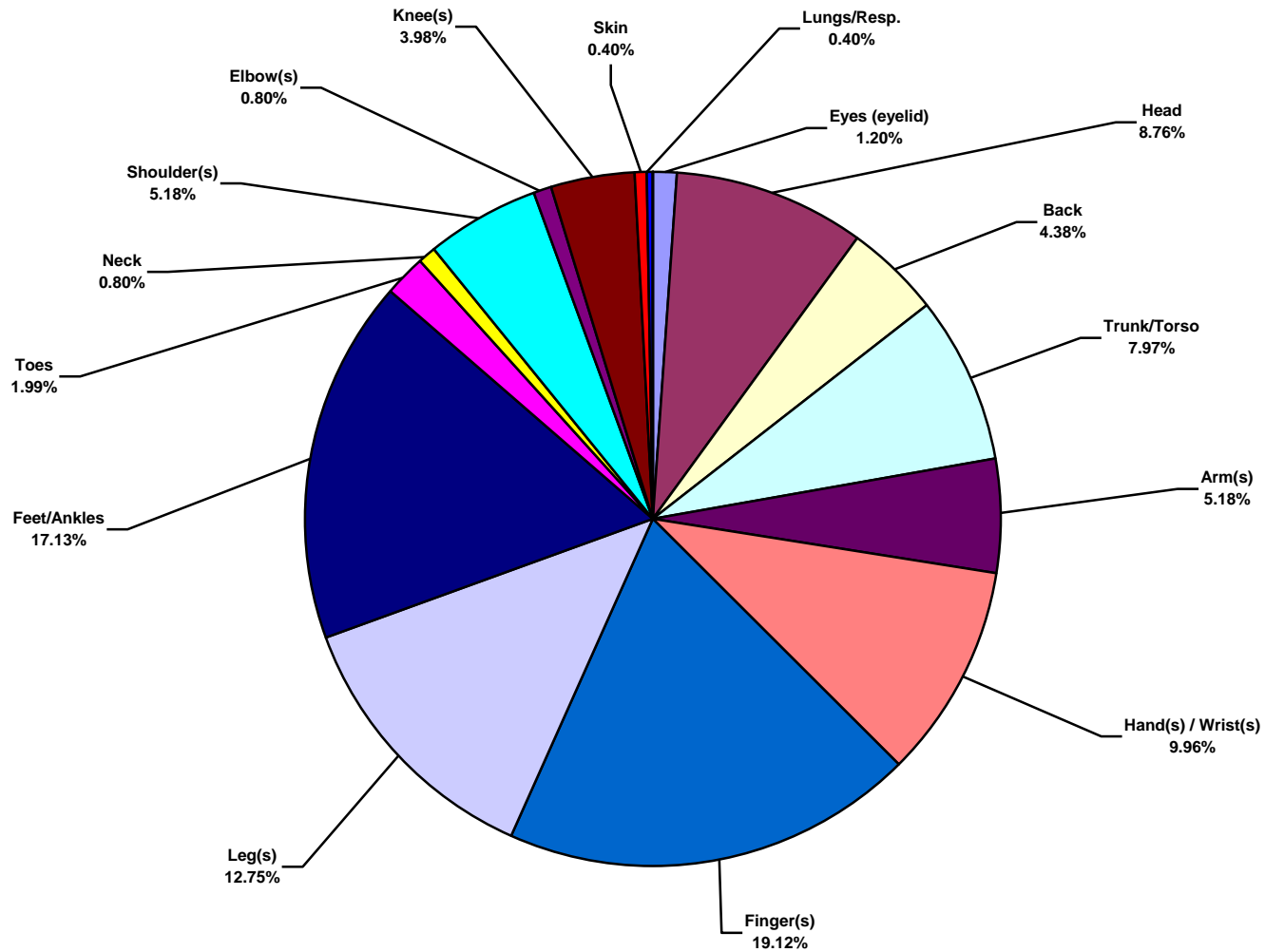


**Total Industry Recordable Incidents by Occupation (Chart 4)**  
Based on 898 Incidents

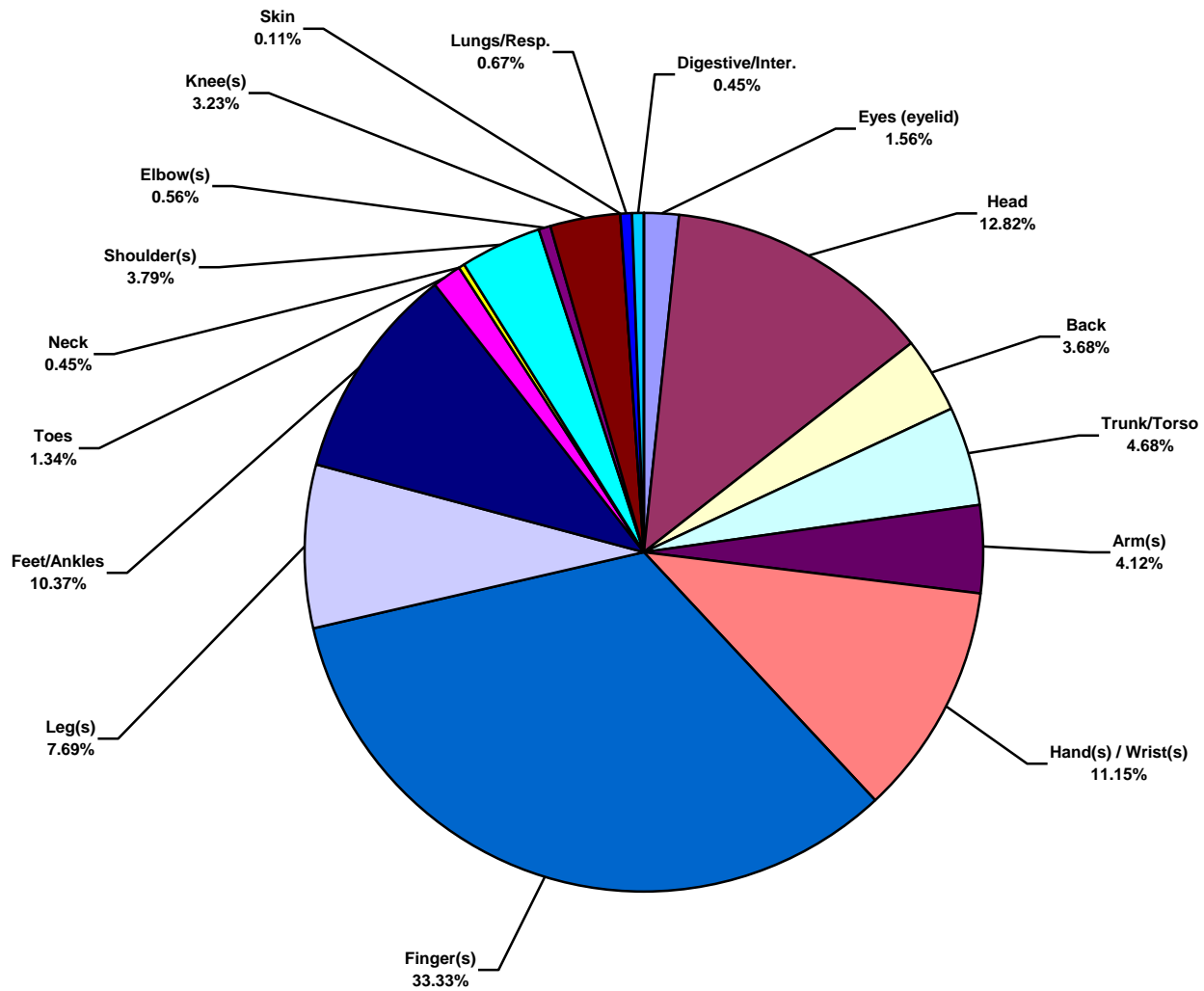




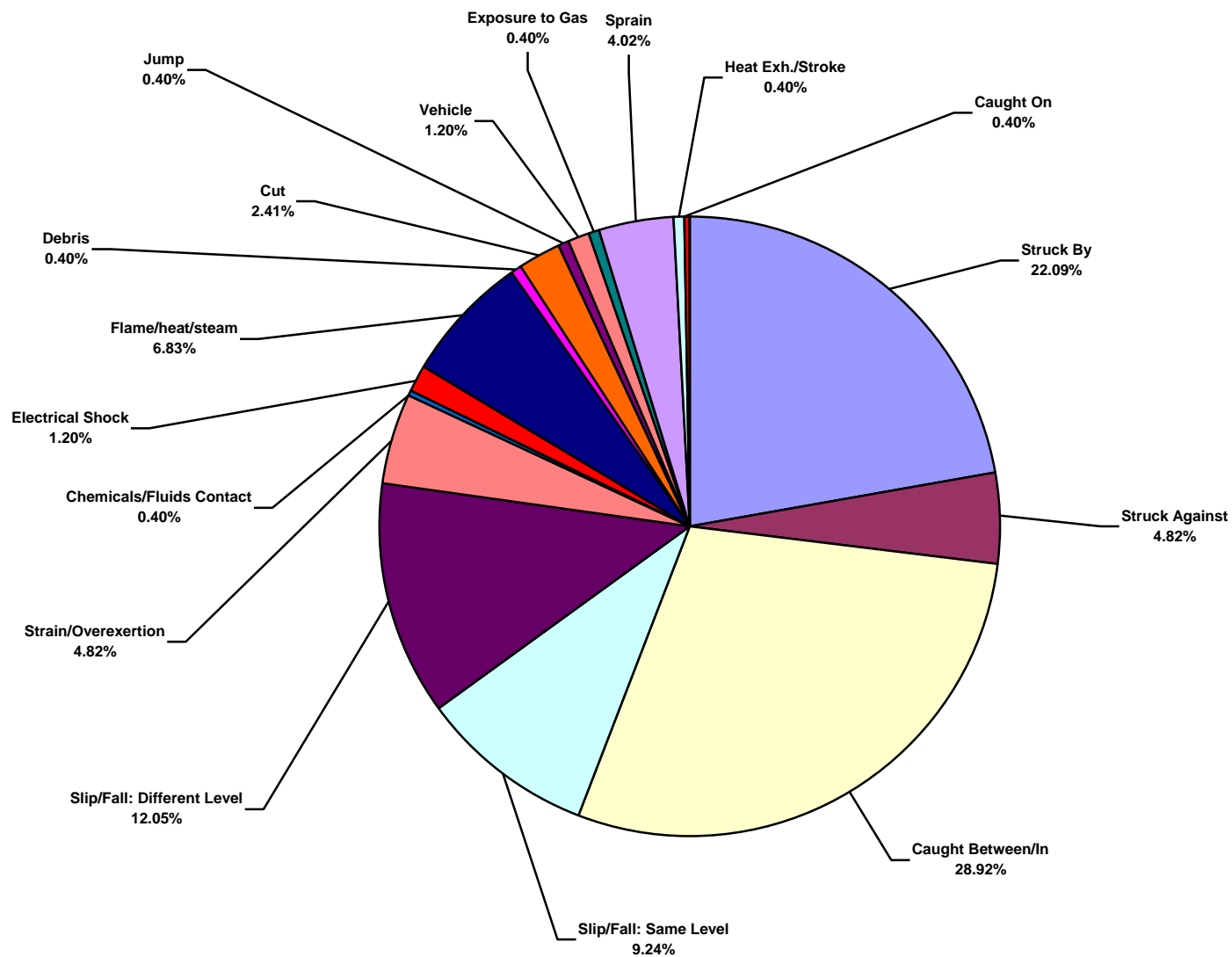
**Total Industry Lost Time Incidents by Body Part (Chart 5)**  
Based on 251 Incidents



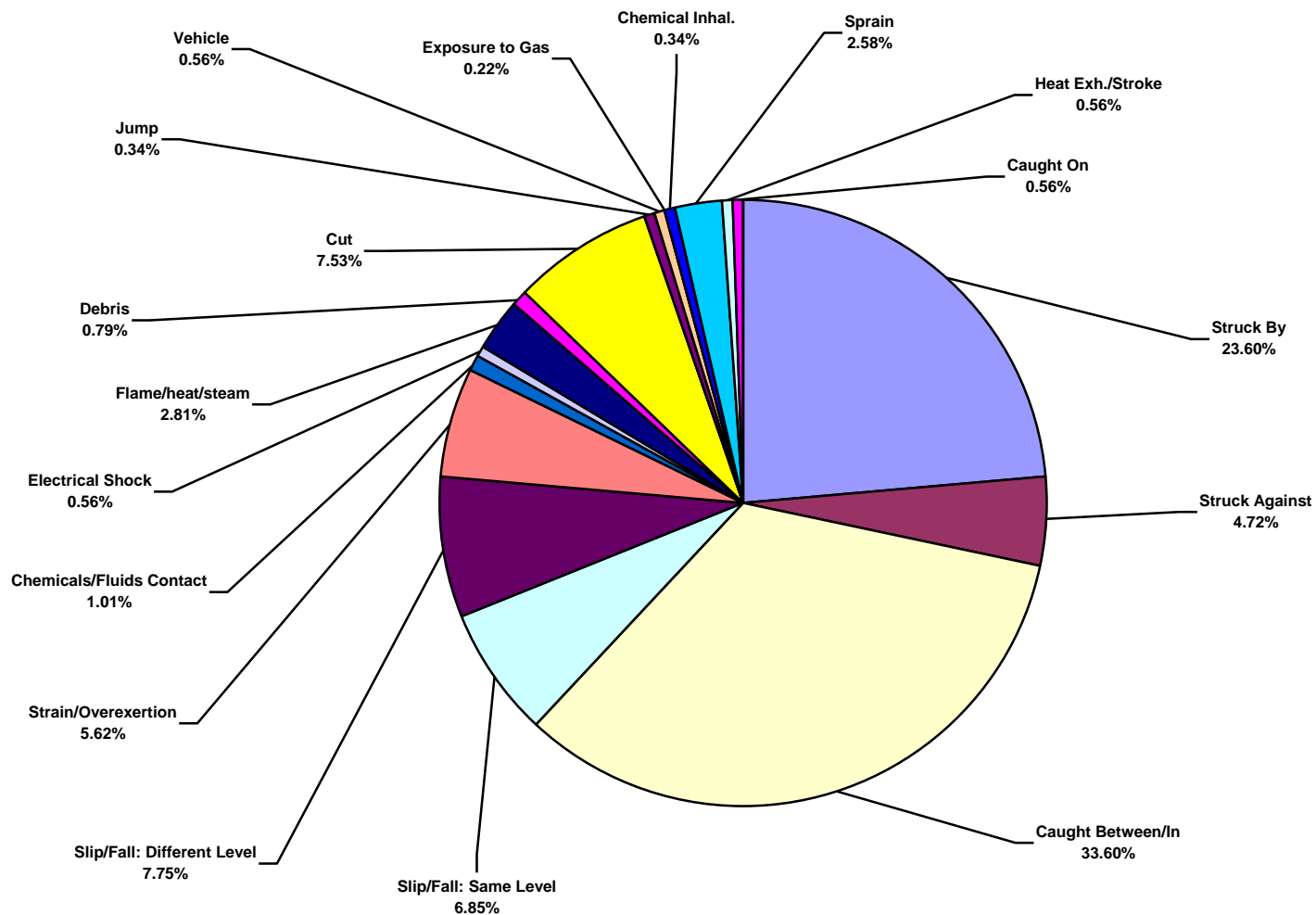
**Total Industry Recordable Incidents by Body Part (Chart 6)**  
Based on 897 Incidents



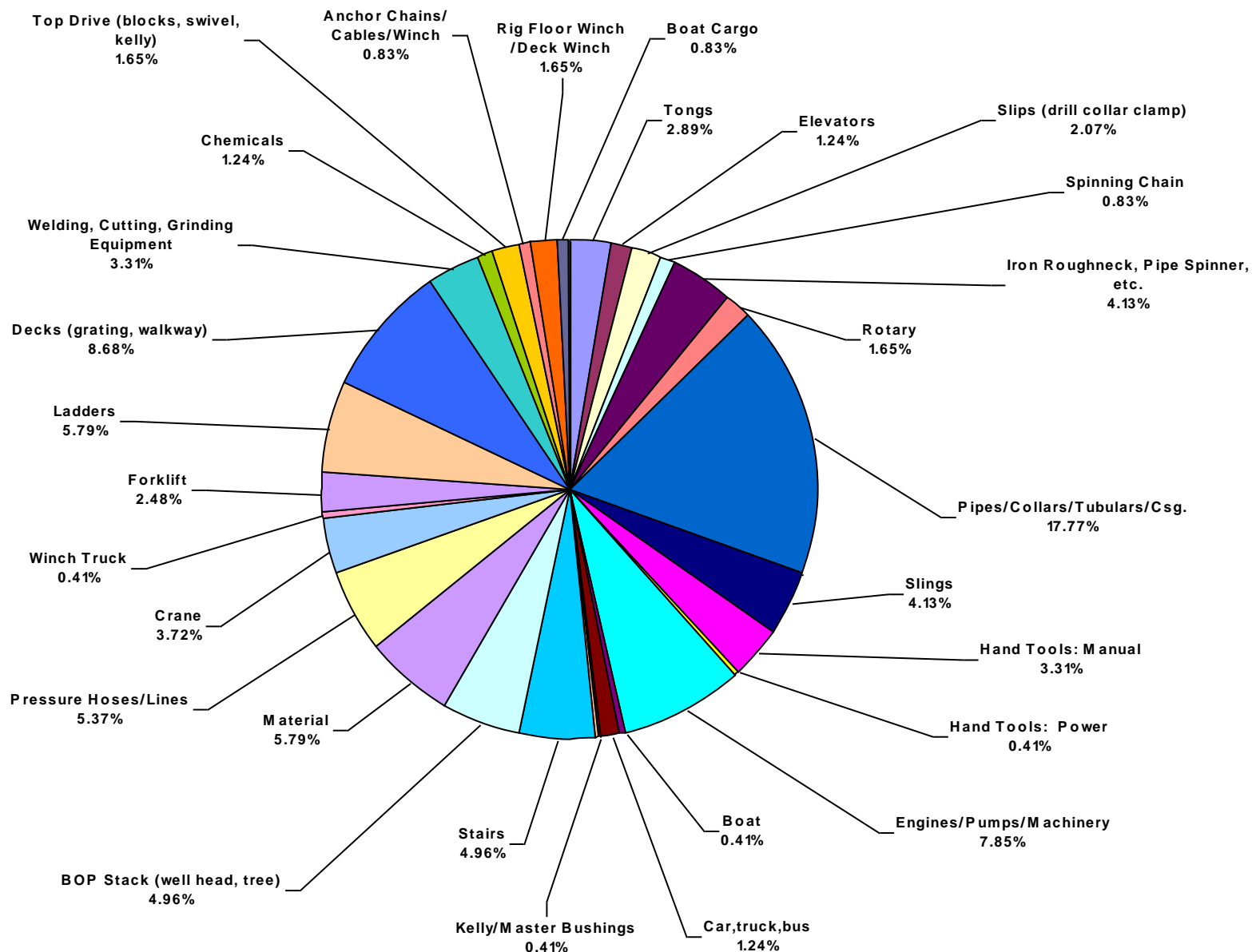
**Total Industry Lost Time Incidents by Incident Type (Chart 7)**  
Based on 249 Incidents



**Total Industry Recordable Incidents by Incident Type (Chart 8)**  
Based on 890 Incidents

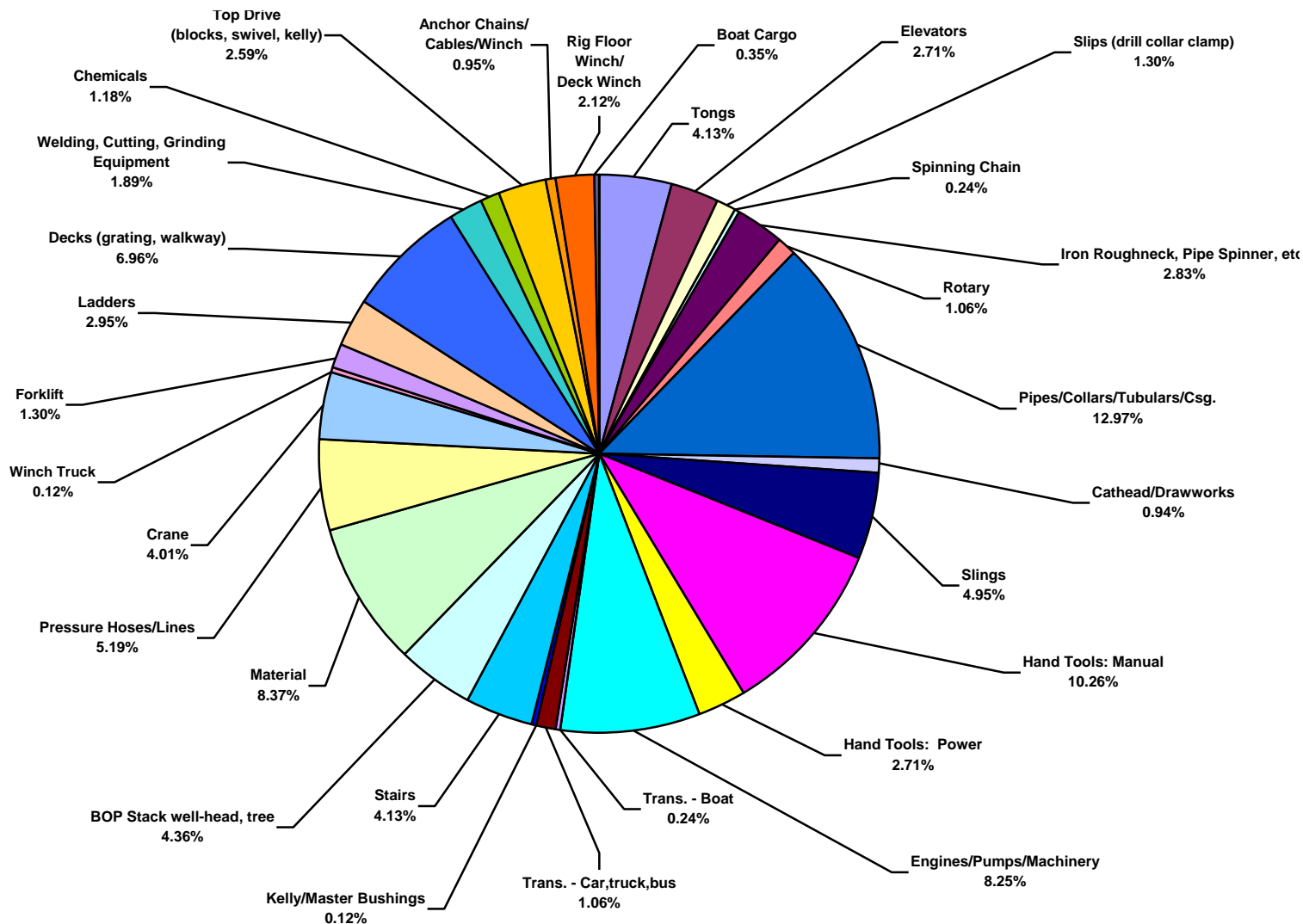


**Total Industry Lost Time Incidents by Equipment (Chart 9)**  
Based on 242 Incidents

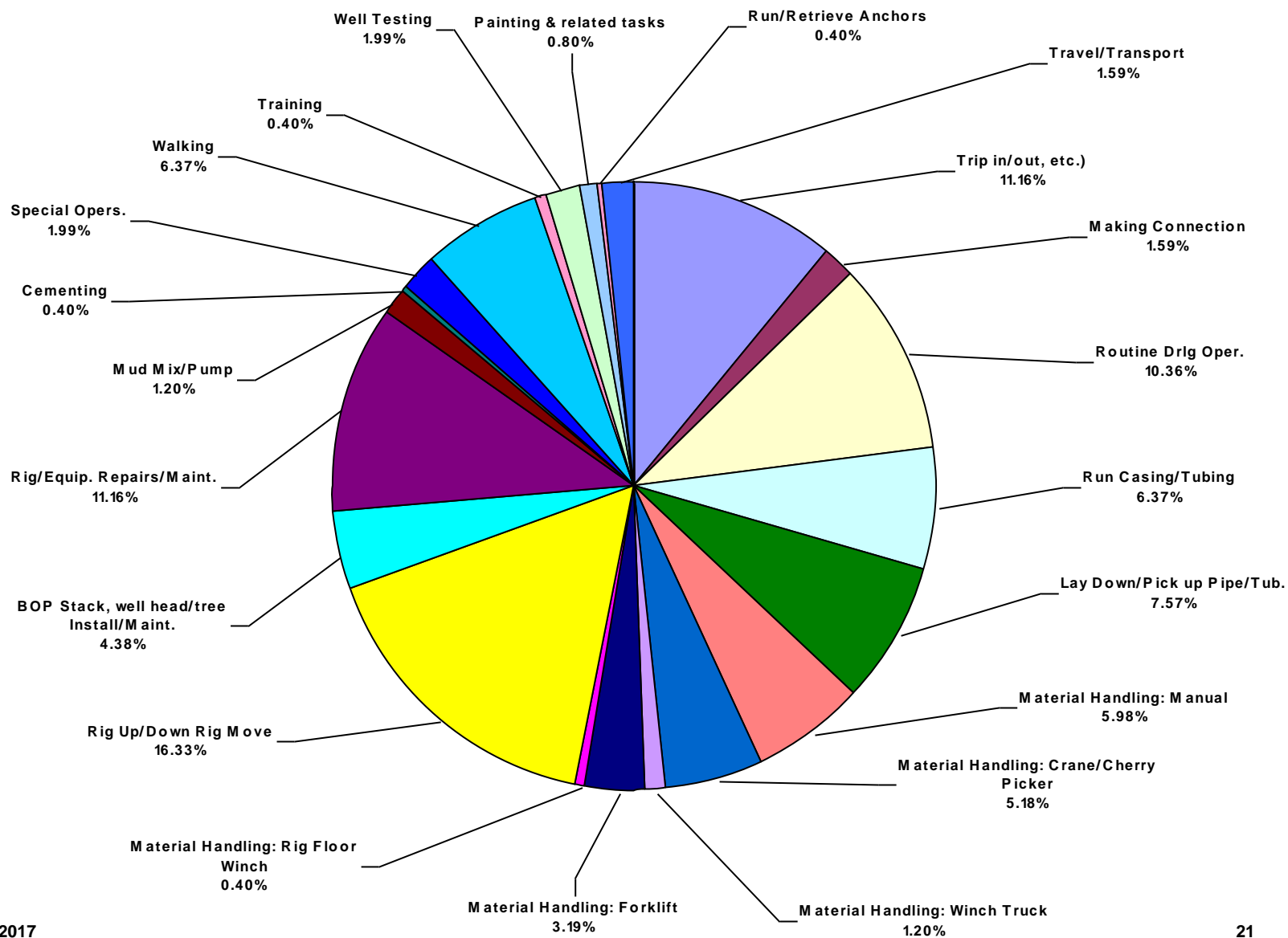


### Total Industry Recordable Incidents by Equipment (Chart 10)

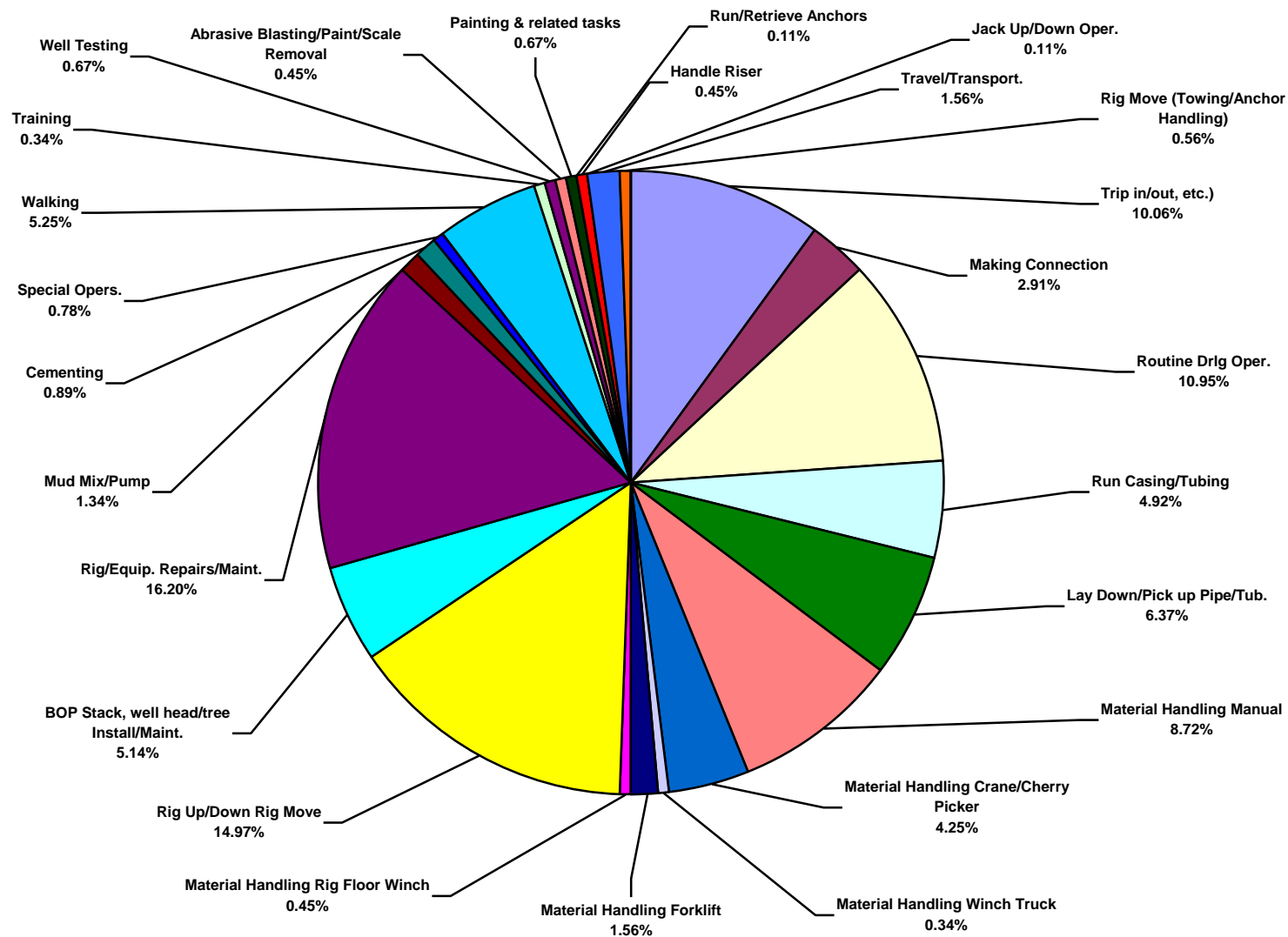
Based on 848 Incidents



**Total Industry Lost Time Incidents by Operation (Chart 11)**  
Based on 251 Incidents

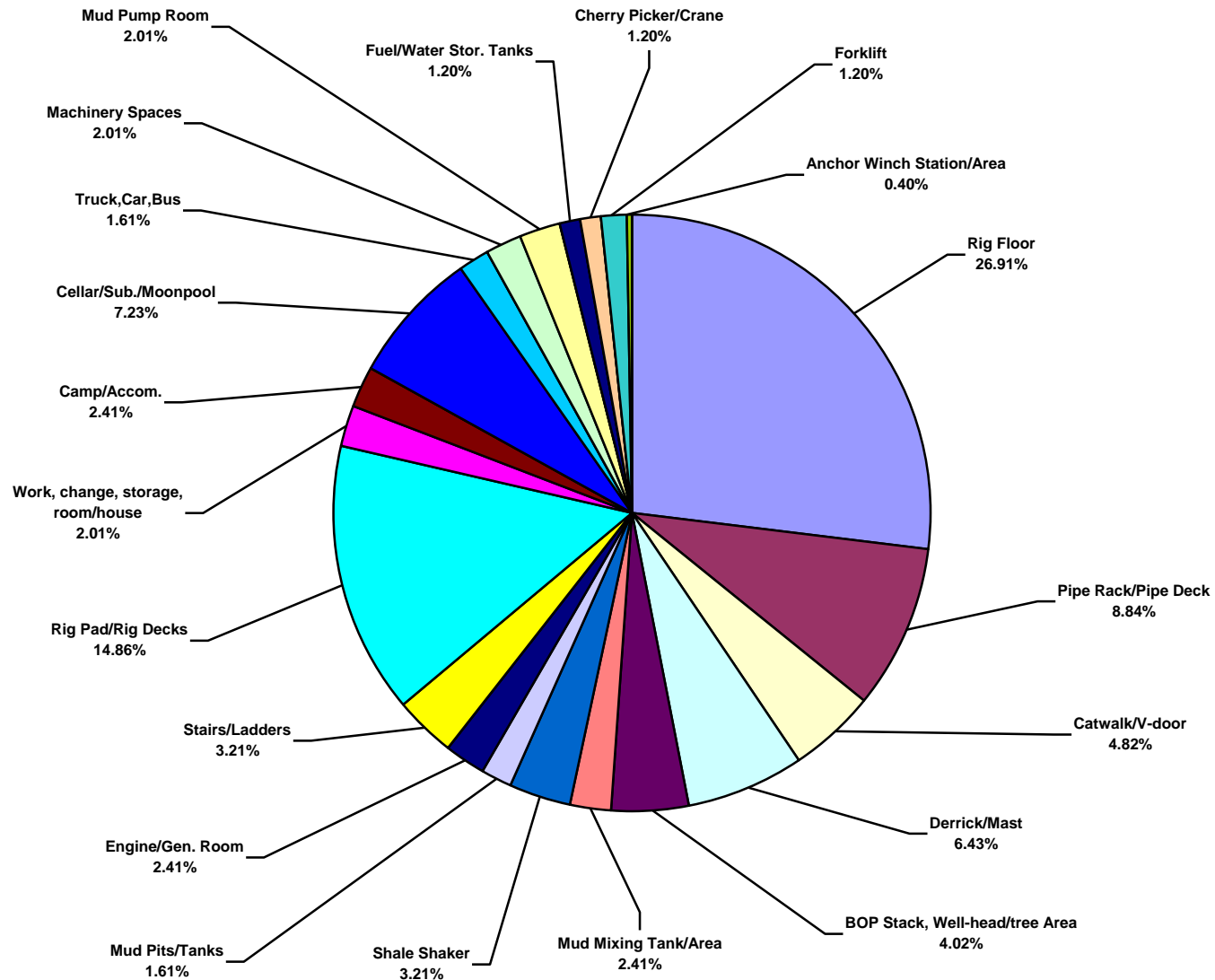


**Total Industry Recordable Incidents by Operation (Chart 12)**  
Based on 895 Incidents

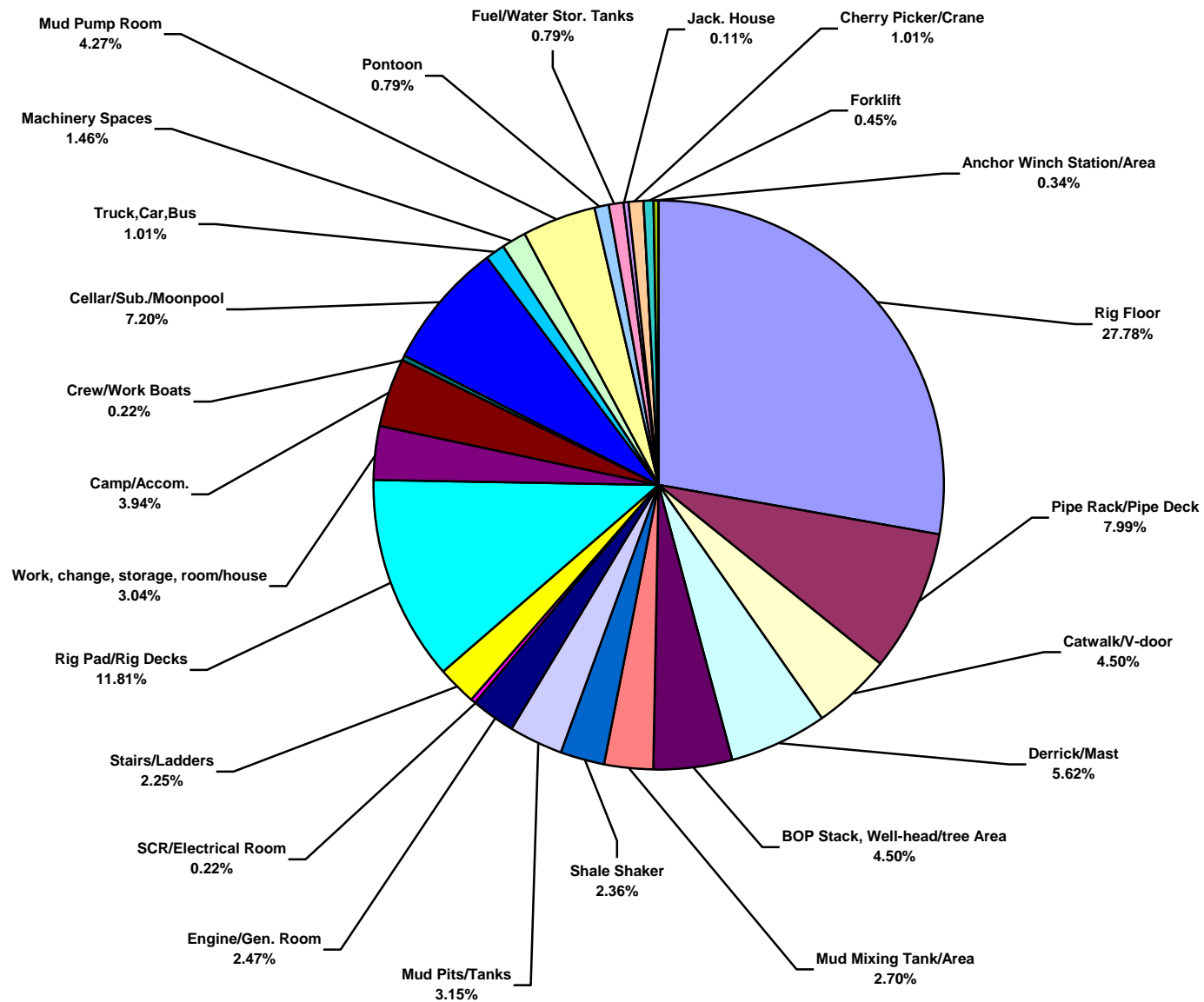




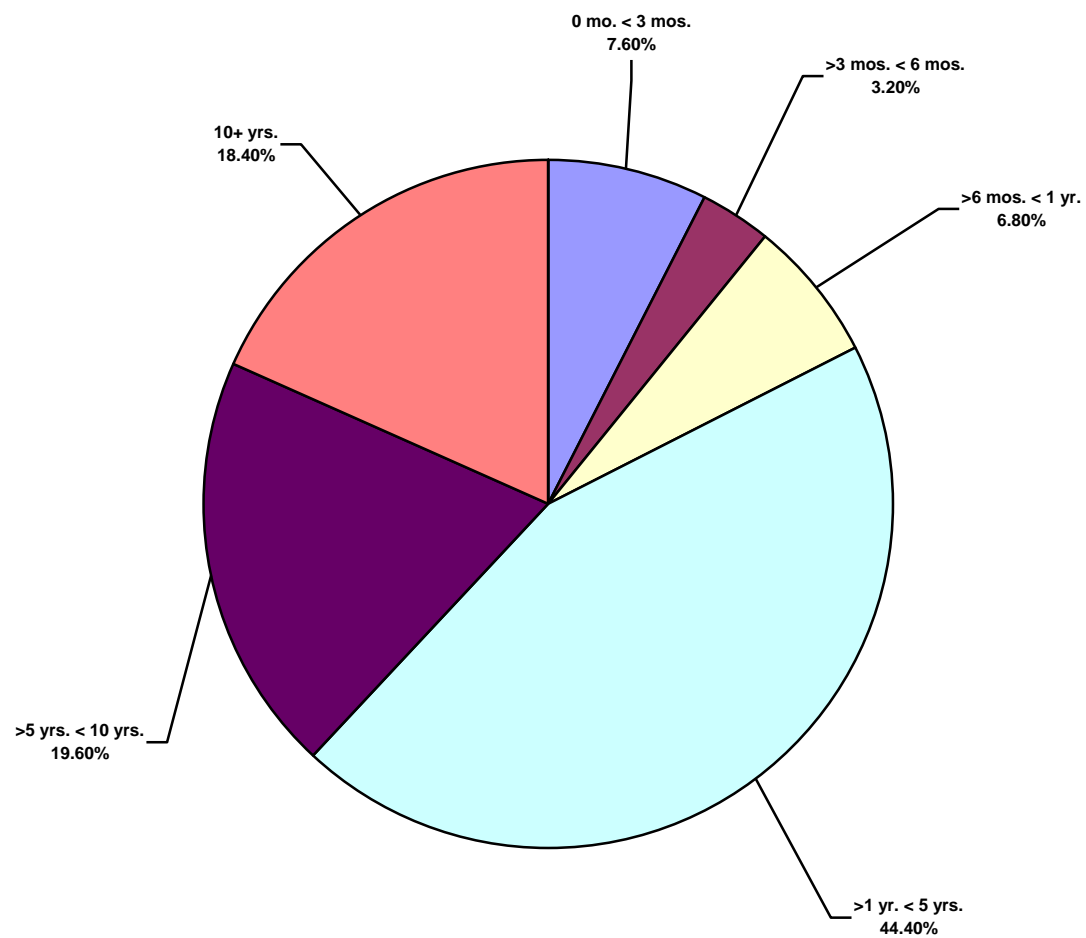
**Total Industry Lost Time Incidents by Location (Chart 13)**  
Based on 249 Incidents



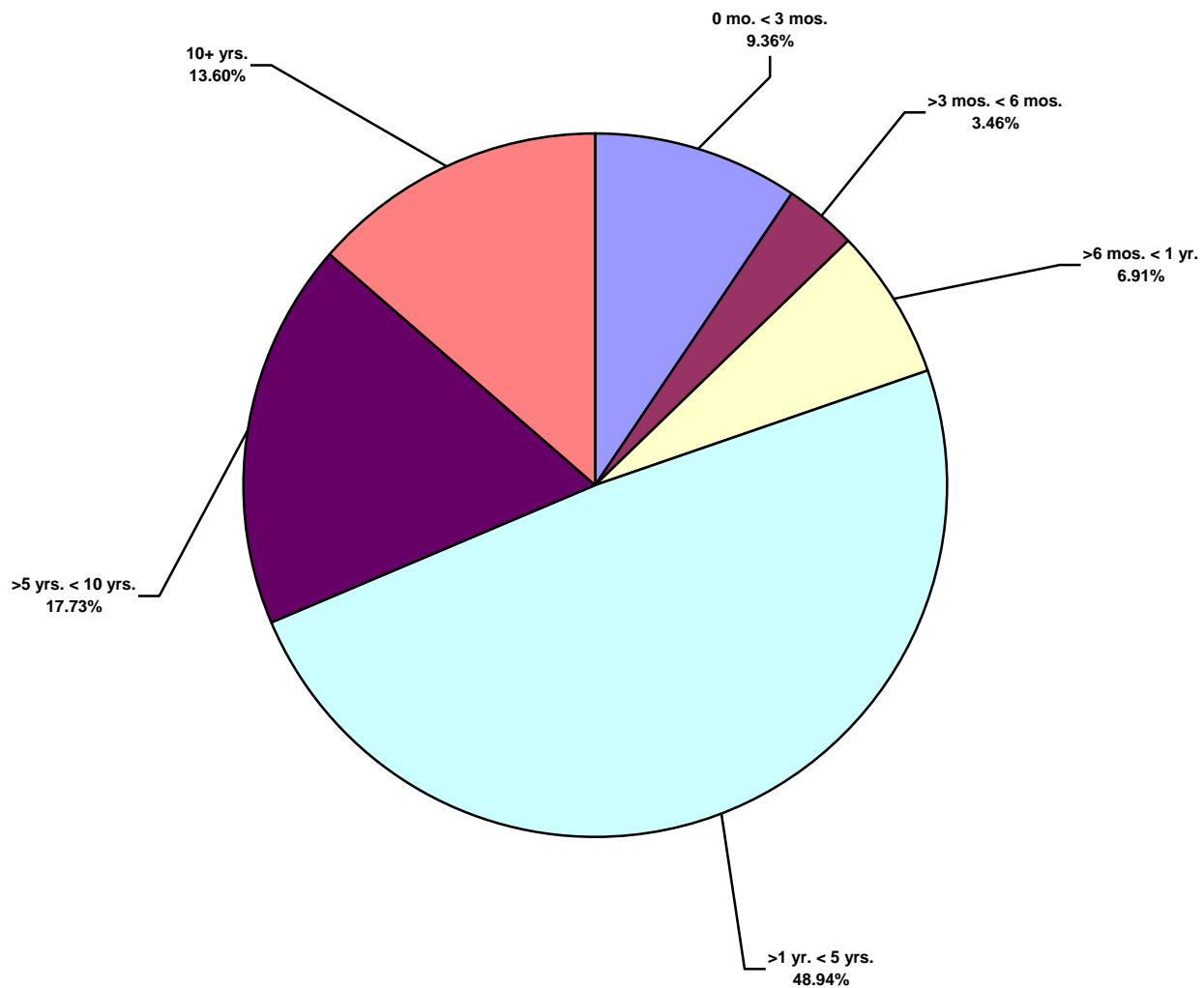
**Total Industry Recordable Incidents by Location (Chart 14)**  
Based on 889 Incidents



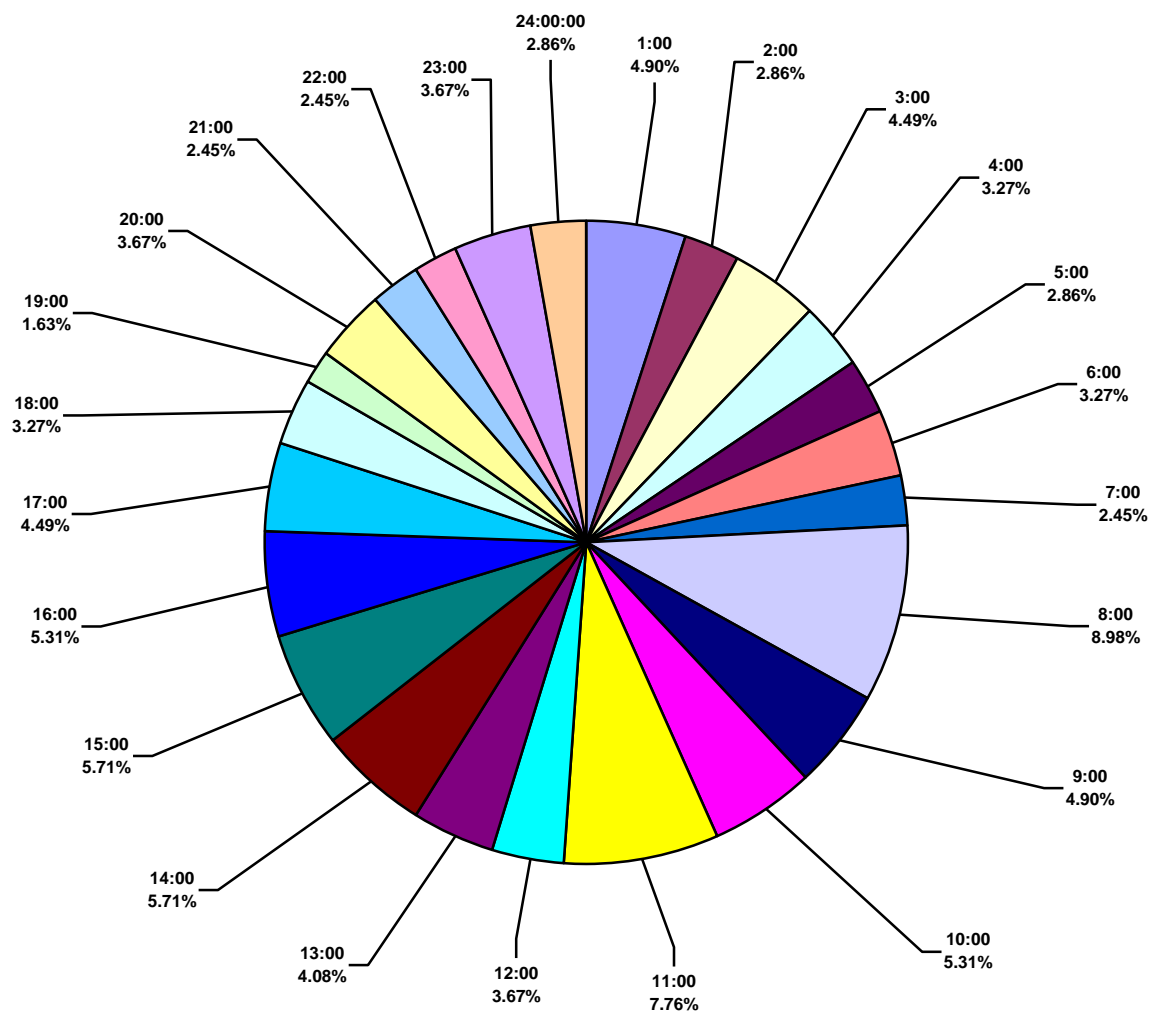
**Total Industry Lost Time Incidents by Time in Service (Chart 15)**  
Based on 250 Incidents



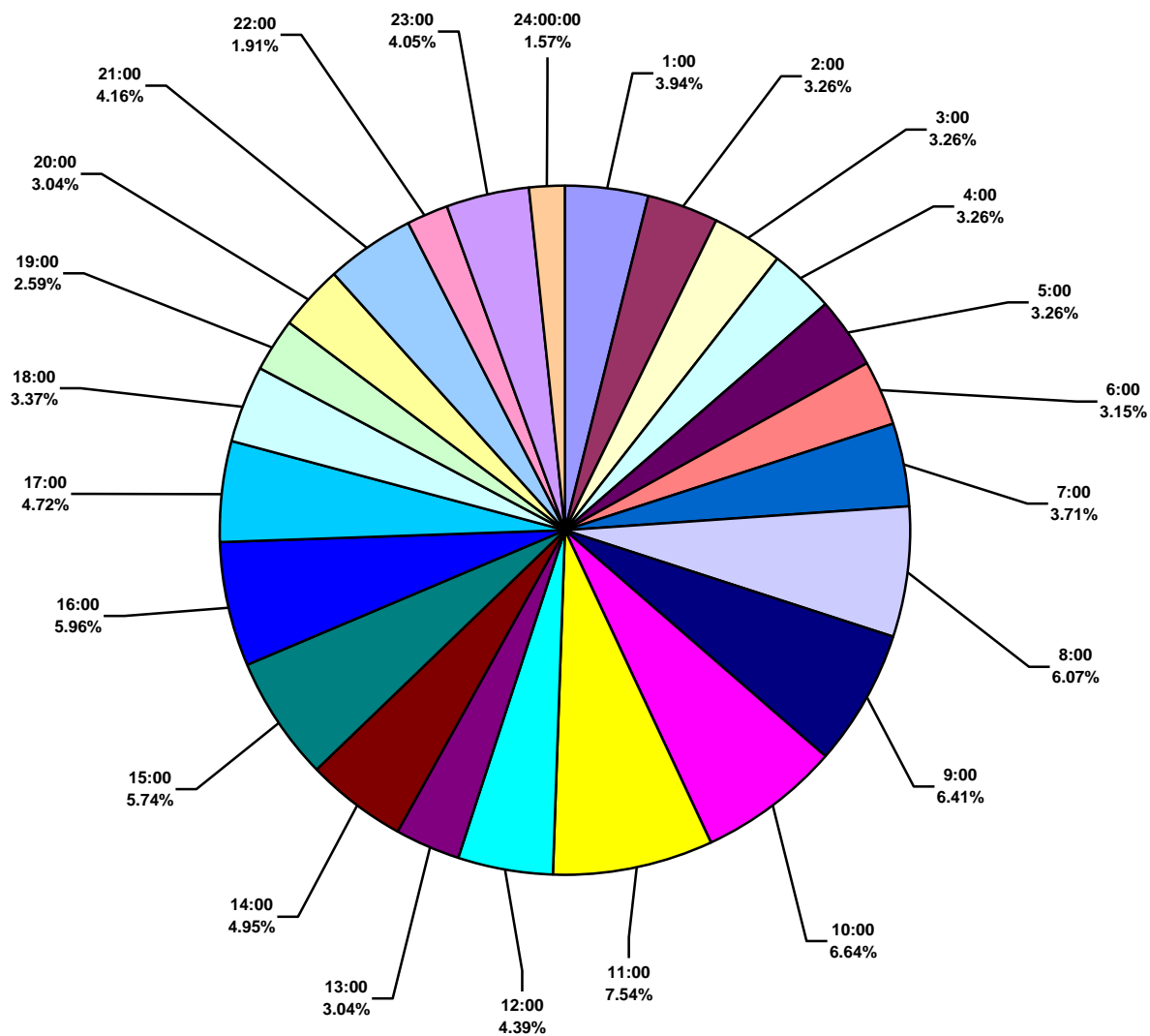
**Total Industry Recordable Incidents by Time in Service (Chart 16)**  
Based on 897 Incidents



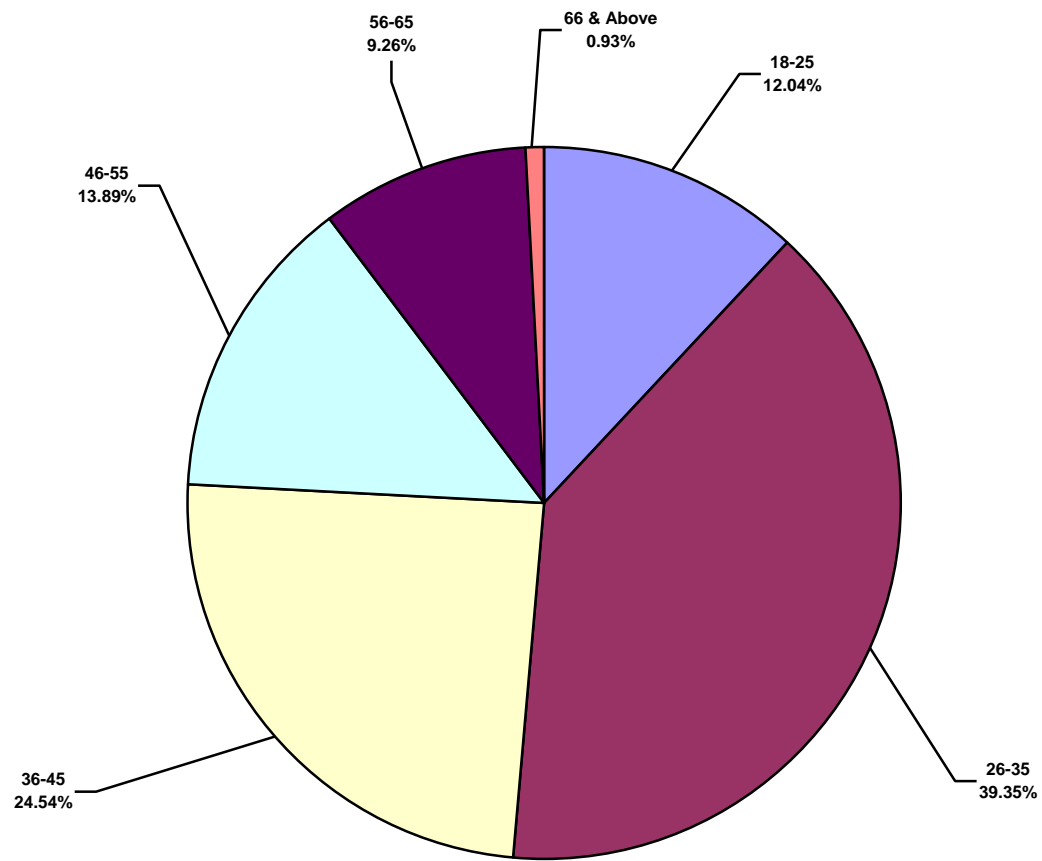
**Total Industry Lost Time Incidents by Time of Day (Chart 17)**  
 Based on 245 Incidents



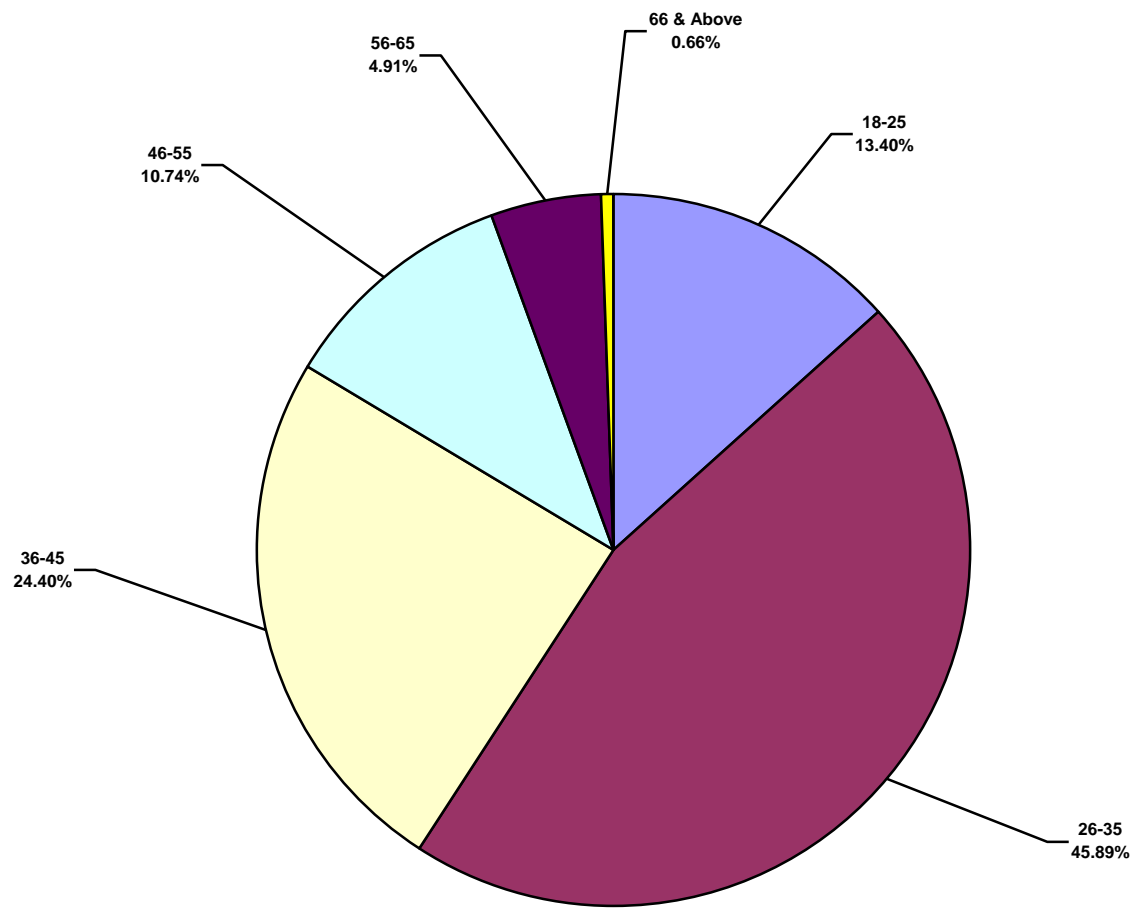
**Total Industry Recordable Incidents by Time of Day (Chart 18)**  
Based on 889 Incidents



**Total Industry Lost Time Incidents by Age (Chart 19)**  
Based on 216 Incidents



**Total Industry Recordable Incidents by Age (Chart 20)**  
Based on 754 Incidents





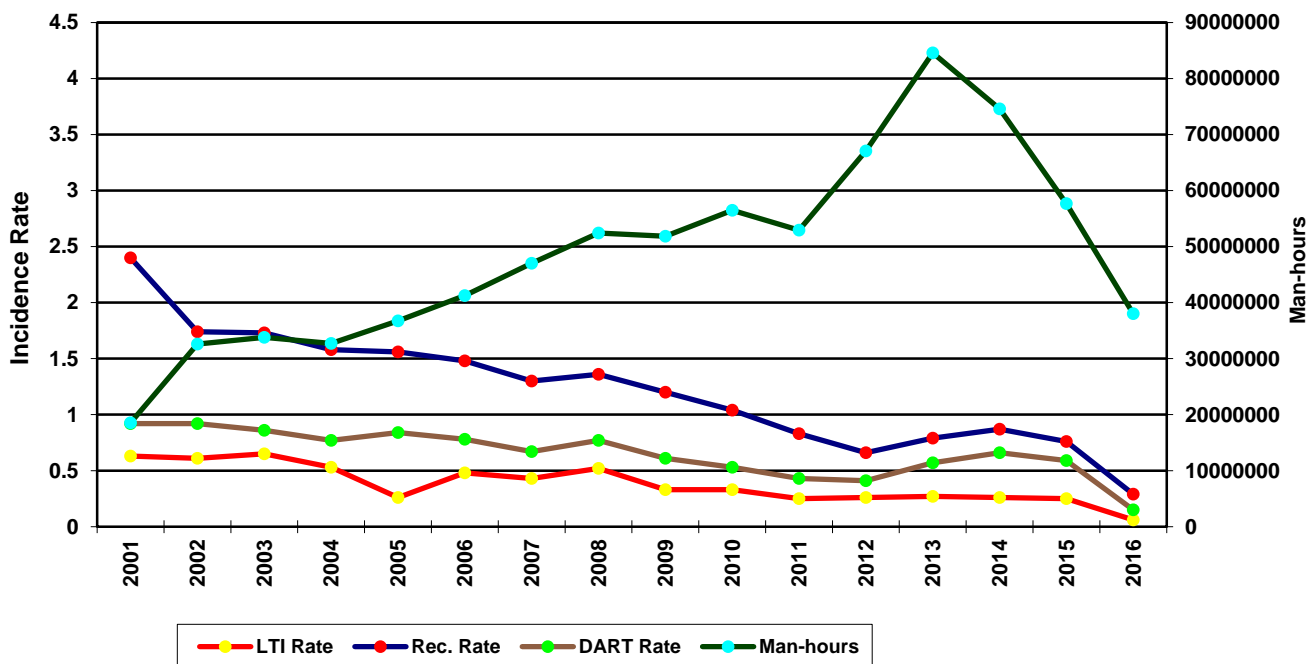
**2016 ISP Program Regional Totals  
Combined Land & Water  
IADC 2016 Africa Totals (Table 4)**

|  | LAND              | WATER             | COMBINED          |
|--|-------------------|-------------------|-------------------|
| <b>TOTAL MANHOURS</b>                    | <b>17,869,835</b> | <b>20,158,743</b> | <b>38,028,578</b> |
| <b>TOTAL MEDICAL TREATMENT INCIDENTS</b> | <b>17</b>         | <b>9</b>          | <b>26</b>         |
| <b>TOTAL RESTRICTED WORK INCIDENTS</b>   | <b>8</b>          | <b>10</b>         | <b>18</b>         |
| <b>TOTAL LOST TIME INCIDENTS</b>         | <b>10</b>         | <b>1</b>          | <b>11</b>         |
| <b>TOTAL FATALITIES</b>                  | <b>0</b>          | <b>0</b>          | <b>0</b>          |
| <b>TOTAL RECORDABLES</b>                 | <b>35</b>         | <b>20</b>         | <b>55</b>         |
| <b>MTO INCIDENCE RATE</b>                | <b>0.19</b>       | <b>0.09</b>       | <b>0.14</b>       |
| <b>RWC INCIDENCE RATE</b>                | <b>0.09</b>       | <b>0.10</b>       | <b>0.09</b>       |
| <b>LTI INCIDENCE RATE</b>                | <b>0.11</b>       | <b>0.01</b>       | <b>0.06</b>       |
| <b>LTI FREQUENCY RATE</b>                | <b>0.56</b>       | <b>0.05</b>       | <b>0.29</b>       |
| <b>DART INCIDENCE RATE</b>               | <b>0.20</b>       | <b>0.11</b>       | <b>0.15</b>       |
| <b>DART FREQUENCY RATE</b>               | <b>1.01</b>       | <b>0.55</b>       | <b>0.76</b>       |
| <b>RECORDABLE INCIDENCE RATE</b>         | <b>0.39</b>       | <b>0.20</b>       | <b>0.29</b>       |
| <b>RECORDABLE FREQUENCY RATE</b>         | <b>1.96</b>       | <b>0.99</b>       | <b>1.45</b>       |

MEDICAL TREATMENT INCIDENCE RATE = MTOs X 200,000 / MAN-HOURS (LTIs NOT INCLUDED)  
 RESTRICTED WORK INCIDENCE RATE = RWCs X 200,000 / MAN-HOURS (LTIs NOT INCLUDED)  
 LOST TIME INCIDENCE RATE = (LTIs+FTLs) X 200,000 / MAN-HOURS  
 LOST TIME FREQUENCY RATE = (LTIs+FTLs) X 1,000,000 / MAN-HOURS  
 DART INCIDENCE RATE = (LTIs+FTLs+RWCs) X 200,000 / MAN-HOURS  
 DART FREQUENCY RATE = (LTIs+FTLs+RWCs) X 1,000,000 / MAN-HOURS  
 RECORDABLE INCIDENCE RATE = RECORDABLES X 200,000 / MAN-HOURS  
 RECORDABLE FREQUENCY RATE = RECORDABLES X 1,000,000 / MAN-HOURS

**Companies Reporting: Land – 11 Water – 23**

**Africa Total LTI & Recordable Incidence Rates vs Man-hours (Figure 4)**



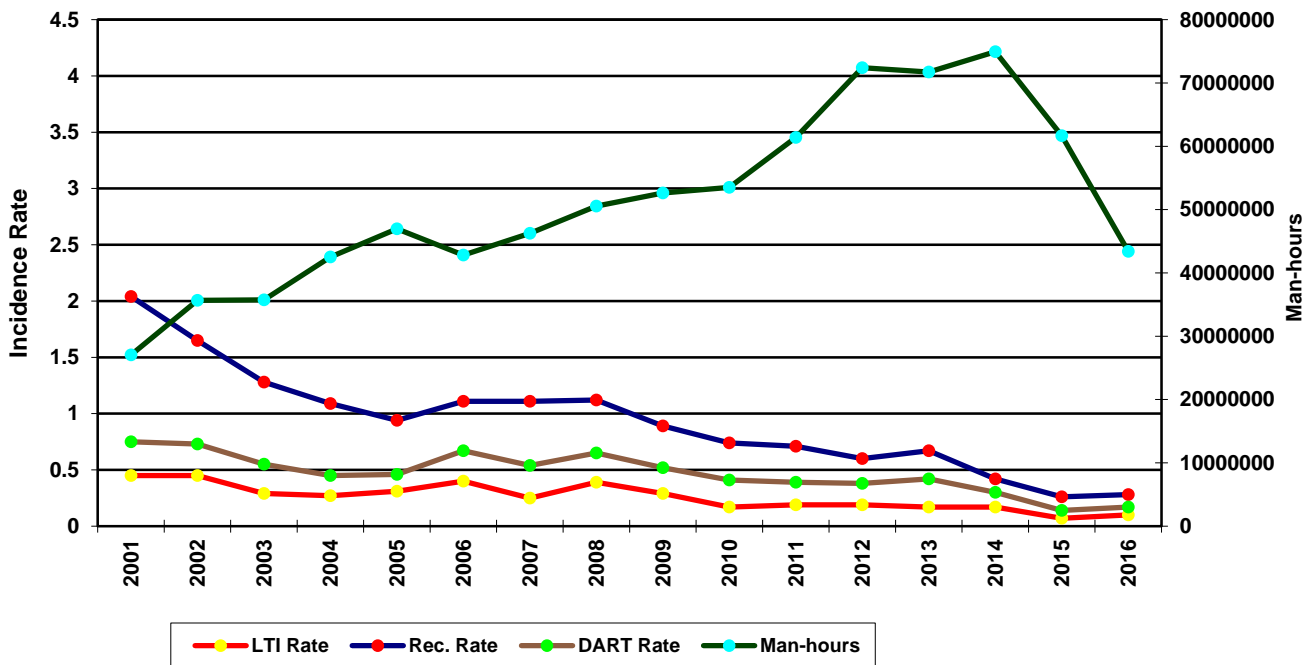
### IADC 2016 Asia Pacific Totals (Table 5)

|  | LAND             | WATER             | COMBINED          |
|--|------------------|-------------------|-------------------|
| <b>TOTAL MANHOURS</b>                    | <b>9,037,458</b> | <b>34,362,981</b> | <b>43,400,439</b> |
| <b>TOTAL MEDICAL TREATMENT INCIDENTS</b> | <b>3</b>         | <b>21</b>         | <b>24</b>         |
| <b>TOTAL RESTRICTED WORK INCIDENTS</b>   | <b>2</b>         | <b>12</b>         | <b>14</b>         |
| <b>TOTAL LOST TIME INCIDENTS</b>         | <b>3</b>         | <b>18</b>         | <b>21</b>         |
| <b>TOTAL FATALITIES</b>                  | <b>0</b>         | <b>1</b>          | <b>1</b>          |
| <b>TOTAL RECORDABLES</b>                 | <b>8</b>         | <b>52</b>         | <b>60</b>         |
| <b>MTO INCIDENCE RATE</b>                | <b>0.07</b>      | <b>0.12</b>       | <b>0.11</b>       |
| <b>RWC INCIDENCE RATE</b>                | <b>0.04</b>      | <b>0.07</b>       | <b>0.06</b>       |
| <b>LTI INCIDENCE RATE</b>                | <b>0.07</b>      | <b>0.11</b>       | <b>0.10</b>       |
| <b>LTI FREQUENCY RATE</b>                | <b>0.33</b>      | <b>0.55</b>       | <b>0.51</b>       |
| <b>DART INCIDENCE RATE</b>               | <b>0.11</b>      | <b>0.18</b>       | <b>0.17</b>       |
| <b>DART FREQUENCY RATE</b>               | <b>0.55</b>      | <b>0.90</b>       | <b>0.83</b>       |
| <b>RECORDABLE INCIDENCE RATE</b>         | <b>0.18</b>      | <b>0.30</b>       | <b>0.28</b>       |
| <b>RECORDABLE FREQUENCY RATE</b>         | <b>0.89</b>      | <b>1.51</b>       | <b>1.38</b>       |

MEDICAL TREATMENT INCIDENCE RATE = MTOs X 200,000 / MAN-HOURS (LTIs NOT INCLUDED)  
 RESTRICTED WORK INCIDENCE RATE = RWCs X 200,000 / MAN-HOURS (LTIs NOT INCLUDED)  
 LOST TIME INCIDENCE RATE = (LTIs+FTLs) X 200,000 / MAN-HOURS  
 LOST TIME FREQUENCY RATE = (LTIs+FTLs) X 1,000,000 / MAN-HOURS  
 DART INCIDENCE RATE = (LTIs+FTLs+RWCs) X 200,000 / MAN-HOURS  
 DART INCIDENCE RATE - (LTIs+FTLs+RWCs) X 1,000,000 / MAN-HOURS  
 RECORDABLE INCIDENCE RATE = RECORDABLES X 200,000 / MAN-HOURS  
 RECORDABLE FREQUENCY RATE = RECORDABLES X 1,000,000 / MAN-HOURS

Companies Reporting: Land – 9 Water – 31

Asia Pacific Total LTI & Recordable Incidence Rates vs Man-hours (Figure 5)



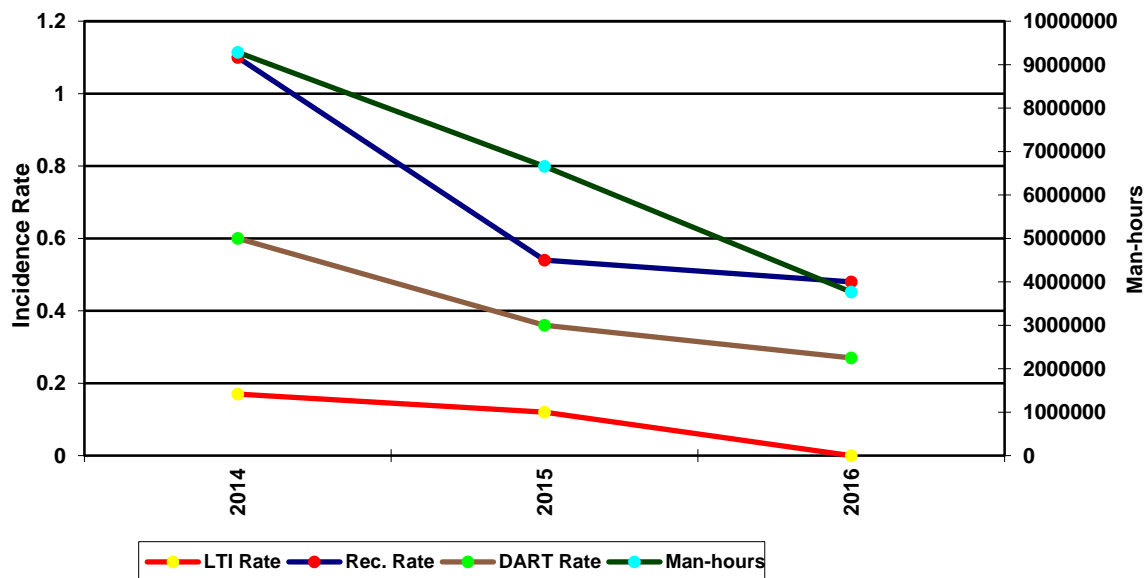
## IADC 2016 Australasia Totals (Table 6)

|  | LAND      | WATER     | COMBINED  |
|--|-----------|-----------|-----------|
| <b>TOTAL MANHOURS</b>                    | 1,250,447 | 2,515,780 | 3,766,227 |
| <b>TOTAL MEDICAL TREATMENT INCIDENTS</b> | 0         | 4         | 4         |
| <b>TOTAL RESTRICTED WORK INCIDENTS</b>   | 3         | 2         | 5         |
| <b>TOTAL LOST TIME INCIDENTS</b>         | 0         | 0         | 0         |
| <b>TOTAL FATALITIES</b>                  | 0         | 0         | 0         |
| <b>TOTAL RECORDABLES</b>                 | 3         | 6         | 9         |
| <br>                                     |           |           |           |
| <b>MTO INCIDENCE RATE</b>                | 0.00      | 0.32      | 0.21      |
| <b>RWC INCIDENCE RATE</b>                | 0.48      | 0.16      | 0.27      |
| <b>LTI INCIDENCE RATE</b>                | 0.00      | 0.00      | 0.00      |
| <b>LTI FREQUENCY RATE</b>                | 0.00      | 0.00      | 0.00      |
| <b>DART INCIDENCE RATE</b>               | 0.48      | 0.16      | 0.27      |
| <b>DART FREQUENCY RATE</b>               | 2.40      | 0.79      | 1.33      |
| <b>RECORDABLE INCIDENCE RATE</b>         | 0.48      | 0.48      | 0.48      |
| <b>RECORDABLE FREQUENCY RATE</b>         | 2.40      | 2.38      | 2.39      |

MEDICAL TREATMENT INCIDENCE RATE = MTOs X 200,000 / MAN-HOURS (LTIs NOT INCLUDED)  
 RESTRICTED WORK INCIDENCE RATE = RWCs X 200,000 / MAN-HOURS (LTIs NOT INCLUDED)  
 LOST TIME INCIDENCE RATE = (LTIs+FTLs) X 200,000 / MAN-HOURS  
 LOST TIME FREQUENCY RATE = (LTIs+FTLs) X 1,000,000 / MAN-HOURS  
 DART INCIDENCE RATE = (LTIs+FTLs+RWCs) X 200,000 / MAN-HOURS  
 DART FREQUENCY RATE = (LTIs+FTLs+RWCs) X 1,000,000 / MAN-HOURS  
 RECORDABLE INCIDENCE RATE = RECORDABLES X 200,000 / MAN-HOURS  
 RECORDABLE FREQUENCY RATE = RECORDABLES X 1,000,000 / MAN-HOURS

Companies Reporting: Land – 5; Water – 5

**Australasia Total LTI & Recordable Incidence Rates vs Man-hours (Figure 6)**



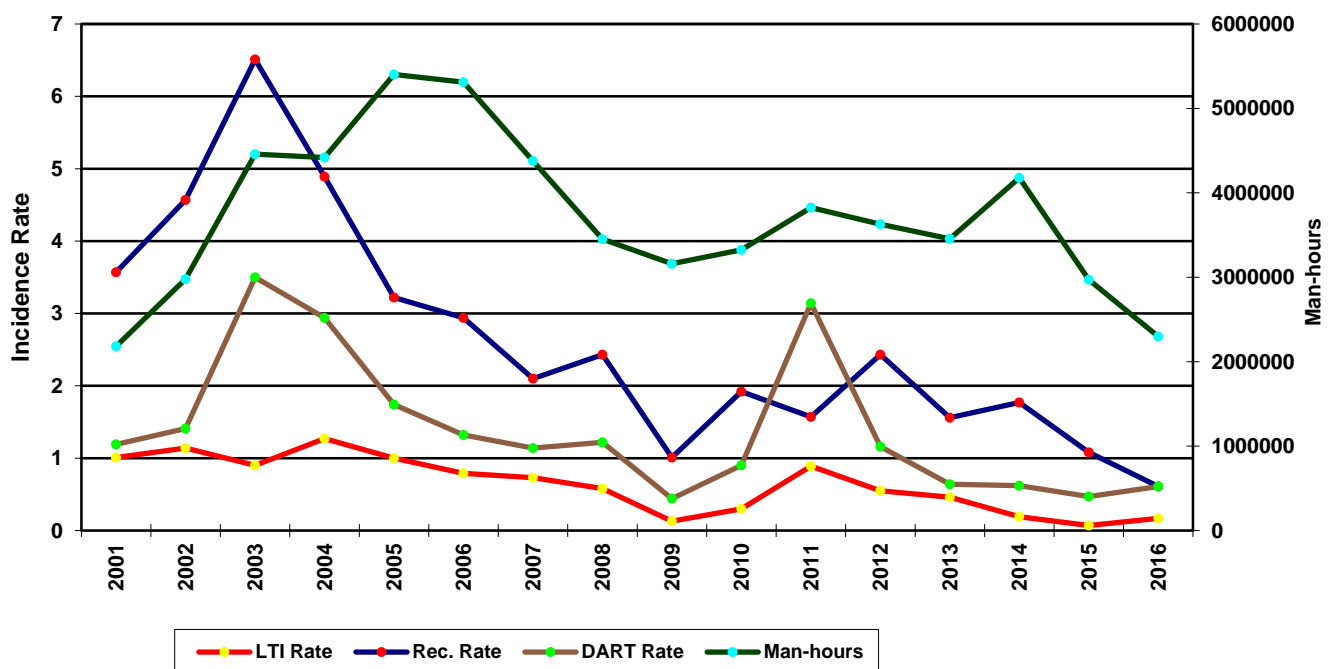
## IADC 2016 Canada Totals (Table 7)

|  | LAND    | WATER     | COMBINED  |
|--|---------|-----------|-----------|
| <b>TOTAL MANHOURS</b>                    | 746,777 | 1,550,957 | 2,297,734 |
| <b>TOTAL MEDICAL TREATMENT INCIDENTS</b> | 0       | 0         | 0         |
| <b>TOTAL RESTRICTED WORK INCIDENTS</b>   | 3       | 2         | 5         |
| <b>TOTAL LOST TIME INCIDENTS</b>         | 2       | 0         | 2         |
| <b>TOTAL FATALITIES</b>                  | 0       | 0         | 0         |
| <b>TOTAL RECORDABLES</b>                 | 5       | 2         | 7         |
| <b>MTO INCIDENCE RATE</b>                | 0.00    | 0.00      | 0.00      |
| <b>RWC INCIDENCE RATE</b>                | 0.80    | 0.26      | 0.44      |
| <b>LTI INCIDENCE RATE</b>                | 0.54    | 0.00      | 0.17      |
| <b>LTI FREQUENCY RATE</b>                | 2.68    | 0.00      | 0.87      |
| <b>DART INCIDENCE RATE</b>               | 1.34    | 0.26      | 0.61      |
| <b>DART FREQUENCY RATE</b>               | 6.70    | 1.29      | 3.05      |
| <b>RECORDABLE INCIDENCE RATE</b>         | 1.34    | 0.26      | 0.61      |
| <b>RECORDABLE FREQUENCY RATE</b>         | 6.70    | 1.29      | 3.05      |

MEDICAL TREATMENT INCIDENCE RATE = MTOs X 200,000 / MAN-HOURS (LTIs NOT INCLUDED)  
 RESTRICTED WORK INCIDENCE RATE = RWCs X 200,000 / MAN-HOURS (LTIs NOT INCLUDED)  
 LOST TIME INCIDENCE RATE = (LTIs+FTLs) X 200,000 / MAN-HOURS  
 LOST TIME FREQUENCY RATE = (LTIs+FTLs) X 1,000,000 / MAN-HOURS  
 DART INCIDENCE RATE = (LTIs+FTLs+RWCs) X 200,000 / MAN-HOURS  
 DART INCIDENCE RATE - (LTIs+FTLs+RWCs) X 1,000,000 / MAN-HOURS  
 RECORDABLE INCIDENCE RATE = RECORDABLES X 200,000 / MAN-HOURS  
 RECORDABLE FREQUENCY RATE = RECORDABLES X 1,000,000 / MAN-HOURS

Companies Reporting: Land – 3 Water – 4

**Canada Total LTI & Recordable Incidence Rates vs Man-hours (Figure 7)**



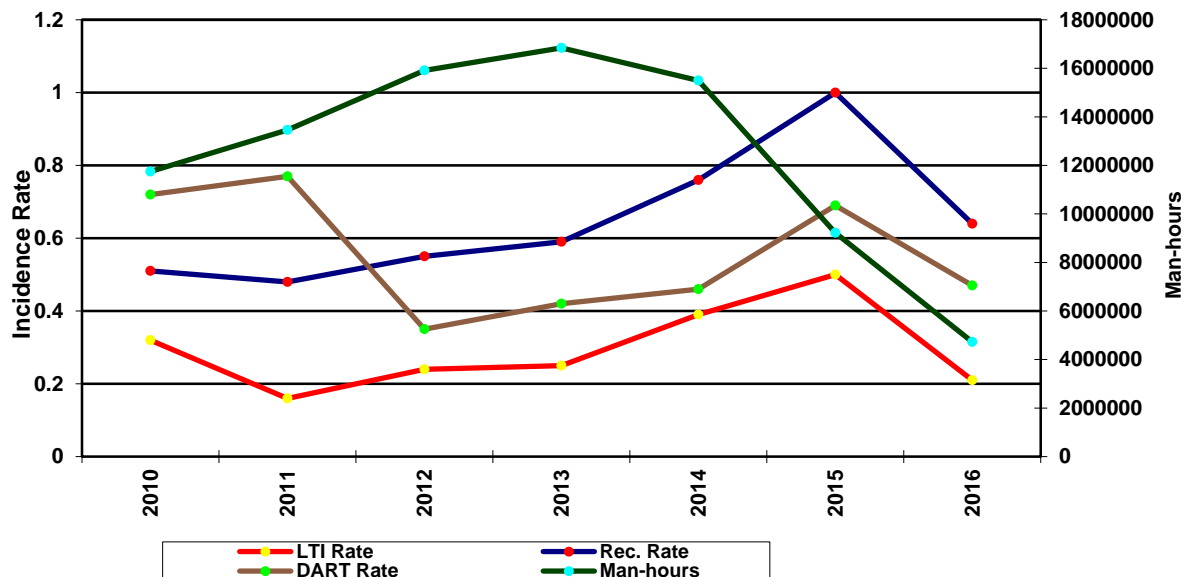
## IADC 2016 Central America & Caribbean Totals (Table 8)

|  | LAND      | WATER     | COMBINED  |
|--|-----------|-----------|-----------|
| <b>TOTAL MANHOURS</b>                    | 1,098,397 | 3,625,577 | 4,723,974 |
| <b>TOTAL MEDICAL TREATMENT INCIDENTS</b> | 3         | 1         | 4         |
| <b>TOTAL RESTRICTED WORK INCIDENTS</b>   | 3         | 3         | 6         |
| <b>TOTAL LOST TIME INCIDENTS</b>         | 3         | 2         | 5         |
| <b>TOTAL FATALITIES</b>                  | 0         | 0         | 0         |
| <b>TOTAL RECORDABLES</b>                 | 9         | 6         | 15        |
| <b>MTO INCIDENCE RATE</b>                | 0.55      | 0.06      | 0.17      |
| <b>RWC INCIDENCE RATE</b>                | 0.55      | 0.17      | 0.25      |
| <b>LTI INCIDENCE RATE</b>                | 0.55      | 0.11      | 0.21      |
| <b>LTI FREQUENCY RATE</b>                | 2.73      | 0.55      | 1.06      |
| <b>DART INCIDENCE RATE</b>               | 1.09      | 0.28      | 0.47      |
| <b>DART FREQUENCY RATE</b>               | 5.46      | 1.38      | 2.33      |
| <b>RECORDABLE INCIDENCE RATE</b>         | 1.64      | 0.33      | 0.64      |
| <b>RECORDABLE FREQUENCY RATE</b>         | 8.19      | 1.65      | 3.18      |

MEDICAL TREATMENT INCIDENCE RATE = MTOs X 200,000 / MAN-HOURS (LTIs NOT INCLUDED)  
 RESTRICTED WORK INCIDENCE RATE = RWCs X 200,000 / MAN-HOURS (LTIs NOT INCLUDED)  
 LOST TIME INCIDENCE RATE = (LTIs+FTLs) X 200,000 / MAN-HOURS  
 LOST TIME FREQUENCY RATE = (LTIs+FTLs) X 1,000,000 / MAN-HOURS  
 DART INCIDENCE RATE = (LTIs+FTLs+RWCs) X 200,000 / MAN-HOURS  
 DART FREQUENCY RATE = (LTIs+FTLs+RWCs) X 1,000,000 / MAN-HOURS  
 RECORDABLE INCIDENCE RATE = RECORDABLES X 200,000 / MAN-HOURS  
 RECORDABLE FREQUENCY RATE = RECORDABLES X 1,000,000 / MAN-HOURS

**Companies Reporting: Land – 6 Water – 9**

**Central America & Caribbean Total LTI & Recordable Incidence Rates vs Man-hours**  
(Figure 8)



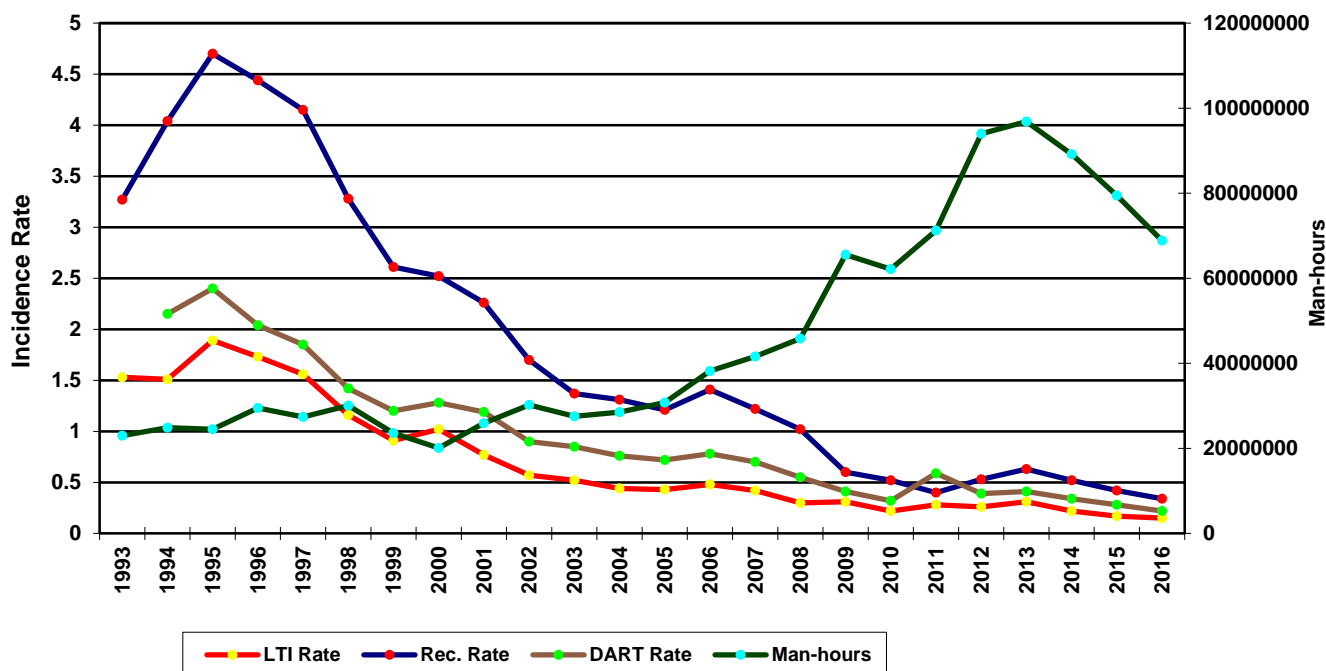
## IADC 2016 European Totals (Table 9)

|  | LAND       | WATER      | COMBINED   |
|--|------------|------------|------------|
| <b>TOTAL MANHOURS</b>                    | 40,293,752 | 28,551,227 | 68,844,979 |
| <b>TOTAL MEDICAL TREATMENT INCIDENTS</b> | 7          | 36         | 43         |
| <b>TOTAL RESTRICTED WORK INCIDENTS</b>   | 5          | 19         | 24         |
| <b>TOTAL LOST TIME INCIDENTS</b>         | 33         | 17         | 50         |
| <b>TOTAL FATALITIES</b>                  | 1          | 0          | 1          |
| <b>TOTAL RECORDABLES</b>                 | 46         | 72         | 118        |
| <b>MTO INCIDENCE RATE</b>                | 0.03       | 0.25       | 0.12       |
| <b>RWC INCIDENCE RATE</b>                | 0.02       | 0.13       | 0.07       |
| <b>LTI INCIDENCE RATE</b>                | 0.17       | 0.12       | 0.15       |
| <b>LTI FREQUENCY RATE</b>                | 0.84       | 0.60       | 0.74       |
| <b>DART INCIDENCE RATE</b>               | 0.19       | 0.25       | 0.22       |
| <b>DART FREQUENCY RATE</b>               | 0.97       | 1.26       | 1.09       |
| <b>RECORDABLE INCIDENCE RATE</b>         | 0.23       | 0.50       | 0.34       |
| <b>RECORDABLE FREQUENCY RATE</b>         | 1.14       | 2.52       | 1.71       |

MEDICAL TREATMENT INCIDENCE RATE = MTOs X 200,000 / MAN-HOURS (LTIs NOT INCLUDED)  
 RESTRICTED WORK INCIDENCE RATE = RWCs X 200,000 / MAN-HOURS (LTIs NOT INCLUDED)  
 LOST TIME INCIDENCE RATE = (LTIs+FTLs) X 200,000 / MAN-HOURS  
 LOST TIME FREQUENCY RATE = (LTIs+FTLs) X 1,000,000 / MAN-HOURS  
 DART INCIDENCE RATE = (LTIs+FTLs+RWCs) X 200,000 / MAN-HOURS  
 DART INCIDENCE RATE = (LTIs+FTLs+RWCs) X 1,000,000 / MAN-HOURS  
 RECORDABLE INCIDENCE RATE = RECORDABLES X 200,000 / MAN-HOURS  
 RECORDABLE FREQUENCY RATE = RECORDABLES X 1,000,000 / MAN-HOURS

Companies Reporting: Land – 11 Water – 24

**European Total LTI & Recordable Incidence Rates vs Man-hours (Figure 9)**



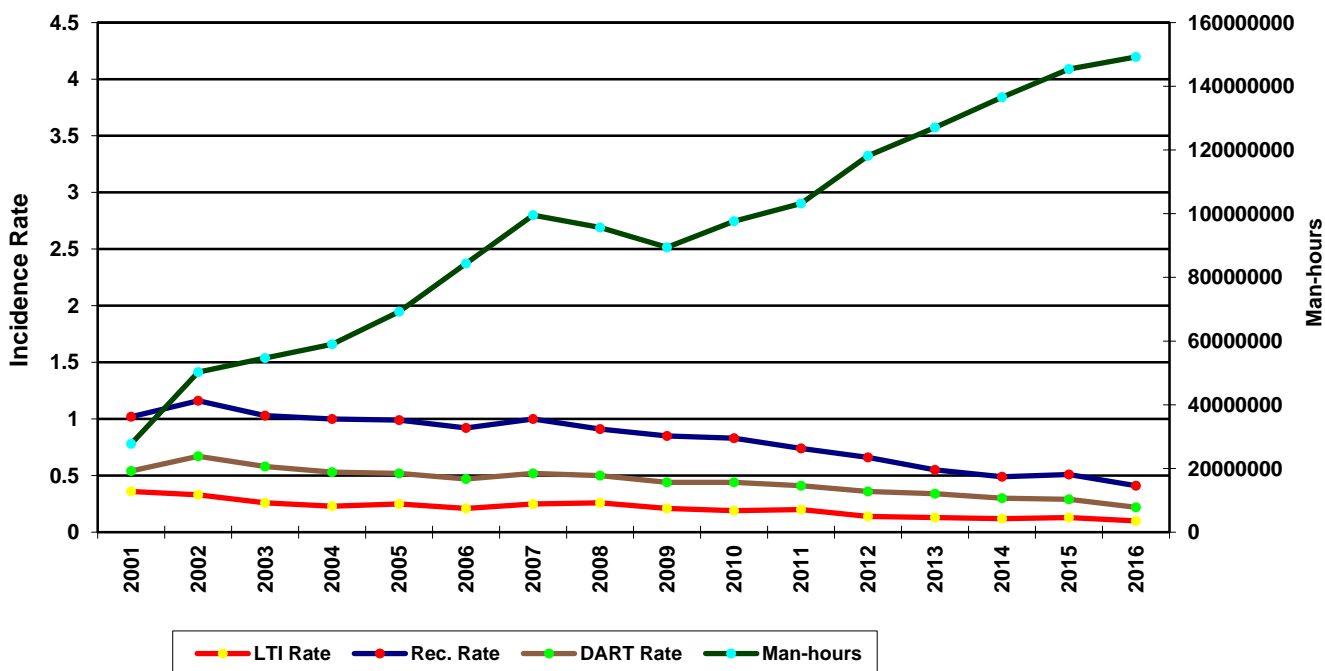
### IADC 2016 Middle East Totals (Table 10)

|  | LAND        | WATER      | COMBINED    |
|--|-------------|------------|-------------|
| <b>TOTAL MANHOURS</b>                    | 100,829,919 | 48,357,670 | 149,187,589 |
| <b>TOTAL MEDICAL TREATMENT INCIDENTS</b> | 125         | 19         | 144         |
| <b>TOTAL RESTRICTED WORK INCIDENTS</b>   | 56          | 31         | 87          |
| <b>TOTAL LOST TIME INCIDENTS</b>         | 62          | 13         | 75          |
| <b>TOTAL FATALITIES</b>                  | 3           | 0          | 3           |
| <b>TOTAL RECORDABLES</b>                 | 246         | 63         | 309         |
| <b>MTO INCIDENCE RATE</b>                | 0.25        | 0.08       | 0.19        |
| <b>RWC INCIDENCE RATE</b>                | 0.11        | 0.13       | 0.12        |
| <b>LTI INCIDENCE RATE</b>                | 0.13        | 0.05       | 0.10        |
| <b>LTI FREQUENCY RATE</b>                | 0.64        | 0.27       | 0.52        |
| <b>DART INCIDENCE RATE</b>               | 0.24        | 0.18       | 0.22        |
| <b>DART FREQUENCY RATE</b>               | 1.20        | 0.91       | 1.11        |
| <b>RECORDABLE INCIDENCE RATE</b>         | 0.49        | 0.26       | 0.41        |
| <b>RECORDABLE FREQUENCY RATE</b>         | 2.44        | 1.30       | 2.07        |

MEDICAL TREATMENT INCIDENCE RATE = MTOs X 200,000 / MAN-HOURS (LTIs NOT INCLUDED)  
 RESTRICTED WORK INCIDENCE RATE = RWCs X 200,000 / MAN-HOURS (LTIs NOT INCLUDED)  
 LOST TIME INCIDENCE RATE = (LTIs+FTLs) X 200,000 / MAN-HOURS  
 LOST TIME FREQUENCY RATE = (LTIs+FTLs) X 1,000,000 / MAN-HOURS  
 DART INCIDENCE RATE = (LTIs+FTLs+RWCs) X 200,000 / MAN-HOURS  
 DART FREQUENCY RATE = (LTIs+FTLs+RWCs) X 1,000,000 / MAN-HOURS  
 RECORDABLE INCIDENCE RATE = RECORDABLES X 200,000 / MAN-HOURS  
 RECORDABLE FREQUENCY RATE = RECORDABLES X 1,000,000 / MAN-HOURS

Companies Reporting: Land – 20 Water – 19

**Middle East Total LTI & Recordable Incidence Rates vs Man-hours (Figure 10)**



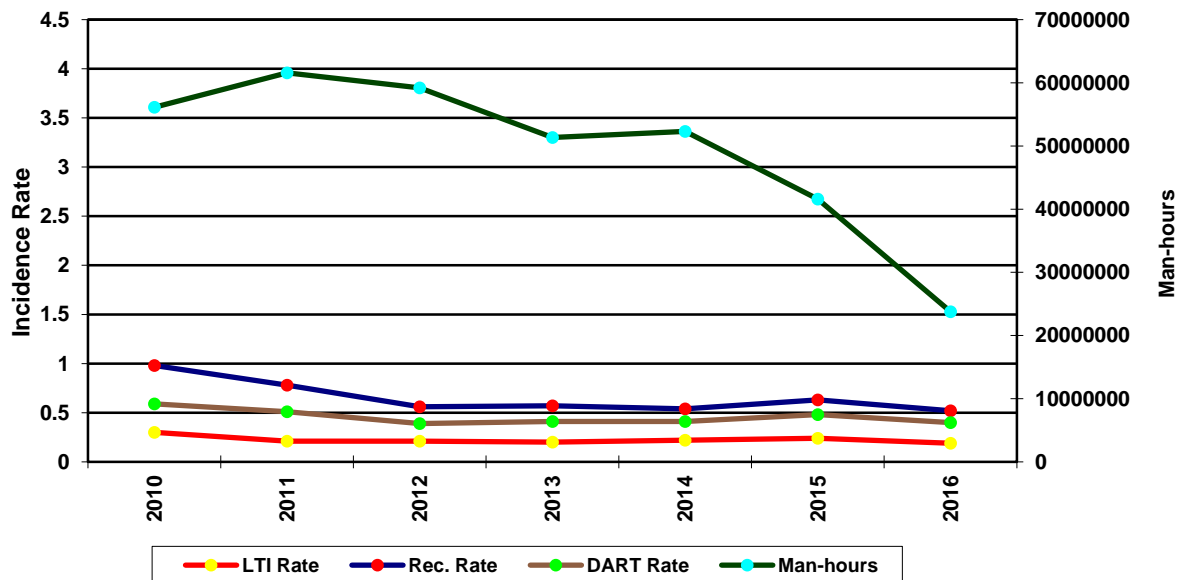
## IADC 2016 South American Totals (Table 11)

|  | LAND       | WATER      | COMBINED   |
|--|------------|------------|------------|
| <b>TOTAL MANHOURS</b>                    | 11,885,011 | 11,885,667 | 23,770,678 |
| <b>TOTAL MEDICAL TREATMENT INCIDENTS</b> | 7          | 8          | 15         |
| <b>TOTAL RESTRICTED WORK INCIDENTS</b>   | 19         | 6          | 25         |
| <b>TOTAL LOST TIME INCIDENTS</b>         | 16         | 6          | 22         |
| <b>TOTAL FATALITIES</b>                  | 0          | 0          | 0          |
| <b>TOTAL RECORDABLES</b>                 | 42         | 20         | 62         |
| <b>MTO INCIDENCE RATE</b>                | 0.12       | 0.13       | 0.13       |
| <b>RWC INCIDENCE RATE</b>                | 0.32       | 0.10       | 0.21       |
| <b>LTI INCIDENCE RATE</b>                | 0.27       | 0.10       | 0.19       |
| <b>LTI FREQUENCY RATE</b>                | 1.35       | 0.50       | 0.93       |
| <b>DART INCIDENCE RATE</b>               | 0.59       | 0.20       | 0.40       |
| <b>DART FREQUENCY RATE</b>               | 2.94       | 1.01       | 1.98       |
| <b>RECORDABLE INCIDENCE RATE</b>         | 0.71       | 0.34       | 0.52       |
| <b>RECORDABLE FREQUENCY RATE</b>         | 3.53       | 1.68       | 2.61       |

MEDICAL TREATMENT INCIDENCE RATE = MTOs X 200,000 / MAN-HOURS (LTIs NOT INCLUDED)  
 RESTRICTED WORK INCIDENCE RATE = RWCs X 200,000 / MAN-HOURS (LTIs NOT INCLUDED)  
 LOST TIME INCIDENCE RATE = (LTIs+FTLs) X 200,000 / MAN-HOURS  
 LOST TIME FREQUENCY RATE = (LTIs+FTLs) X 1,000,000 / MAN-HOURS  
 DART INCIDENCE RATE = (LTIs+FTLs+RWCs) X 200,000 / MAN-HOURS  
 DART FREQUENCY RATE = (LTIs+FTLs+RWCs) X 1,000,000 / MAN-HOURS  
 RECORDABLE INCIDENCE RATE = RECORDABLES X 200,000 / MAN-HOURS  
 RECORDABLE FREQUENCY RATE = RECORDABLES X 1,000,000 / MAN-HOURS

Companies Reporting: Land – 9 Water – 12

**South America Total LTI & Recordable Incidence Rates vs Man-hours (Figure 11)**





### IADC 2016 US Totals (Table 12)

|  | LAND              | WATER             | COMBINED          |
|--|-------------------|-------------------|-------------------|
| <b>TOTAL MANHOURS</b>                    | <b>34,454,892</b> | <b>27,758,082</b> | <b>62,212,974</b> |
| <b>TOTAL MEDICAL TREATMENT INCIDENTS</b> | <b>72</b>         | <b>27</b>         | <b>99</b>         |
| <b>TOTAL RESTRICTED WORK INCIDENTS</b>   | <b>74</b>         | <b>29</b>         | <b>103</b>        |
| <b>TOTAL LOST TIME INCIDENTS</b>         | <b>57</b>         | <b>11</b>         | <b>68</b>         |
| <b>TOTAL FATALITIES</b>                  | <b>3</b>          | <b>1</b>          | <b>4</b>          |
| <b>TOTAL RECORDABLES</b>                 | <b>206</b>        | <b>68</b>         | <b>274</b>        |
| <b>MTO INCIDENCE RATE</b>                | <b>0.42</b>       | <b>0.19</b>       | <b>0.32</b>       |
| <b>RWC INCIDENCE RATE</b>                | <b>0.43</b>       | <b>0.21</b>       | <b>0.33</b>       |
| <b>LTI INCIDENCE RATE</b>                | <b>0.35</b>       | <b>0.09</b>       | <b>0.23</b>       |
| <b>LTI FREQUENCY RATE</b>                | <b>1.74</b>       | <b>0.43</b>       | <b>1.16</b>       |
| <b>DART INCIDENCE RATE</b>               | <b>0.78</b>       | <b>0.30</b>       | <b>0.56</b>       |
| <b>DART FREQUENCY RATE</b>               | <b>3.89</b>       | <b>1.48</b>       | <b>2.81</b>       |
| <b>RECORDABLE INCIDENCE RATE</b>         | <b>1.20</b>       | <b>0.49</b>       | <b>0.88</b>       |
| <b>RECORDABLE FREQUENCY RATE</b>         | <b>5.98</b>       | <b>2.45</b>       | <b>4.40</b>       |

MEDICAL TREATMENT INCIDENCE RATE = MTOs X 200,000 / MAN-HOURS (LTIs NOT INCLUDED)  
 RESTRICTED WORK INCIDENCE RATE = RWCs X 200,000 / MAN-HOURS (LTIs NOT INCLUDED)  
 LOST TIME INCIDENCE RATE = (LTIs+FTLs) X 200,000 / MAN-HOURS  
 LOST TIME FREQUENCY RATE = (LTIs+FTLs) X 1,000,000 / MAN-HOURS  
 DART INCIDENCE RATE - (LTIs+FTLs+RWCs) X 200,000 / MAN-HOURS  
 DART INCIDENCE RATE - (LTIs+FTLs+RWCs) X 1,000,000 / MAN-HOURS  
 RECORDABLE INCIDENCE RATE = RECORDABLES X 200,000 / MAN-HOURS  
 RECORDABLE FREQUENCY RATE = RECORDABLES X 1,000,000 / MAN-HOURS

Companies Reporting: Land – 31; Water – 16

US Total LTI & Recordable Incidence Rates vs Man-hours (Figure 12)

