Toxicology Program Trends

Overview and Background

This report will discuss trends in the toxicology program, as well as the number of toxicology cases submitted to the Region 1, Coeur d' Alene, and Region 5, Pocatello, forensic laboratories of the Idaho State Police for the past fiscal year of 2009. The phrase "toxicology cases" is defined as those cases which have urine, blood or vitreous humor that are submitted to the laboratory for analysis, qualitatively and/or quantitatively for the presence of drugs and/or alcohol. This analysis falls under three major disciplines: blood alcohol (the level of alcohol in blood), blood toxicology (drugs in blood) and urine toxicology (drugs in urine).

These statistics were compiled from the Idaho Evidence Tracking System (IETS) which is used to log in and track all evidence submitted to the forensic laboratory system. The information in IETS regarding a case is taken directly from the Evidence Submission Form filled out by the agency officer and submitted simultaneously with the evidence to the laboratory.

Central Nervous System Depressants (CNS-Depressants), Central Nervous System Stimulants (CNS-Stimulants), and Carboxy-THC account for most of the positive toxicology results.

Carboxy-THC is an inactive metabolite of marijuana (MJ). Which means, after ingestion, the MJ is broken down in the body to a form that the body can eliminate as waste. There are many MJ metabolites and Carboxy-THC is one of them. Idaho State Police Forensic Service's (ISPFS) current methods for extracting MJ from the blood and urine will extract this metabolite. We have added an appendix to the report this year to help define terms and describe the drug categories and the drugs included in those categories.

Many prescription drugs are impairing and highly abused, which is why we see so many in DUI cases. Some of the most impairing drugs fall under CNS-Depressants drugs. CNS-Depressants drugs have many categories, such as anti-depressants, anti-anxiety, anti-histamines, barbiturates, narcotic analgesics and others. *Merriam-Webster Dictionary* defines a "narcotic as a drug that in moderate doses dulls the senses, relieves pain, and induces profound sleep but in excessive doses causes stupor, coma, or convulsions." An analgesic relives pain. Some of the most common found in our DUI cases are hydrocodone, methadone and oxycodone. The benzodiazepine class drugs are anti-anxiety or tranquilizers, the mostly commonly found in DUI cases are alprazolam, temazepam and lorazepam. One category that is not included in this report but will be in future reports is the inhalant category. We have just implemented a method for tracking the cases that have been positive for inhalants. We have a few every year and they usually are products of paint or air duster inhalation.

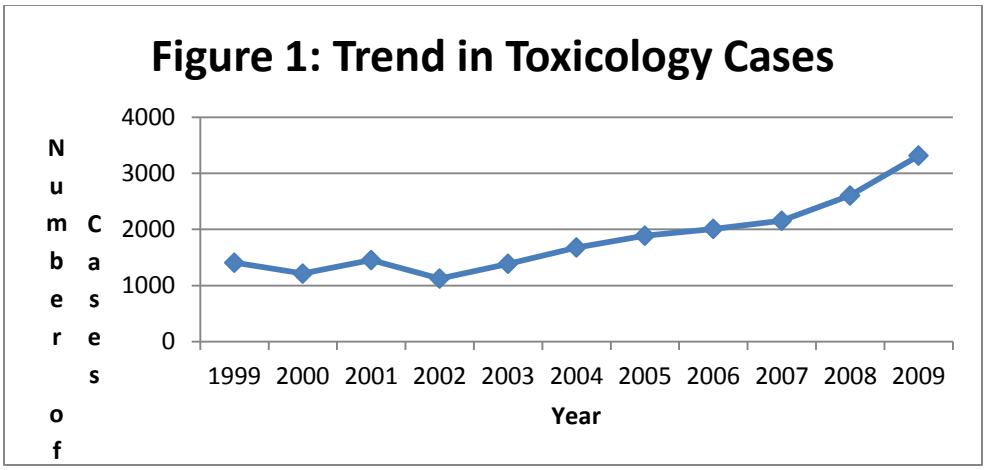
CNS-Stimulants drugs that are highly impairing, not usually in prescription form, are amphetamine, methamphetamine and cocaine. Amphetamine can be a prescription, but is most commonly seen as an active metabolite of methamphetamine. Methamphetamine will be reduced to amphetamine after ingestion and is excreted partly as amphetamine. Once broken down into amphetamine, the amphetamine acts as its own drug and produces stimulant effects as well as the methamphetamine, therefore it is an *active* metabolite. We have few cocaine positives, which do not necessarily mean it isn't being used. Cocaine is eliminated from the body very rapidly and if very much time has passed from ingestion to sample collection, it may not be detected.

One reason that drug combinations are listed in each of the drug toxicology categories is because drug combinations can cause *additive* or *synergistic* effects. Additive, for example, means 1+1=2. For example, the additive effects of hydrocodone used in conjunction with meprobamate, which means the impairing effects can be added to create two times the effects. An anti-depressant taken alone in therapeutic amounts (prescribed quantities) may not have any impairing effects, but taken in conjunction with other CNS-D's such as alcohol or other anti-depressants will then have additive effects. Synergistic effects is 1+1 may = more than 2.

Please note that a negative result in one discipline only reflects the testing in that discipline; the case may have had a positive result in another discipline. For example, a case may have had a negative result in blood alcohol, but a positive result for drugs in blood. If both blood alcohol and blood toxicology were requested for a case, a blood alcohol cutoff of 0.10g/100cc of blood or above is a flag to scientists that toxicology testing is not required. In special circumstances, such as suicide or possible overdose cases, the toxicology may still be analyzed even if the blood alcohol is above 0.10g/100cc of blood.

Toxicology cases accounted for 39% of all cases submitted to ISP Forensics this year. The laboratory system received 3,306 toxicology cases for FY 2009, that is 702 more than last year and 1,152 more toxicology cases than FY2007. Please see **Figure 1** for the comparison between years of submitted toxicology cases. While keeping in mind that some of these samples may be counted twice (a blood alcohol sample maybe sent in for blood toxicology), this is still a marked increase in sample counts.

Results in each of the three disciplines will be reported out in three categories and will be explained in greater detail in subsequent paragraphs.



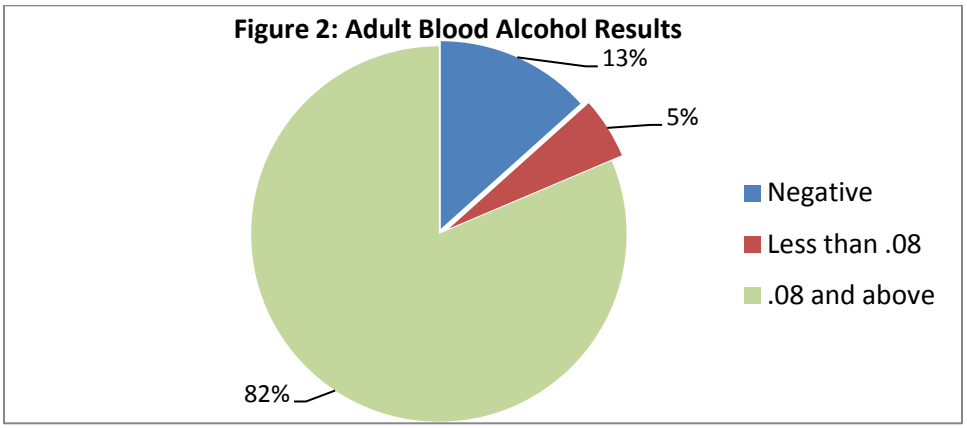
	Blood Toxicology	Blood Alcohol	Urine Toxicology	Total	Percent
DRE					
Adult	21	6	143	170	5.1%
Juvenile	3	1	17	21	0.6%
NJDT	0	1	5	6	0.2%
DUI					
Adult	394	1521	309	2224	67%
Juvenile	43	170	42	255	8.0%
Probation & Parole					
Adult	2	5	14	21	0.6%
Juvenile	0	0	9	9	0.3%
Other Criminal	65	96	150	311	9.4%
Auto Accident Fatalities	37	92	14	143	4.3%
Accident Victim Kits	21	26	0	47	1.4%
Death (non-homicide)	31	41	27	99	3.0%
Total:	617	1959	730	3306	100%

Blood Alcohol

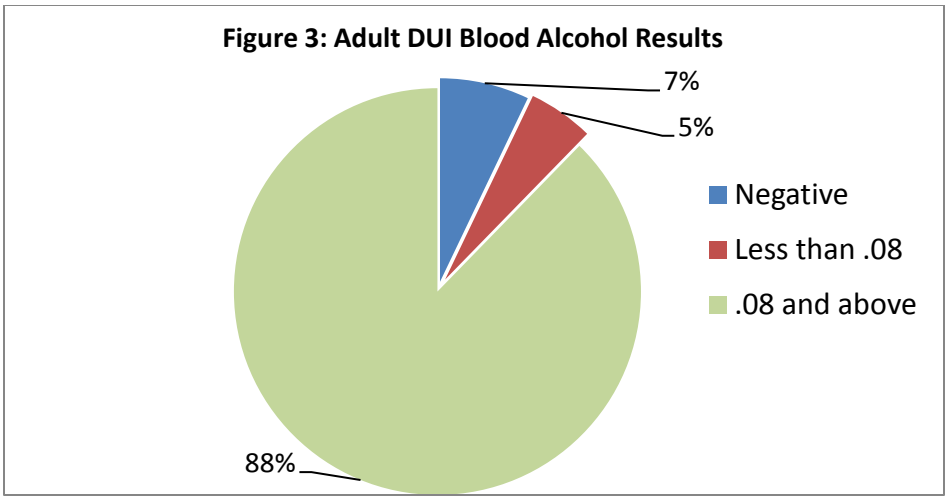
The blood alcohol results for adults will be discussed in this report in three levels: negative, less than 0.08 g/100cc of blood and 0.08 g/100cc of blood and above. Anything below 0.02g/100cc of blood is reported as negative. A visual representation of the results of blood alcohol levels in adults can be found in **Figure 2**. Negative samples were at 13% (with 234 samples processed). The second group – those less

than 0.08 – is at 5%, (with 92 samples processed). The last level is samples at 0.08 g/100cc of blood and above and is the largest percentage – 82% (1,425 samples processed). The biggest difference from FY2008 is an increase in overall samples processed 454 more samples in FY2009.

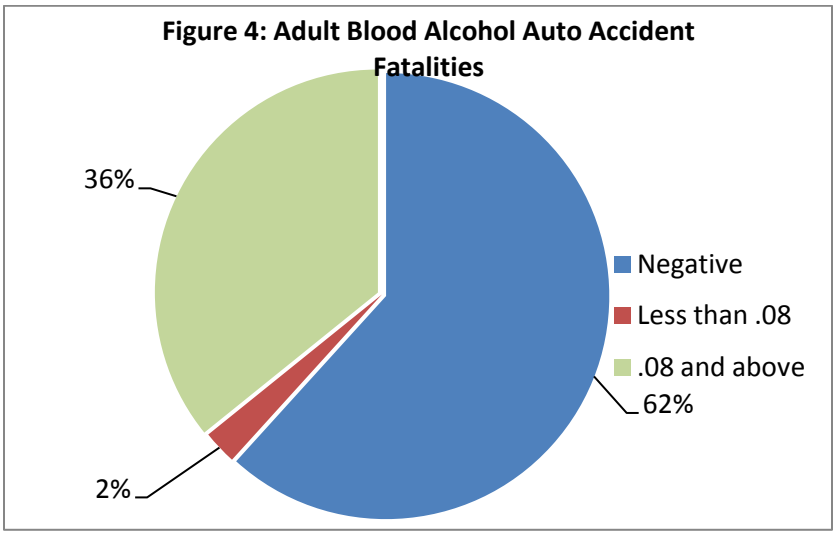
Forty-one samples from death investigations that are non-homicide were submitted this fiscal year, down from last year when ninety-nine were submitted. This number was adjusted this year when it was realized some samples were being coded into the system differently from lab to lab. Due to this error, the number from last year may also have included some of these samples. Therefore it will be difficult to perform an accurate comparison until next year. Thirty-two were negative. There were no samples submitted below a 0.08g/100cc blood, and nine were at or above 0.08g/100cc blood. The other criminal cases (such as rape, assault, homicide) category had 96 samples submitted, up slightly from last year's 92. The results for this year found 36 samples at negative, 12 samples below a 0.08g/100cc blood, and 43 samples at or above 0.08g/100cc blood.



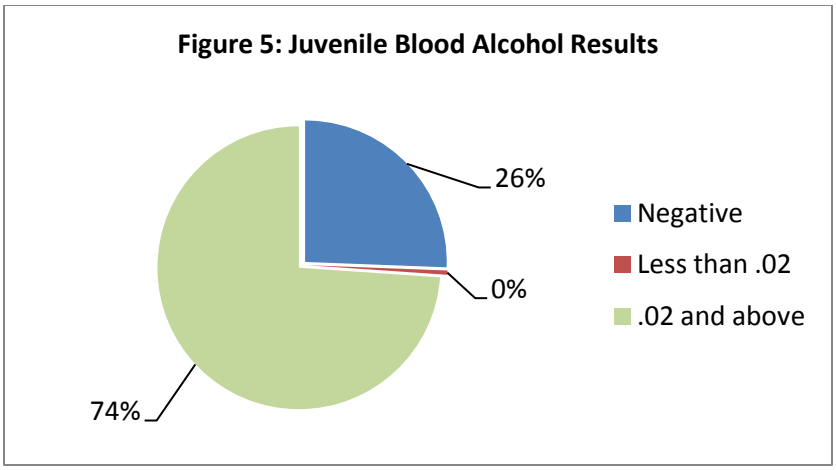
Breaking down the adult category further to examine just DUI offenses, there was a dramatic increase again this year. From 2007 to 2008, the sample count jumped by 367 cases. From 2008 to 2009, the sample count increased by 467. This effect is most likely still due to the State vs. Diaz and State vs. DeWitt Court of Appeals rulings that have upheld "forcible blood draws". The total of adult DUI samples submitted this year 1521, with negative results on 108 samples, less than 0.08 g/100cc of blood on 79 samples, and 0.08 g/100cc of blood or above on 1334 samples. These results are plotted in **Figure 3**.



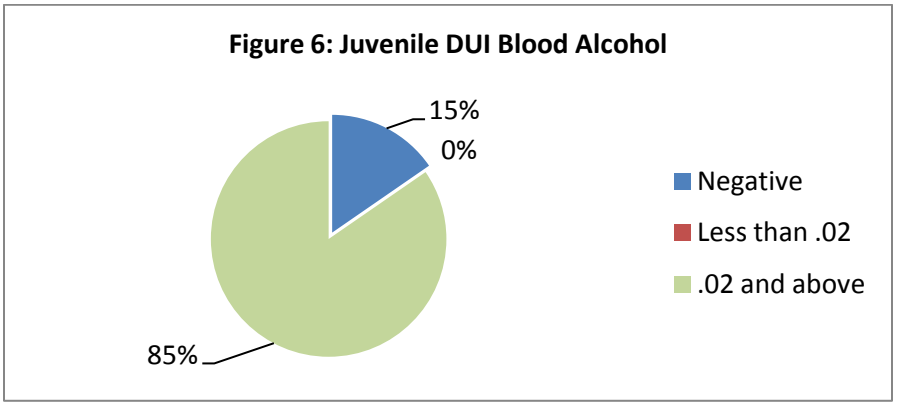
Further breaking down the adult blood alcohol category to look only at auto accident fatality shows it also remained stable compared to last year. Sixty-two percent of the samples were negative (50 samples), two percent less than 0.08 g/100cc blood (2 samples), and thirty-six percent (29 samples) at 0.08 g/100cc blood or higher. Again compared to last year's results of 66% [with 45 samples], 4% [with 3 samples], and 30% [with 21 samples] respectively), the only difference appears to be the higher volume of samples received. Shown in **Figure 4**.



Following the trend begun last year, blood alcohol results for juveniles will also be reported in three levels, although the cutoff will be at 0.02 g/100cc of blood rather than 0.08 g/100cc of blood. The results found in **Figure 5** show negative at 26% (53 sample), less than 0.02 g/100cc at 0% (1 sample), and 0.02 g/100cc and above at 74% (153 samples). As with the adult samples, this is stable compared to last year's results of 32% (with 31 samples), 1% (with 1 sample) and 67% (with 64 samples) respectively.



The DUI portion of the juvenile blood alcohol results show a total of 170 samples submitted and are displayed in **Figure 6**. Like the adult category, this was also a striking increase from the previous year. However, unlike the adults, this was not reflected over all three years. From 2007 to 2008 there was actually a decrease of samples, from 82 to 59, but from 2008 to this year the number increased from 59 to 169. Twenty-six of them were negative, none were below 0.02 g/100cc of blood and 143 were at 0.02 g/100cc of blood or higher.



Next, we will look at juvenile blood alcohol results in auto accident fatalities. Negative was the highest category this year with 100% (10 samples). There were no samples at less than 0.02 g/100 cc blood, or at that of 0.02 and above. This is different compared to last year, when the negative results were at 40% (6 cases) and the 0.02 results were at 60% (9 samples). The difference here may be due to the number of cases submitted (we had more last year in this category than this year). However, as this is only the second year of reporting the results out at this cutoff, it is prudent to observe the trend for several more years before making a judgment on the relevance of the data.

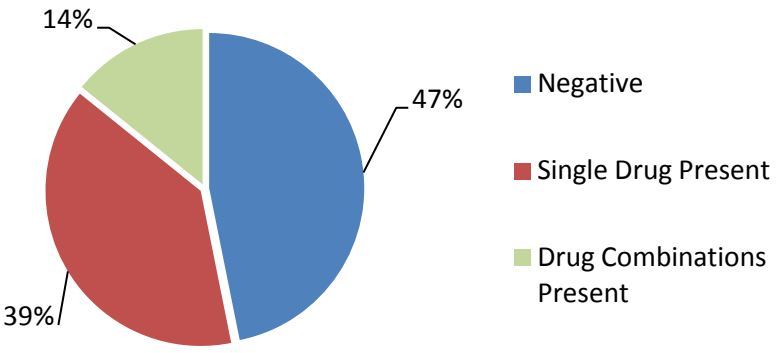
DRE samples were also up this year from last, with a total of seven cases (6 adult and 1 juvenile). The juvenile sample was negative, while the adult samples showed two negative and all others at above 0.08g/100cc blood. Probation and parole samples remained exactly the same as the previous year, five; with the results shown as two below a 0.08g/100cc blood, and three at or above 0.08g/100cc blood.

Blood Toxicology

As in past years, the Idaho State Police Forensic Services Toxicology discipline policy states that samples with a result over a set amount of blood alcohol, currently 0.10g/100cc of blood, will not be retained to be tested for drugs in blood unless there is /are extenuating circumstances. In the past, this "cutoff" amount was at 0.12g/100cc of blood. However, this year that was changed to 0.10g/100cc of blood. There will consequently be a greater number of cases showing as not analyzed this year.

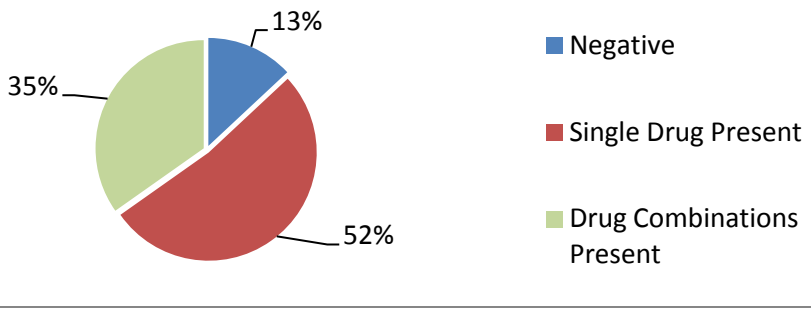
The total results for adults overall in blood toxicology are show in **Figure 7**. As with last year and as we will see with the DUI category, the most popular single drug and drug combinations involved CNS-Depressants and a CNS-Depressant with a narcotic analgesic, respectively. The actual breakdown shows 47% were negative, 34% were positive for a single drug and 14% were positive for a drug combination.

Figure 7: Total Adult Blood Toxicology



The blood toxicology discipline showed a rise in DRE submissions this year, though it is unclear as to whether the laboratory system had an actual increase in DRE samples – or if the scientists' efforts to get officers to submit their DRE forms is working, and cases that normally would not have been noted in the past are now listed as such. In either case, toxicology samples marked as DRE have increased from eight last year to twenty-three this year. The most common result being single drugs again this year at 52% (compared to last years' 75%), and second was the drug combination at 35% (again, like last years' at 35%). The final category was samples with a negative result at 13% (up from last years' result of 0). Please see **Figure 8**.

Figure 8: Adult DRE Blood Toxicology Samples

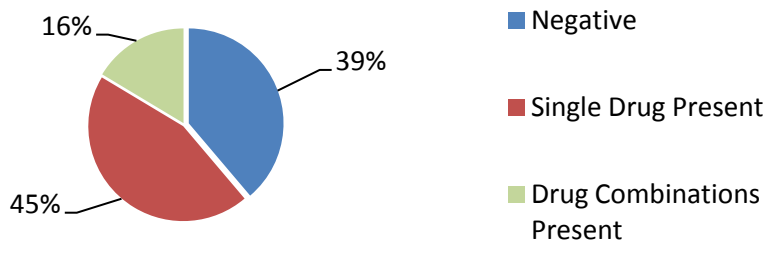


To break down the blood toxicology adult results into just the DUI category, please see **Figure 9**. The single drug category was the category with the most samples, at 45% (112 samples), followed by the negative category at 39% (97 samples) and last was the drug combination category at 16% (41 samples). Last year negative was the highest category, but the year before that the single drug category was the highest. So a slight fluctuation is seen in this category. Again this year however, the most common drug class found in the single drug category was CNS-Depressant. Also again, as with last year, the most common drug combination was a CNS-Depressant coupled with a narcotic analgesic.

In the DUI and DRE DUI category combined there were 60 positive for carboxy-THC, the most prominent CNS-Stimulants were methamphetamine (22) and amphetamine (20). CNS-Depressants accounting for most of the positive DUI results were varied between drugs, the most prevalent were as follows: benzodiazepines (45), diazepam (20) being the highest in the class, narcotic analgesics (40) with hydrocodone, oxycodone, and tramadol having 10 positive results each.

Many of the drug combinations included a benzodiazepine with a narcotic analgesic. One of the most interesting pairings was that of the prescription sleep aid zolpidem (18) in combination with an over the counter sleep aid diphenhydramine (8) where 6 of the 8 positives for diphenhydramine were combined with zolpidem.

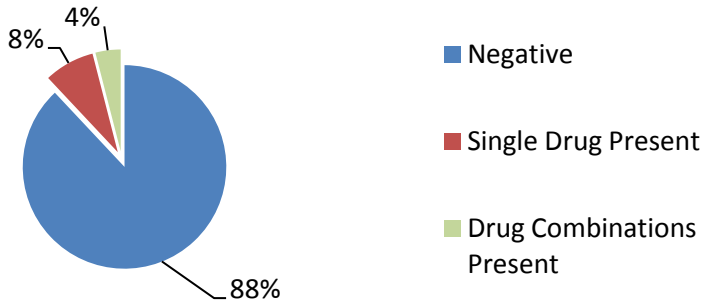
Figure 9: Adult DUI Blood Toxicology



Samples submitted from auto accident fatalities remained stable, with only one extra sample submitted this year. As with last year, the most common result was negative at 88% (compared to last year at 75%). The next most common result (at 8%) was single drugs, followed by drug combinations (at 4%),

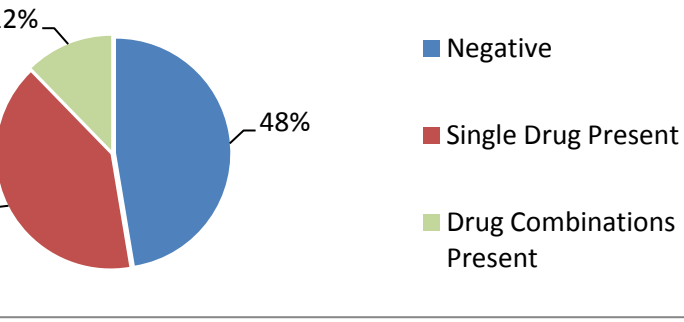
which is also similar to last year (17% and 9%). Please see **Figure 10**. The most common single drug found this year was CNS-Depressant, and the drug combination was carboxy-THC and a CNS-Depressant (carboxy-THC and alprazolam). There were two probation and parole samples submitted for adults in this discipline category this year. They were both negative.

Figure 10: Adult Auto Accident Fatalities, Blood Toxicology



The total number of juvenile samples submitted for the blood toxicology discipline was 72, 15 of which were not analyzed due to the alcohol level that was reported. For those that were analyzed, samples with a negative result were most common at 48% (27 samples). Next most common were those that had a single drug present, at 40% (23 samples), and last were those samples that had a combination of drugs present at 12% of the sample set (or 7 samples). The most common single drug was carboxy-THC, the most common drug combination was a tie between carboxy-THC and a CNS-Depressant, and carboxy-THC with a CNS-Depressant and a narcotic analgesic. This year the negative category only had four more samples than the single drug category, compared to last year where the single drug category had the lead. However, last year the single drug category was only leading by one sample. The three years previous to that (2005, 2006 and 2007), the negative category was the category with the most results. So overall, the juvenile category for blood toxicology cases has remained a fairly stable sample set. Please see **Figure 11**.

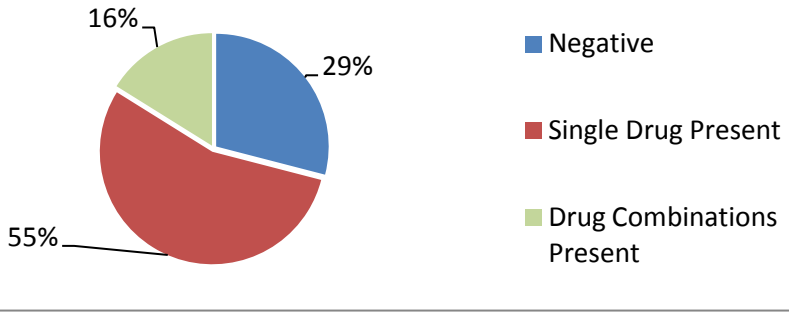
Figure 11: Total Juvenile Samples Blood Toxicology



There were two samples submitted under the category of DRE for juveniles in the blood toxicology discipline. Interestingly, both samples came from the same suspect, but were submitted from different agencies for different arrest dates. The samples were positive for a combination of carboxy-THC and a narcotic analgesic and a CNS-Depressant (carboxy-THC, oxycodone and citalopram).

To break down the results for the juveniles further, the DUI category had a total of forty-two cases submitted. The most common result category was that with a single drug present (most commonly carboxy-THC) at 55% (14 cases). The next most common result was negative at 29% (9 cases) and last was drug combinations at 16% (five cases). See **Figure 12**.

Figure 12: Juvenile DUI Blood Toxicology



There were no NJDT samples submitted for juveniles in the blood toxicology category for this past fiscal year. Auto accident fatality results for the juvenile blood toxicology set were all negative, as was the case last year. This year only saw a one case increase over last year (from five cases to six) so this category remained stable. There were no probation and parole samples submitted for juveniles in the blood toxicology category for this past fiscal year.

Urine Toxicology

As in the past, results for this and other urine discussions will be reported in groupings of those who had a negative result, a result of a single drug category (such as just CNS-Stimulants or Depressants) and those with a result of multiple drug categories (such as those that had a combination of stimulants and depressants, or carboxy-THC paired with a narcotic analgesic).

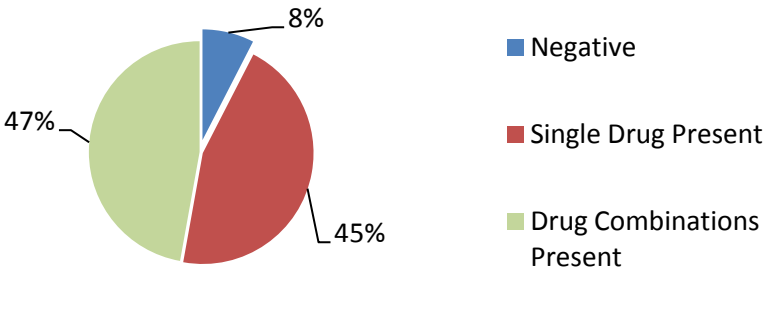
This year we counted all the drugs found in the DUI cases including the DRE DUI cases in both the juvenile and adult categories. There were 452 samples submitted for Adult DUI in the urine toxicology category. Of the 452 samples 390 tested positive. A total 137 of those samples contained Carboxy-THC. Carboxy-THC was the drug found most often in the single drug category. For the CNS- Depressants drugs the most commonly found drugs were prescription, in the narcotic analgesic category, hydrocodone was the most prevalent with 72 samples testing positive, followed by methadone and oxycodone with just over 30 testing positive for each. Alprazolam, in the anti-anxiety category, was the most often found benzodiazepine with 37 testing positive. It must be noted that the muscle relaxant carisoprodol had over 35 positive results in the samples and the prescription sleep aid zolpidem had 29 positive results. Carisoprodol is broken down into an active metabolite, meprobamate. These prescription drugs can be highly impairing. Carisoprodol is usually prescribed in conjunction with hydrocodone. For CNS-Stimulants, methamphetamine was positive in 74 cases and amphetamine in 77 cases. Amphetamine is a metabolite of methamphetamine so most of the methamphetamine cases will

be positive for amphetamine even though the subject did not take it separately. The prescription drug amphetamine (trade name Adderall) accounts for just a small fraction of the amphetamine positives.

For all 59 Juvenile DUI cases submitted for toxicology, 53 samples had positive results. 43 (72% of the samples submitted) of the positive results were carboxy-THC either alone or in combination to other drugs, 8 samples were positive for both amphetamine and methamphetamine. Some of the positive results included; narcotic analgesics, primarily hydrocodone; several benzodiazepines, the most prominent of which were alprazolam and temazepam at 2 each; and the CNS-Stimulant cocaine was found only once.

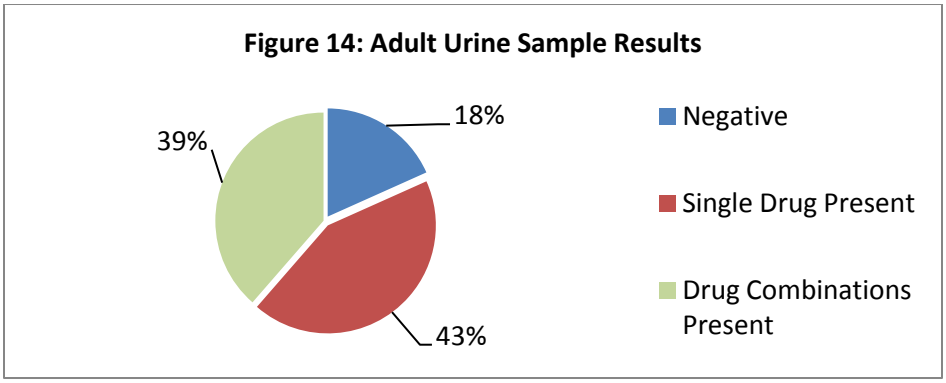
Overall, DRE submissions were stable compared to last year, with 159 samples submitted this year compared to 154 last year. These results can be seen in **Figure 13**. This year the biggest category was that which had multiple drug class combinations present, but only by a mere three cases. The results overall were: negative at 8% (or 12 samples), single drug class at 45% (or 72 samples), and finally the multiple drug class combination at 47% (or 75 samples). CNS-Depressants was the most commonly found single drug class compound this year (examples of which include alprazolam and zolpidem), followed by carboxy-THC, which is reversed from last year. However, CNS-Depressants were found in only two more samples than carboxy-THC so the result is negligible. For multiple drug class combinations, the combination with the most samples was the CNS-Depressant/narcotic analgesic pairing. Examples of this include hydrocodone and tramadol, and methadone and alprazolam.

Figure 13: Urine DRE Results

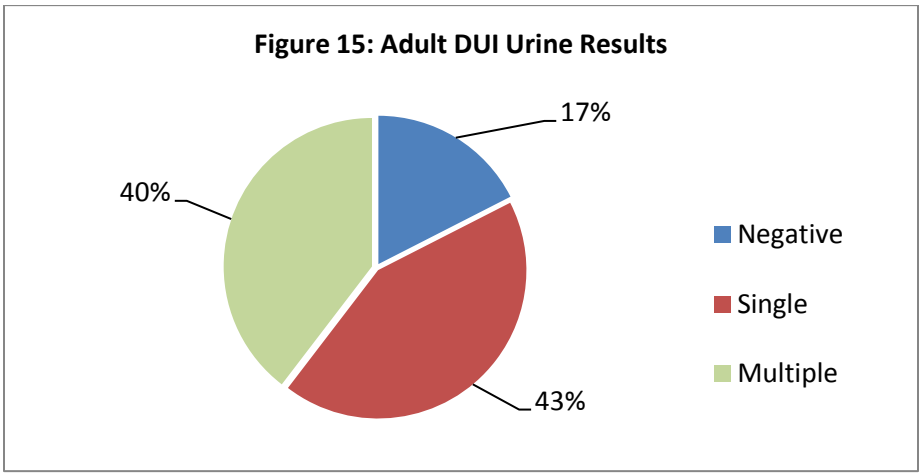


Looking at just the adults, a total of 611 samples were submitted for the entire urine toxicology discipline, which is a decrease again from last year. As with last year, the biggest result category was where a single drug was present, with carboxy-THC being the lead within that category. 259 of the total samples submitted were found to have only one type of drug class present, or 43%. Eighty-eight of those were positive for carboxy-THC, 86 of these samples had just a CNS-Depressant(s) found, 57 had a CNS-stimulant(s), and 28 had a narcotic analgesic(s). Examples of CNS-Depressants found in these results include zolpidem, trazodone, meprobamate, alprazalom and citalopram to name a few. Some examples of CNS-Stimulants are methamphetamine, amphetamine, cocaine and methylphenidate. Tramadol, hydrocodone and methadone would be examples of some of the narcotic analgesics found in this category. Two hundred thirty-two samples submitted in this section were found to have multiple drug categories present, or 39%. The most common multiple drug category was CNS-Depressant/narcotic analgesic, which is the same as last year. Examples of drug combinations in this category would be

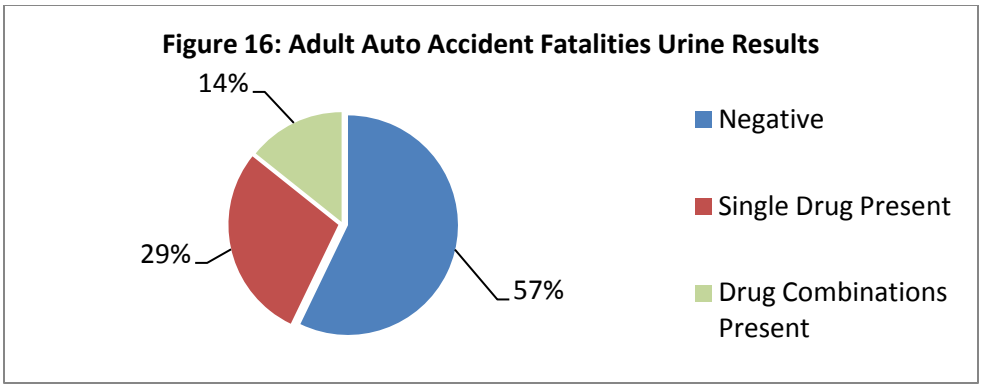
carisoprodol and hydrocodone. The remaining 110 samples, 18%, were negative. The results are shown in **Figure 14**.



To break down the urine results for adults a little further, there were 309 total in just the DUI category. Of these, 17% (53 samples) were negative, 43% (130 samples) were positive for a single drug class, and 40% (120 samples) were present for multiple drug classes. The single drug category was tied for the largest results with carboxy-THC and CNS-Depressants, both showing 46 cases. Examples of CNS-Depressants found in this category were citalopram, meprobamate, and alprazolam. Of those with multiple drug classes found, CNS-Depressant/narcotic analgesic once again was the category with the most positive results. Examples of some of these include meprobamate with hydrocodone, and lorazepam with tramadol. These results are found in **Figure 15**.

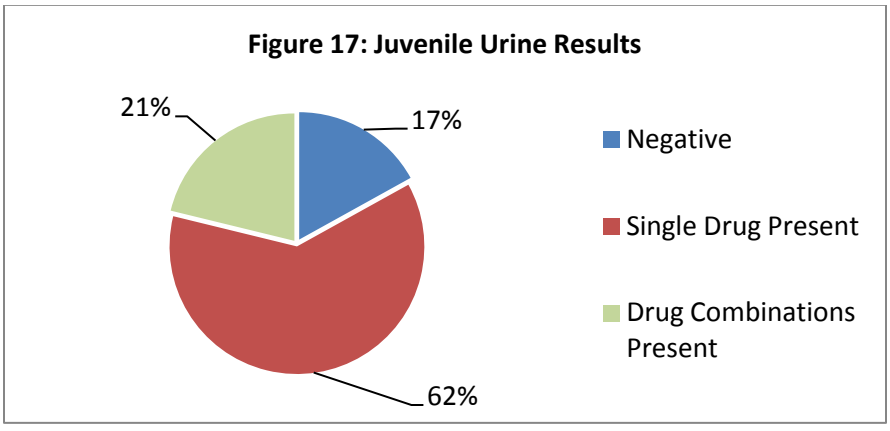


In the adult category, auto accident fatalities had fourteen samples submitted. This is down only slightly from last year's sample count of fifteen. These results are charted in **Figure 16**. Fifty-seven percent (or 8 samples) were negative, 29% (four cases) were found to have a single drug class present, and 14% (or 2 samples) were found to have multiple drug classes present. Carboxy-THC was tied with CNS-Depressant as the most commonly found drug in the single drug class category. For the multiple drug class categories, the CNS-Depressant/narcotic analgesic combination had many drugs present including hydrocodone and tramadol.



Probation and parole samples for adults decreased this year by two cases, with only fourteen samples submitted. Five of these samples were negative, five were positive for CNS-Stimulants; one was positive for carboxy-THC, one for a CNS-Depressant, one for a narcotic analgesic and one for a combination of a CNS-Stimulant and a narcotic analgesic.

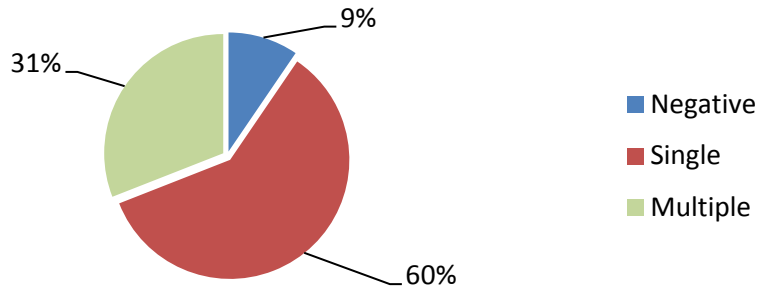
For juveniles, a total of 118 samples were submitted, a decrease from last year's 158 samples. However, like past years, the largest result group was that of the single drug present. Negatives only accounted for 17% (or 20 samples) of the total, the single drug grouping for 62% of the total (at 73 samples) and those with drug combinations for 21% (25 samples). These percentages can be found graphically in **Figure 17**. Looking at the result group where only a single drug class is present, this year as in all previous years since data has been collected, carboxy-THC is the result found most often. For the result category with drug combinations, the most commonly encountered drug class combination was carboxy-THC/CNS-Stimulants. Examples of results found in this grouping would be carboxy-THC and methamphetamine, or carboxy-THC and cocaine.



Breaking down the juvenile cases to look at DUIs, there were 42 cases submitted. **Figure 18** displays the percentages, which are 9% (or 4 samples) in negative results, 60% (or 25 samples) in single drug class results, and finally 31% (or 13 samples) in multiple drug class results. Carboxy-THC was the most common single drug found in this sample set. Carboxy-THC/CNS-Stimulant was the most common

combination found for the multiple drug class categories. Examples of this would be carboxy-THC and methamphetamine, or carboxy-THC and cocaine.

Figure 18: Juvenile DUI Results



There were five NJDT (Non -Random Juvenile Drug Testing) samples submitted to the lab system this year. As was the case with the previous three years, none of the samples were submitted directly from an Idaho school district. The agencies submitting NJDT samples were: Lewiston Police Department, Sandpoint Police Department, Lewis County Sheriff's Office, and finally, Ada County Sheriff's Office which submitted two samples. The ages on these samples ranged from 15 to 18 years old.

NJDT sample results being 20% negative, 40% showed a single drug and 40% showed drug combinations. Those in the single drug category had one sample positive for carboxy-THC and one sample positive for a CNS-Stimulant. In this particular sample, the stimulant found was methylphenidate. The two samples that had drug combinations present were first, carboxy-THC and the narcotic analgesics, methadone and hydrocodone; and second, a CNS-Depressant and a narcotic analgesic (the depressant being 7-aminoclonazepam and the narcotic analgesic being hydrocodone).

There were no auto accident fatalities to report in the juvenile category this year. This is a decrease from last year, in which there were three reported samples.

Probation and parole violations for juveniles had nine samples submitted, down from last year's number of 27 samples. Two of these nine samples were negative, one positive for a CNS-depressant, and six positive for carboxy-THC.

Summary

Toxicology cases continue to increase year after year. Over 3,300 cases in FY2009 were submitted for toxicology, an increase of more than 1,100 cases in FY2007. It is no surprise, then, that cases submitted for blood alcohol content increased by 454 samples.

Not only was there an increase in the samples submitted, but the samples testing 0.08g/100cc or higher also increased by 6%. The Court of Appeals ruling upholding forced blood draws continues to play a factor in the increase of blood samples submitted for testing in DUI Cases. In FY2008 we saw an increase of 367 cases, for FY2009 we increased another 467 cases to total 1521 DUI cases submitted for adult blood alcohol testing. Staying in the adult category, auto accident fatalities saw a 6% decrease in drivers that were 0.08g/100cc or over.

Samples submitted for blood toxicology increased; however, overall the percentages were close to last year as far as positive results. DRE submittals increased. The most common drug found in the samples was carboxy –THC, although drugs in the CNS-Depressant category were the highest percent of drugs found in single drug present and combined drugs present. CNS- Depressant covers a wide range of drugs and drug categories so the result is expected. The significant drugs in this category that were found were benzodiazepines, the highest being diazepam, and narcotic analgesics with the drugs hydrocodone, oxycodone and tramadol being found in equal amounts. Methamphetamine was the most prominent CNS-S found.

Juvenile blood alcohols increased from 59 samples in FY2008 to 171 in FY2009. There was a 7% increase in positive results at or above 0.02g/100cc of blood, 74% positive overall. Blood toxicology for juveniles found the most common single drug was carboxy-THC. It was also tied with CNS- Depressant in the combined drugs found. This is significant because the CNS- Depressant covers so many drugs that you would expect it to be the highest percentage as it is with adults. Therefore, carboxy-THC is the standout among juveniles.

Carboxy-THC being the standout drug in juveniles holds up when looking at the urine toxicology results as well. More than half the samples submitted that tested positive were positive for Carboxy-THC. In the combined drug category the most frequent occurrences were carboxy-THC combined with a CNS-Stimulant, most often methamphetamine. This is the opposite of the adult category that was positive for CNS-Depressant more often than stimulants.

The adult urine toxicology results also showed carboxy-THC as the highest single drug found, but CNS-Depressant led the way with the highest percentage overall. Alprazolam, carisoprodol and its metabolite meprobamate, and zolpidem were found in most cases of drug combinations, but the standout drug in this category was hydrocodone.

Carboxy-THC continues to be, year after year, the most commonly found drug of abuse. It is used alone or in combination with other drugs from every category. It is by far the most commonly used drug within the juvenile population.

One topic that has not been touched on is the abuse of over- the- counter cold and cough remedies, particularly in juveniles. These remedies include diphenhydramine, chlorpheniramine, and dextromethorphan, just to name a few. One reason it doesn't get much attention in this report, we do not see an overwhelming amount of positive results for these types of medications in adults or juveniles. Although we have certainly reported positive results, there are not enough to know if the use is abuse or to treat a cold.

We had projected that blood alcohol and toxicology cases would increase in 2009, and urine toxicology would decrease due to the Court of Appeals ruling. This held true and we believe it to be the same for FY2010, although the increases will probably not be as dramatic. Juvenile cases will continue to lead the way in the highest percentages of carboxy-THC results. CNS-Stimulants, methamphetamine specifically, will likely still be more commonly found than the depressants in the juvenile category.

According to *the Crime in Idaho report for 2008* there was a 4.2% increase in DUI arrests statewide. The DUI case increase we received for FY2009 would help support that number.

Overall, we expect the caseload in toxicology to continue to increase based on forced blood draws, more DRE trained officers, and rising population. The Idaho State Police Forensic Services toxicology section expects to be able to meet the demand for turnaround times, even with an increased workload.