2017 and 2018 Blood Lead Data Evaluation – Bunker Hill Mining and Metallurgical Complex Superfund Site

Final

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Acronyms and Abbreviations

Alta	Alta Science & Engineering, Inc.
ATSDR	Agency for Toxic Substances and Disease Registry
BHSS	Bunker Hill Mining and Metallurgical Complex Superfund Site
BLL	blood lead level
BPRP	Basin Property Remediation Program
CDC	Centers for Disease Control and Prevention
CERCLIS	Comprehensive Environmental Response, Compensation and Liability Information System
HEPA	high-efficiency particulate air (filter)
HHRA	Human Health Risk Assessment
HHRE	Human Health Remedial Evaluation
ICP	Institutional Controls Program
IDEQ	Idaho Department of Environmental Quality
LHIP	Lead Health Intervention Program
NAS	National Academy of Sciences
NPL	National Priorities List
NRC	National Research Council (of the NAS)
OU	Operable Unit
PHD	Panhandle Health District
RADER	Risk Assessment Data Evaluation Report
RAO	Remedial Action Objective
ROD	Record of Decision
USEPA	U.S. Environmental Protection Agency

Units

L	liter
mg/kg	milligrams per kilogram
µg/dL	micrograms per deciliter

Section 1 Introduction

The Lead Health Intervention Program (LHIP) has offered annual blood lead screening as a public health service to children in the Bunker Hill Mining and Metallurgical Complex Superfund Site (BHSS) since 1985 in the Box and 1996 in the Basin. In recent years, the screening was offered in early to mid-July; however, in 2017 and 2018 the screening was held in the middle of August. The 2017 results showed that a notably higher percentage of children exhibited elevated blood lead levels (BLLs; greater than 5 or 10 micrograms per deciliter [µg/dL]) compared to prior years. In addition, certain Box communities exceeded the Remedial Action Objective (RAO) of less than 5% of children with a BLL of 10 µg/dL or greater. The 2018 results dropped to near 2008-2009 levels.

Since 2017, Panhandle Health District (PHD), Idaho Department of Environmental Quality (IDEQ), U.S. Environmental Protection Agency (USEPA), and Alta Science & Engineering, Inc. (Alta) have discussed potential factors impacting blood lead data, including the schedule change. The questionnaire information gathered by the LHIP contains data about factors that could impact elevated BLLs in resident children of the BHSS. The agencies subsequently completed a systematic review of the information gathered by the LHIP, along with the environmental data from the participants' homes. This report documents the results of the systematic review of potential factors that could impact BLLs, potential impacts on the 2017 and 2018 blood lead data, and recommendations for future screenings and blood lead data evaluations.

1.1 Purpose and Objectives

The primary purpose of this report is to document the exploratory evaluation of available blood lead data and associated questionnaire and environmental data. The objectives are to:

- Compare recent years' (2017 and 2018) blood lead data and participant cohort characteristics to prior years in order to better understand the potential inherent bias of those data in both the Basin and the Box;
- Evaluate environmental exposures to LHIP participants in both the Basin and Box;
- Investigate if any differences in risk co-factors exist between recent and prior years in the Basin, the Box, and Site-wide;
- Evaluate the timing of the annual LHIP blood lead screening, and compare climatic data to the frequency and types of recreational activities as reported by LHIP participants; and
- Provide recommendations for potential future actions.

1.2 Report Structure

This report is organized as follows:

Section 1 Introduction – introduces the purpose and objectives of this report, summarizes the report structure, and provides a concise summary of the site and lead health program.

Section 2 Data Evaluation – summarizes the evaluation of existing LHIP and environmental data.

Section 3 Conclusions and Recommendations – presents a summary and provides recommendations developed in coordination with federal and state agency representatives.

Section 4 References – includes all references cited in this report.

1.3 Background

The Coeur d'Alene River basin extends across Idaho from the Montana border on the east to the Washington border on the west. The BHSS is located in the Coeur d'Alene River basin, and was listed on the National Priorities List (NPL) in 1983. The NPL facility has been assigned Comprehensive Environmental Response, Compensation and Liability Information System (CERCLIS) identification number IDD048340921. The BHSS includes mining-contaminated areas in the Coeur d'Alene River corridor, adjacent floodplains, downstream water bodies, tributaries, and fill areas, as well as the 21-square-mile area referred to as the "Box" that surrounds the historic smelting operations at the Bunker Hill complex.

USEPA has identified three Operable Units (OU) within the BHSS: OU1, the populated areas of the Box; OU2, the non-populated areas of the Box; and OU3, or "the Basin", the areas of mining-related contamination outside the Box in the broader river basin. OU1 includes the cities of Kellogg, Wardner, Smelterville, and Pinehurst, and several smaller unincorporated areas (Figure 1). OU3 is divided into two sub-regions split by the Box—the Upper Basin and the Lower Basin—which are further divided into eight geographic areas: Burke/Ninemile, Kingston, Lower Basin, Mullan, Osburn, Side Gulches, Silverton, and Wallace (Figure 2). These geographic areas were originally delineated in the Human Health Risk Assessment (HHRA) (TerraGraphics et al., 2001) based on identified routes of potential human exposure, public use patterns, and the results of environmental lead health surveys in each area.

Comprehensive information about site history and sampling and cleanup activities can be found in the following documents: the OU1, OU2, and OU3 Records of Decision (RODs) (USEPA, 1991, 1992, 2002), the Risk Assessment Data Evaluation Report (RADER) (TerraGraphics, 1990), the HHRA (TerraGraphics et al., 2001), the Human Health Remedial Evaluation (HHRE) (TerraGraphics, 2004), the National Academy of Sciences (NAS) review of the Basin (NRC, 2005), and the 2015 Five-Year Review (USEPA, 2015).

1.4 Selected Remedy

The primary aim of the BHSS remediation is to reduce childhood lead exposures and absorption to meet national health criteria. In order to achieve the human health RAOs defined in the RODs (USEPA, 1991, 1992, 2002), the Selected Remedies focused on remediation of contaminated residential soils and subsequent reductions in house dust lead levels. In combination, these efforts were intended to reduce children's lead intake from mining-contaminated soils and dusts to sufficiently low levels to achieve acceptable blood lead levels. Cleanup of contaminated soils relies on creating a barrier between the contaminants and the residents, rather than complete removal of contaminated soils from yards. Yard soil cleanups are now complete in the Box and nearing completion in the Basin. As new development occurs, the RODs require that the Institutional Controls Program (ICP) guide the establishment of effective barriers in areas where lead concentrations exceed 1,000 mg/kg in surface soils.

The LHIP, administered by PHD, provides personal health and hygiene information to help reduce exposure to metals and is one of the ongoing actions to protect human health at the BHSS. Services include educational programs, health monitoring programs, yard soil and vacuum dust sample collection, a high-efficiency particulate air (HEPA) vacuum loan program, and home visits conducted by a public health professional to address potential lead exposures.

A brief history of the LHIP annual blood lead screenings and follow-up services is further discussed in sections 1.4.1 and 1.4.2, respectively.

1.4.1 Lead Health Intervention Program Annual Blood Lead Screening

Since 1985, the LHIP has served as a risk management strategy to minimize lead exposure through non-engineering means as the investigation and remedial action phases of the Superfund project continued. The LHIP is administered by PHD as a public health service and offers activities designed to reduce lead exposures through biological monitoring, follow-up, parental awareness, counseling, and education. The basic elements of the LHIP effort are as follows:

- Biological (annual fixed-site child blood lead testing) and dust lead monitoring
- Follow-up home visits for children with elevated blood lead levels
- Education and awareness programs for parents and children
- Vacuum loan program for cleaning residences

A detailed discussion of the historical context of the LHIP, including blood lead data and educational and awareness programs, is provided in the Overview of the Silver Valley Lead Health Intervention Program and the 2005 and 2010 Five-Year Reviews (PHD, 1999; USEPA, 2005, 2010).

Annual voluntary blood lead screening of children[1] and follow-up with those exhibiting high lead levels have been offered since 1985 in the Box and 1996 in the Basin. In the Box, a thorough door-to-door solicitation approach was conducted from 1985 to 2002 and again in 2013 in order to maximize the identification and monitoring of eligible children. In the Basin, the 1996 survey used the door-to-door solicitation approach employed in the Box. All other years utilized fixed-site voluntary blood draws.

To encourage participation, beginning in 1988, a monetary incentive was offered for each participating child, paid at the time of the blood draw. In the Box, this continued through 2002 and was reinstated in 2013 and from 2016 through the present in response to low participation rates. In the Basin, the monetary incentive has been offered since the inception of the blood lead screening.

Annual screening occurs in July or August. Prior to 2002, the LHIP screening for children in the Box occurred in July through August. In recent years, the Box and Basin LHIP screening was typically held in July only, with the exception of 2013 when it spanned July and August again. In 2017 and 2018, the Box and Basin LHIP screening occurred in August only. Participating families complete a questionnaire at the time of the door-to-door solicitation or at the time of the blood draw.

Venous blood lead screening was used from 1988 until 2002, when capillary blood lead testing was adopted. From 2002 through 2011, confirmatory venous samples were collected if a capillary result was greater than or equal to 8 µg/dL; in 2012 this threshold was lowered to 5 µg/dL in response to recommendations by the Centers for Disease Control and Prevention (CDC, 2012). Starting in 2017, new capillary blood testing equipment has been used, which has

[1] In the Box, blood lead samples were collected from children between 6 months and 9 years of age from 1988 through 2013 and from children between 6 months and 6 years of age since 2013. In the Basin, blood lead samples were collected from children between 6 months and 9 years of age from 1996 through 2000, and from children between 6 months and 6 years of age beginning in 2001.

a detection limit of <1.9 µg/dL (compared to a detection limit of <1.4 µg/dL in prior years). Both sets of testing equipment were used in 2017. Only the new equipment was used in 2018.

1.4.2 LHIP Follow-up Services

In response to the CDC recommendations[2], PHD began to offer follow-up services in 2012 to the parents of all children exhibiting a BLL of 5 µg/dL or greater (as opposed to 10 µg/dL or greater, which was used prior to 2012). Follow-up consists of a home visit by a public health professional who provides parents with counseling and written information on how to identify sources of lead and reduce their child's exposure. A home survey and questionnaire are completed, and educational materials and nutritional counseling are provided to the parents. The follow-up routinely includes these activities:

- A records search of environmental data collected from the residence.
- Sampling of soil, dust, paint, water, etc., as appropriate.
- Counseling regarding the avoidance of produce locally grown in potentially contaminated soil.
- Education regarding play activities, including those not associated with the primary residence.
- Evaluation of sources of exposure associated with parental occupations, hobbies, and other household activities.
- Evaluation of past or planned home remodeling activities.
- Recommendation for those without vacuum cleaners to use one of the high efficiency vacuums available for loan, free of charge, from PHD.

A follow-up blood screen is offered 3 to 4 months later, and the health professional recommends that the child's blood lead information be shared with the family physician and that the child participate in the next year's Screening Program.

Section 2 Data Evaluation

This section summarizes the data evaluation of the recent blood lead, LHIP, and environmental exposure data for the Box and the Basin, and includes a:

- review of the estimated participation rates in the annual LHIP,
- summary of recent blood lead data and elevated blood lead levels,
- discussion of the frequency of LHIP participation based on cohort characteristics and risk co-factors,
- discussion of soil and dust exposures,
- summary about timing of the annual blood lead screening, and
- discussion regarding potential impacts to the frequency and types of recreational activities due to climatic conditions.

[2] Beginning in 2012, the CDC recommended eliminating use of the term "blood lead level of concern," because evidence suggests that negative effects appear to be present at any blood lead level, and urged primary prevention of lead exposure CDC (2012). The CDC recommends the use of a reference value (currently 5 µg/dL) to identify children with elevated blood lead levels.

This evaluation focuses on the 2017 and 2018 data for both the Basin and the Box because in 2017, a notably higher percentage of children participating in the LHIP exhibited elevated blood lead levels compared to prior years (Figure 3 and Figure 4); however, it also includes historical data for context. In the Basin, data from 2009 through 2016 are included because by 2009, the Basin Property Remediation Program (BPRP) had been underway for several years and the majority of properties in many of the Basin communities had been remediated (as demonstrated by the notable reductions in geometric mean soil lead concentrations as of 2009-2010; shown in Figure 5). In addition, 2009 appeared to be the beginning of a potential upward trend in mean blood lead levels, particularly in the Lower Basin (Figure 6). In the Box, data from 2013 through 2016 are included. Between 2002 and 2013, very few children who lived within the Box boundaries participated in the LHIP, and 2013 was the first year with substantial participation in the Box since 2002 (TerraGraphics, 2015).

During each annual blood lead survey, a questionnaire is filled out for each participant at the time of the blood lead test. Questions relate to sociodemographic factors that are associated with increased blood lead levels, as well as potential risk co-factors and recreational habits that might affect children's exposure to lead at the BHSS. The questionnaires include multiple-choice and fill-in-the-blank questions to be answered by participants. The questions cover information about the participant, the home, and the family (including socioeconomic information, residents' habits, activities, and occupations). The questionnaire is periodically modified to include different questions, with recent additions in 2015 and 2017. Therefore, responses to certain questions are only available since 2015 or 2017. The questionnaire template used in 2017 and 2018 is included in Appendix A for reference.

As mentioned in Section 1.4.1, in 2017 and 2018, a new capillary blood testing equipment was put into use for the LHIP. The new equipment has a higher detection limit (<1.9 µg/dL) than the equipment used in previous years (<1.4 µg/dL). Both sets of testing equipment were used in 2017; however, only the new equipment was used in 2018. When a blood lead value is non-detect, the reporting limit is applied as the blood lead concentration for data summary and analysis. However, to avoid an artificial increase in mean blood lead concentrations due to the increase in detection limits in 2017, a blood lead value of 1.4 µg/dL is used for calculations when the reported value of a capillary blood lead test is below either of the reporting limits ("<1.9 µg/dL" or "<1.4 µg/dL"). When a confirmatory/venous sample result is available, the venous sample result is used for data summary purposes.

Recall and self-selection bias, both inherent in a questionnaire for a voluntary survey, can limit how the questionnaire data can be interpreted. Recall bias occurs when the respondent's memory affects their ability to accurately answer a question. Self-selection bias may occur with voluntary studies when participation rates are low. A participant's decision to participate could be related to traits that affect the survey. For example, individuals that are concerned about children's blood lead levels may be more likely to participate in the annual blood lead screening. Despite these potential biases, this evaluation has been conducted using these questionnaires to evaluate the annual cohort's sociodemographic characteristics, potential risk co-factors, and recreational habits that could influence blood lead results.

2.1 Estimated Participation Rates

This section updates the estimated number of resident children in the Basin and the Box and presents estimated LHIP blood lead survey participation rates in 2017 and 2018. Participation rates estimated in the past have been summarized in previous reports (TerraGraphics and IDEQ, 2010; USEPA, 2015; TerraGraphics, 2004; TerraGraphics, 2015).

The total number of children living in the Box and Basin was estimated using 2018 enrollment data from School Districts 392, 391, 393, and 274 and checked against 2010 census data. This approach is similar to the methodology employed in previous years (TerraGraphics et al., 2001; TerraGraphics, 2015; TerraGraphics and IDEQ, 2010) (see Appendix B for details). The estimated number of 0-6 year old children residing in the Basin and the Box in recent years is 493 and 330, respectively (Table 1).

Estimated LHIP participation rates in the Basin in 2017 and 2018 remain similar to past years, with 21% and 18% of the estimated child population participating, respectively (Table 1). Between 2% and 29% of the estimated Basin child population were tested each year from 1996 through 2014 (TerraGraphics and IDEQ, 2010; USEPA, 2015).

LHIP participation rates in the Box in 2017 and 2018 were higher than the Basin, with 38% and 43% of the estimated eligible population participating (Table 1).

In addition to estimating the resident population of children in the Box and Basin, the number of children participating in the LHIP for the first time was reviewed to identify whether this could have biased the 2017 blood lead data. Families or children that have previously participated in the LHIP may be more aware of how to reduce lead exposure, so a substantial increase in the number of first time participants could possibly result in higher blood lead levels. In 2017, approximately 63% of LHIP participants from the Basin and 69% of participants from the Box provided blood lead samples as part of the LHIP for the first time (Appendix B, Table 6). In 2018, approximately 47% of LHIP participants from the Basin and 45% of LHIP participants from the Box provided blood lead samples as part of the LHIP for the first time (Appendix B, Table 6). The percentage of participants providing blood lead samples for the first time was higher in 2017 than 2018; however, in the Box, 2013 and 2016 had an even higher percentage of children participating for the first time compared to 2017. In the Basin, the percentage of first time participants was within the range seen since 2009. Therefore, first time participation in the LHIP likely did not bias the 2017 blood lead data.

2.2 Basin Data

This section discusses current blood lead trends, discusses characteristics that could influence blood lead results, and evaluates potential exposure sources. The HHRA provides a thorough evaluation of blood lead levels from 1996 through 1999 (TerraGraphics et al., 2001). Basin blood lead levels from 1996 through 2005 are summarized in the 2005 Five-Year Review and the Final Coeur d'Alene Basin Blood Lead Absorption and Exposure Report (TerraGraphics, 2006; USEPA, 2005). Blood lead levels through 2009 are discussed in the 2010 Five-Year Review (USEPA, 2010), and blood lead levels from 2010 through 2014 are discussed in the 2015 Five Year Review (USEPA, 2015).

Throughout this report, geographic areas (as defined in the HHRA) were grouped into the following sub-regions:

- Upper Basin (Wallace, Mullan, Burke/Ninemile, Osburn, Silverton, and Side Gulches), and
- Lower Basin (includes both the Lower Basin and Kingston).

The data were grouped in this way because of the low numbers of LHIP participants from some Basin geographic areas. In addition, the HHRA noted that exposure profiles in the Basin may differ based on geographic area, with potentially more Lower Basin exposures occurring outside the immediate home environment relative to upper Basin exposures (TerraGraphics et al., 2001).

2.2.1 Blood Lead Levels

This section provides a brief summary of blood lead levels, focusing on recent data, and summarizes LHIP follow-up results.

2.2.1.1 Blood Lead Concentrations

Basin-wide geometric mean BLLs ranged from 2.0 to 3.5 µg/dL from 2009 to 2018 (Appendix C, Table 7). Geometric means and blood lead ranges in the Upper Basin were similar to the Lower Basin (Table 7).

Figure 6 graphically displays mean blood lead levels by sub-region for the Basin. Although mean blood lead levels appear to have slightly increased between 2009 and 2017, there is no clear trend based on a review of box plots. One apparent difference is that mean blood lead levels in 2018 appear to be substantially lower than 2017 (Figure 7; Figure 49 and Figure 50 in Appendix C present Box plots for Upper and Lower Basin sub-regions).

2.2.1.2 Occurrence of Elevated Blood Lead Levels

Figure 8 shows the percentages of Basin LHIP participants with BLLs ≥ 5 and 10 µg/dL. In 2017 there was a noticeable increase in the percentage of children with BLLs ≥ 10 µg/dL, which dropped in 2018 to levels previously observed in 2012. The percentage of children with BLLs ≥ 5 µg/dL follows a similar trend; the percentage rose slightly in 2016, spiked in 2017, and dropped in 2018.

Since 2009, the highest percentage of children with BLLs ≥ 5 and 10 µg/dL occurred in 2017 in both the Upper and Lower Basin (Figure 51 and Figure 52 in Appendix C).

2.2.1.3 LHIP Follow-up Summary

Few families accepted follow-up services in 2017 and 2018. In 2017, two families in the Basin (a total of four children with elevated blood lead levels) accepted follow-up services. One additional family whose child was identified with an elevated blood lead level by their family physician participated in an in-home consultation (PHD, 2018). In 2018, four Basin families (a total of four children) accepted follow-up services (PHD, 2019). The general findings for these families indicated that exposures were likely occurring from lead based paint, and material tracked home from occupation in the mining industry and/or from recreation activities. However, due to the limited number of families that accepted follow-up services, these findings may not be reflective of all families with high blood lead levels.

2.2.2 LHIP Participant Cohort Information

The sociodemographic data for each year's cohort were reviewed to understand potential inherent bias from biological, socioeconomic, and other factors that could influence blood lead levels. This section summarizes 2017 and 2018 participant data, and the supporting figures include data from prior years for contextual purposes.

For each factor that is evaluated (Figure 9 through Figure 16), participant responses are used to identify any notable changes in the overall make-up of the 2017 cohort compared to other years. If a notable change is observed in 2017 (e.g., an increase in the percentage of participating children who are younger than 2 years old), mean BLLs and the percentage of children with BLLs ≥ 5 µg/dL are further evaluated and discussed. No substantial change in the 2017 cohort's characteristic is discussed briefly. Supporting figures summarizing the blood lead data for all factors identified in this section are presented in the Figures section and Appendix C.

2.2.2.1 Biological and Socioeconomic Information

A number of biological and socioeconomic factors have been identified in previous studies to be associated with higher blood lead levels, including:

- Age: younger children (e.g., 1-2 year olds) are more likely to have higher blood lead levels compared to older children (Brody et al., 1994; CDC, 2018; Hattis, 1994; PHD et al., 1986; USEPA, 2018; Yankel et al., 1977)
- Gender: males are more likely to have higher blood lead levels compared to females (Brody et al., 1994; CDC, 2018; USEPA, 2018)
- Income: children from lower income homes are more likely to have higher blood lead levels compared to those from higher incomes (Brody et al., 1994; CDC, 1991, 1994, 2009; Hollingshead and Redlich, 1958; Lanphear et al., 1998; Lanphear and Roghmann, 1997; Meyer et al., 2003; TerraGraphics, 2004)
- Education: children of parents or guardians with less formal education are more likely to have higher blood lead levels compared to those of parents or guardians with more formal education (Brody et al., 1994; Hollingshead and Redlich, 1958; Lanphear et al., 1998; Lanphear and Roghmann, 1997; PHD et al., 1986; TerraGraphics, 2004)
- Residence ownership: children from families that rent their home are more likely to have higher blood lead levels compared to children from families who own their home (Clark et al., 1985; Lanphear and Roghmann, 1997; Meyer et al., 2003; Pirkle et al., 1998; TerraGraphics, 2004)

A review of biological and socioeconomic information from the LHIP questionnaire indicates that differences in these cohort characteristics did not result in biases that could explain the observed increase in elevated BLLs in 2017. The following factors are discussed in this section: age, gender, family income, parents' education, residence ownership, and Medicaid coverage information.

Age: Participation of 1 to 2 year olds was similar in 2017 and 2018 (Figure 9 A). A slightly higher percentage of 5 to 6 year olds and a slightly lower percentage of 3 to 4 years olds participated in 2017 compared to 2018. Mean BLLs appear to be similar between age groups in 2017. As expected, a lower percentage of older children has a BLL ≥ 5 µg/dL relative to younger age groups in 2017, but a similar increase in elevated BLLs was seen for 1-2 and 3-4 year olds, suggesting this increase can be attributed to something other than age (Figure 9 B and C). Therefore, the difference in the 2017 cohort's age likely did not bias the percentage of children with a BLL ≥ 5 µg/dL.

Gender: More males participated in blood lead screening in 2017 than in 2018 (Figure 10 A). However, mean blood lead levels appear to be similar across gender, and the percentage of males with a BLL ≥ 5 µg/dL is similar to the percentage of females with a BLL ≥ 5 µg/dL (Figure 10 B and C); therefore, it does not appear that the difference in participation by gender biases the percentage of children with a BLL ≥ 5 µg/dL in 2017.

Income: In 2017, a notably higher proportion of Basin LHIP participants were from homes with an annual gross income greater than $40,000 than in previous years and in 2018 (Figure 11 A). The mean blood lead level and percentage of children with BLLs ≥ 5 µg/dL for this income category is similar to or less than other categories (Figure 11 B and C). The mean blood lead levels increased in 2017 for all income categories except for one ($30,000-40,000), and the percentage of children with elevated blood lead levels increased in 2017 for all income categories except for one (< $10,000); therefore, the proportion of children from high income homes in the 2017 cohort likely did not bias the percentage of children with a BLL ≥ 5 µg/dL.

Medicaid Status: Approximately half of participants in 2017 and 2018 had Medicaid coverage, whereas from 2010 through 2016, the majority of participants had Medicaid coverage (Figure 12). Medicaid status did not substantially differ in 2017 compared to 2018 and likely did not bias the percentage of children with a BLL ≥ 5 µg/dL.

Education: Since 2009, most Basin LHIP participants came from homes where the highest year of education completed by the head of the household is high school, and there are no notable differences in participation by education category in 2017 or 2018 compared to prior years (Figure 12); therefore, education likely did not bias the percentage of children with a BLL ≥ 5 µg/dL in 2017.

Residence Ownership: The majority of participants typically come from homes that are owned, with the highest percentage of participants reporting that they own their home in 2017 and 2018 (Figure 14). Residence ownership did not substantially differ in 2017 compared to 2018 and therefore likely did not bias the percentage of children with a BLL ≥ 5 µg/dL.

2.2.2.2 Temporal and Spatial Factors

Additional information about where participants live (geographic area), the length of time (duration) that participants have lived at a residence, and whether participants are new to the area was also evaluated to identify if any notable differences occurred in 2017.

In summary, temporal and spatial factors are not associated with the increase in elevated BLLs seen in 2017.

Geographic Area: Participation by sub-region was similar in 2017 and 2018 to past years, with the majority of LHIP participants coming from the Upper Basin (Figure 15 A). 2017 mean blood lead levels were similar across sub-regions (Figure 15 B), with an observed decrease in 2018 with both sub-regions. In 2017, the percentage of children with a BLL ≥ 5 µg/dL increased in both sub-regions (Figure 15 C); therefore, where the 2017 participants live likely did not bias the blood lead results.

Duration at Residence: In 2017, the percentage of Basin LHIP participants residing at their homes for 1 to 5 years was consistent with prior years, but slightly higher than the percentage in 2018 (Figure 16 A). A similar percentage of participants lived at their homes for less than a year in 2017 and 2018 (Figure 16 A). There is no apparent difference in mean blood lead levels based on length of residence (Figure 16 B), and the percentage of children with a BLL ≥ 5 µg/dL increased in 2017 for all categories (Figure 16 C); the length of time residing at a home does not appear to bias the percentage of children with a BLL ≥ 5 µg/dL in 2017.

New Residents: Less than 6% of participants in 2017 and 2018 were considered new to the area (Appendix C, Table 8). A description of the method used to define participants new to the area is included in Appendix C. None of those children had a BLL ≥ 5 µg/dL; therefore, being new to the area does not appear to bias the percentage of children with a BLL ≥ 5 µg/dL in 2017.

2.2.3 Exposure Sources

LHIP participant exposures to lead in residential soil and house dust are discussed in this section. Although the selected remedy addresses residential soil and house dust, additional exposure sources remain in the BHSS, which are not evaluated in this report. These sources include non-remediated hillsides and recreational areas, interior dust reservoirs (i.e., attics, basements, and crawlspaces), and lead-based paint.

2.2.3.1 Lead in Residential Soils

Residential soil data collected from 1996 to 2017 and remedial progress in the Basin are described in detail in the HHRA (TerraGraphics et al., 2001), the 2005, 2010, and 2015 Five-Year Reviews (USEPA, 2005, 2010, 2015), and the 2016 and 2017 DSRs (CDA Trust, 2017, 2018). For the purposes of this evaluation, residential soil data from LHIP participants' homes are summarized and discussed in this section. Table 2 shows the remediation status for Basin LHIP participants from 2009 through 2018. Figures 17 and 18 present geometric mean soil concentrations for LHIP participants and geometric community means for each Basin sub-region. Figure 19 shows the distribution of mean soil concentration for LHIP participants by year.

In the Basin, lead concentrations in yard area soils are not assumed to be representative of soil lead concentrations for the entire property. This is because, for each property, yards and other discrete areas were sampled, and each sampled area was remediated based on its lead and arsenic results. This discrete remediation approach leaves a patchwork of soil areas with lead concentrations less than 100 mg/kg among other areas of non-remediated soil with lead concentrations ranging from 100 mg/kg to 999 mg/kg. This patchwork exists both within properties, due to the application of discrete remedies, and within communities, due to the spatial distribution of contaminant concentrations.

For this report, geometric mean property soil lead concentrations were calculated using previously developed methods (TerraGraphics, 2010).

Upper Basin LHIP participants' soil lead concentrations are similar to the community mean soil lead concentrations and have been less than 250 mg/kg since 2011 (Figure 17)[3]. Lower Basin LHIP participants' soil lead concentrations generally have been higher than community means; however, they have remained less than 200 mg/kg since 2009 and less than 150 mg/kg since 2015 (Figure 18).

All Basin LHIP participants have resided on properties with mean lead concentrations less than 1,000 mg/kg since 2011 (Figure 19). Since 2014, all LHIP participants have resided on no action or remediated properties, except for three children from refusal properties and one child from a property where there is no soil to sample (Table 2).

Based on this evaluation, property soil lead concentration does not appear to explain the increase in elevated blood lead levels observed in 2017. Due to its limited scope, this evaluation focused on mean property soil lead concentrations only and did not review specific lead concentrations in discrete areas. As previously discussed, discrete areas with soil lead concentrations higher than the mean property concentration may exist on remediated or no action properties. It is possible that if a child plays regularly or exclusively in those areas with higher soil concentrations, property soil lead concentrations could be a factor in elevated blood lead levels.

2.2.3.2 Lead in House Dust

Residential dust data collected from 1996 to 2017 are described in detail in the HHRA (TerraGraphics et al., 2001), the 2005, 2010, and 2015 Five-Year Reviews (USEPA, 2005, 2010, 2015), and the 2015 and 2017 DSRs (CDA Trust, 2018; TerraGraphics, 2016). For the purposes of this evaluation, house dust data for LHIP participants are summarized and discussed in this section. Figures 20 and 21 show mean lead concentrations for LHIP participants and community mean lead concentrations for vacuums and dust mats collected in

[3] The Upper Basin Community Mean displayed is the average of the six geometric community means.

the Upper Basin. Figures 22 and 23 show the distribution of vacuum and mat lead concentration for LHIP participants by year.

House dust lead concentrations from home vacuum cleaner bags and carpeted floor mats have been collected in the Basin beginning in 1996. The carpeted floor mat technique was first used at BHSS homes in the 1996 Coeur d'Alene River Basin Environmental Health Exposure Assessment (IDHW, 2000), and has since been applied in the Basin in 1998, 1999, 2004-2011, 2013, 2015, 2017, and 2018. The dust data from 2018 were not finalized at the time of this report and are not included in this evaluation.

In recent years, dust sampling efforts have targeted Upper Basin homes. Dust samples from homes in the Lower Basin have been limited to opportunistic vacuum samples collected through the BPRP and targeted sampling of homes where a child participated in the LHIP (typically five homes or less per year). From 2009 through 2017, the number of paired vacuum dust and blood lead results for the Lower Basin is less than 10 per year, and the number of paired mat dust and blood lead results is less than 13 per year. Due to the limited numbers in the Lower Basin, those data are not discussed.

Since 2009, Upper Basin LHIP participant dust lead concentrations have been similar to or slightly lower than community mean lead concentrations. Mean LHIP participant dust concentrations have been less than 250 mg/kg lead (for vacuum samples) and 300 mg/kg lead (for mat samples) (Figure 20 and Figure 21); however, there have been individual LHIP participants with either vacuum or mat dust lead concentrations greater than or equal to 1,000 mg/kg lead (Figure 22 and Figure 23).

In 2017, all 16 LHIP participants with vacuum sample results had dust concentrations less than 400 mg/kg lead and 79% of LHIP participants with dust mat results had lead concentrations less than or equal to 200 mg/kg. No vacuum or mat sample results collected from the homes of LHIP participants in 2017 had dust concentrations greater than 1,000 mg/kg.

Based on these data, it appears that the majority of LHIP homes sampled in 2017 had low dust concentrations and therefore, elevated lead levels in dust are likely not a contributing factor to the increase in elevated BLLs seen in 2017.

2.3 Box Data

This section discusses current blood lead trends, discusses cohort characteristics that could influence blood lead results, and evaluates potential exposure sources in the Box. The HHRE (TerraGraphics, 2004) and the Five Year Reviews (USEPA, 2005, 2010, 2015) provide a thorough discussion of blood lead levels and the prevalence of high blood lead levels through 2014.

2.3.1 Blood Lead Levels

This section provides a brief summary of Box BLLs and prevalence of elevated blood lead levels, focusing on recent data, and summarizes LHIP follow-up results.

2.3.1.1 Blood Lead Concentrations

Box-wide geometric mean BLLs ranged from 2.2 µg/dL to 3.0 µg/dL from 2013 to 2018 (Appendix D, Table 9). Geometric means and blood lead ranges differed by city area (Appendix D, Table 9), with no consistent trend.

Similar to the Basin, there is no apparent trend in mean blood lead levels in the Box based on a review of box plots (Figure 24). Box plots for Kellogg, Pinehurst, and Smelterville are included in Appendix D; Page and Wardner have too few samples to assess trends.

2.3.1.2 Occurrence of Elevated Blood Lead Levels

In 2017, 17 children (14%) had BLLs ≥ 5 µg/dL, 5 children (4%) had BLLs ≥ 10 µg/dL, and none had BLLs ≥ 15 µg/dL. In 2018, 13 children (9%) had BLLs ≥ 5 µg/dL, 3 children (2%) had BLLs ≥ 10 µg/dL, and none had BLLs ≥ 15 µg/dL.

The human health RAOs for the Populated Areas, defined in the OU1 ROD (USEPA 1991), are to reduce the incidence of elevated blood lead levels such that:

- no more than 5% of children in the community would have a blood lead level of 10 µg/dL or greater, and
- less than 1% of children exceed 15 µg/dL lead.

In 2017 and 2018, certain communities did not meet the RAO about BLLs ≥ 10 µg/dL. In 2017, 10% of children in Wardner, and in 2018, 7% of children in Smelterville had a BLL of 10 µg/dL or greater. Although the RAO was not met, the overall number of participating children exceeding 10 µg/dL remained low (1 child in Wardner in 2017 and 2 children in Smelterville in 2018).

Figure 25 shows the percentages of Box LHIP participants with BLLs ≥ 5 and 10 µg/dL. Similar to the Basin, 2017 had the highest percentage of children with BLLs ≥ 5 and 10 µg/dL from 2013 through 2018.

2.3.1.3 LHIP Follow-up Summary

Few families in the Box accepted follow-up services in 2017 and 2018. In 2017, three families in the Box (with a total of 3 children with elevated blood lead levels) accepted follow-up services (PHD, 2018). One additional family whose child was identified with an elevated blood lead level by their family physician participated in an in-home consultation (PHD, 2018). In 2018, two Box families (with a total of two children) accepted follow-up services (PHD, 2019). The general findings for these families indicated exposures may be occurring from a variety of sources, including parents' occupation, antique jewelry, lead-based paint, and contaminated soils in areas that had previously not been remediated (due to one property being a refusal, a planter box that was removed, and an area where the remedial cap was disturbed during work that occurred prior to the ICP). Due to the limited number of families that accepted follow-up services, these findings cannot be applied to all families with high blood lead levels.

2.3.2 LHIP Participant Cohort Information

As described in Section 2.2.2, available sociodemographic data were reviewed to understand potential bias that could influence blood lead results. A review of biological, socioeconomic, and geographical cohort information indicates that differences in these factors did not result in biases that could explain the observed increase in elevated BLLs in 2017. The following factors are summarized in this section: age, gender, family income, parents' education, residence ownership, and Medicaid coverage, city areas where participants live, length of time that participants have lived at a residence, and whether participants are new to the area (see Figure 26 through Figure 33).

The method for evaluating each factor is described in Section 2.2.2. This section summarizes 2017 and 2018 participant data, and includes data from previous years starting in 2013 in the

supporting figures; however, 2014 and 2015 data are not displayed or discussed due to low participation (N<10). Additional supporting figures are presented in Appendix D.

This evaluation defines the following city areas due to low numbers of participants in Wardner and Page:

- Kellogg – includes Wardner
- Pinehurst – includes Page
- Smelterville

Income: Participation based on family income varied in 2017 and 2018 (Figure 26). Relative to 2018, a higher percentage of participants in 2017 did not report their income, and lower percentages were from homes where gross annual income is between $20,000 and $30,000 or greater than $40,000. Mean blood lead levels in 2017 and 2018 appear to be similar across all income categories (Figure 26). The percentage of participants with a BLL ≥ 5 µg/dL was also similar in those income categories where participation rates differed from previous years (those who did not report their income or came from homes with gross annual income of $20,000 to $30,000 or > $40,000; Figure 26 C). Therefore, the 2017 cohort's income likely did not bias the percentage of children with a BLL ≥ 5 µg/dL.

Participation based on **age, gender, parents' education, residence ownership,** and **Medicaid coverage** were similar in 2017 and 2018 (Figures 27-31). In recent years, 1-2 year olds have participated more than older children, and approximately half of Box LHIP participants have been female. The majority of Box LHIP participants came from homes where the highest year of education completed by the head of the household was high school, and the family lived in a rented home and had Medicaid coverage.

Almost 60% of participants lived in Kellogg since 2013 (Figure 32). In 2017 and 2018, the length of time that participants lived in the same residences was similar (Figure 33). Compared to recent prior years, LHIP participants did not move as frequently, and the percentage of participants residing at their homes for 1 to 5 years increased in 2017 and 2018, while the percentage of participants residing at their homes for less than a year decreased. Less than 5% of participants in 2017 and 2018 were considered new to the area (Appendix D, Table 10).

2.3.3 Exposure Sources

Residential soil data and remedial actions in the Box are described in detail in the HHRE (TerraGraphics, 2004), and the 2005, 2010, and 2015 Five-Year Reviews (USEPA, 2005, 2010, 2015).

Vacuum and dust mat samples were routinely collected in the Box, and have been collected every five years since 2008. The most recent dust sampling efforts in the Box occurred in 2013 and 2018. Dust data through and including 2013 were evaluated in the house dust and blood lead report (TerraGraphics, 2015) and summarized in the 2015 Five Year Review (USEPA, 2015). Dust data collected in 2018 were not finalized prior to this report, and consequently, dust exposure of Box LHIP participants is not evaluated.

Table 3 shows the property remediation status for Box LHIP participants from 2013 through 2018. Figure 34 shows mean yard soil concentrations for LHIP participants and community means for each Box city area. Figure 35 shows the distribution of yard soil concentrations for LHIP participants by year.

In the Box, if a yard required remediation, the entire property was remediated. In order to summarize LHIP participant soil exposures, it was assumed that each residential property's yard

soil lead concentration represented the entire property. If a yard was remediated, it was given a clean soil concentration of 100 mg/kg lead and the yard results were used as the residential soil exposure index for that home. Homes with yard soils less than 1,000 mg/kg lead retained that value and were used as the residential soil exposure index for that home. In order to estimate community mean soil concentrations, the yard soil variable was aggregated for all the homes in each Box community.

LHIP participant yard soil lead concentrations are lower than community means in Pinehurst and Smelterville, similar to the community mean in Kellogg, and have been less than 200 mg/kg lead since 2013 (Figure 34). Since 2014, all Box LHIP participants have resided on no action or remediated properties, or properties that were developed under the ICP (Table 3). All Box LHIP participants have resided on properties with yard soil lead concentrations less than 1,000 mg/kg after 2013 (Figure 35).

Based on this evaluation, property soil lead concentration does not appear to explain the increase in elevated blood lead levels observed in 2017.

2.4 Site-wide Risk Co-factors

Certain occupations, hobbies, or activities (e.g., lead soldering, lead casting, and reloading ammunition) could cause elevated blood lead levels. This section summarizes the evaluation of risk co-factors such as hobbies, occupations, habits, and housing characteristics (Section 2.4.1) and temporal and recreational factors (Section 2.4.2). Unless otherwise specified, questionnaire data from 2009 through 2018 are used for the Basin, and data from 2013 through 2018 for the Box, as explained in Section 2.

2.4.1 Risk Co-factors

An exploratory review of the questionnaire responses regarding occupations, habits (e.g., consumption of local vegetables or wild game), drinking water source, certain hobbies (pottery, auto repair, etc.), or housing characteristics was conducted to determine if there were differences in the responses of the 2017 LHIP participants. This review did not evaluate whether these risk co-factors explained or influenced observed BLLs, as it is outside the scope of this evaluation.

2.4.1.1 Occupations, Habits, and Drinking Water Source

Responses to questions related to occupation, habits, and drinking water were reviewed for any differences among years in the Basin and the Box. Considerable differences between 2017 and 2018 exist in the Basin for responses to occupation and time spent outdoors, as discussed below. Responses to other factors related to habits were similar in 2017 and 2018.

Occupation: The LHIP questionnaire asks for the occupation of the person filling out the questionnaire and his/her spouse's occupation. Responses were categorized as follows, based on likelihood of potential lead exposure:

- Mining – includes mining and milling.
- Landscape/Construction – includes occupations that likely routinely encounter potentially contaminated soil, such as sprinkler repair, landscaping, and remediation occupations.
- Possible Exposure – includes painters, general contractors, environmental scientists, fire fighters, and other occupations where there is a potential for occupational lead exposure.

- Other – includes teachers, stay-at-home parents, lawyers, and other occupations where there is a low likelihood for occupational lead exposure.

In the Box, participant responses to occupation types have been generally consistent since 2013 (Appendix E, Figure 56). In the Basin, a higher percentage of participants in 2017 came from homes where at least one person has an occupation categorized as Possible Exposure or Mining compared with 2018 (Figure 57).

Outdoor activities: The LHIP questionnaire includes a question that asks how many hours a day on average the child plays outdoors. In the Box, participant responses in 2017 were similar to 2018 (Appendix E, Figure 58). In the Basin, the percentage of LHIP participants who spend 0.5 to 5 hours outside per day was highest in 2017, and slightly lower in 2018 (Figure 59).

LHIP participants were also questioned about **pets**, **smoking**, **eating and handwashing habits**, and the source of the home's **drinking water** (Appendix E, Figures 60 through 71). Specifically, they were asked:

- whether they have dogs, cats, or any other pets that go in and out of the house,
- whether anyone smokes cigarettes inside the house,
- whether they eat vegetables from a local garden,
- whether they eat wild game,
- how often the child's hands are washed before bed, and
- whether the main source of drinking water for the home was well water, city water, bottled water, or "other."[4]

Participant answers to these questions in 2017 and 2018 were similar to previous years, except for eating wild game (Figure 66 and Figure 67). A higher percentage of participants in the Box and the Basin indicated that they consumed wild game in 2017 compared to 2018.

2.4.1.2 Hobbies

LHIP participants were asked whether any members of the household do the following activities:

- Pottery
- Ceramics
- Jewelry Making
- Stained Glass
- Target Shooting
- Bullet Manufacture
- Lead Soldering
- Auto Repair

The question was not previously asked; therefore, it is unknown how responses in 2017 and 2018 relate to past years. A qualitative comparison of responses indicates few differences in identified hobbies between 2017 and 2018 in the Box and the Basin.

[4] This question was not asked in 2013 on the Box questionnaire.

The greatest difference was with auto repair, where a higher percentage of participants in the Basin in 2018 reported that someone in the household did auto repair compared to 2017 (Figure 40). The percentage of participants reporting that someone in the household manufactured bullets or did target shooting was similar (less than 5% difference) in 2017 and 2018. Sitewide, few participants reported that someone in the home did pottery, ceramics, jewelry making, stained glass, or lead soldering (Figure 40 and Appendix E, Table 11).

2.4.1.3 Housing Characteristics

In 2017 and 2018, LHIP participants were asked whether there is paint peeling inside or outside the home and whether the immediate yard or home has ever flooded. The question was not previously asked; therefore, it is unknown how responses in 2017 and 2018 relate to past years. A review of this information indicates several differences in the frequencies of "yes" responses in the Box and the Basin in 2017 and 2018.

In the Box, the percentage of participants indicating their home has interior or exterior peeling paint was higher in 2017 compared to 2018, while the percentage of participants indicating that the home flooded was lower in 2017 than in 2018 (Figure 41).

In the Basin, the percentage of participants indicating that the immediate yard or home has flooded was slightly higher in 2017 compared to 2018, while the percentage of participants indicating there is paint peeling inside or outside the home was similar in 2017 and 2018 (Figure 41).

2.4.2 Temporal and Recreation Factors

As discussed in Section 1.4.1, the 2017 LHIP screening was held in August for the first time in recent years, with the exception of 2013. This section evaluates the potential impact that the timing of the annual blood lead screening may have had on the 2017 blood lead data. In addition, it summarizes climate and river stage data, and the frequency, types, and locations of recreational activities to determine whether LHIP participants' recreational habits could be influenced by climate and whether there were substantial differences in 2017.

2.4.2.1 LHIP Timing

In recent years prior to 2017, the LHIP annual blood lead screening was offered at fixed sites in early to mid-July because that is generally the period of highest exposure. In 2017 and 2018, the blood lead screening was held approximately one month later in August, capturing an additional month of potential exposures. Based on the number of participants and the estimated resident population, holding the LHIP in July or August does not appear to influence participation rates. Approximately 40% of Box children and 20% of Basin children participated in 2017 and 2018 and is similar to previous years (see Section 2.2).

To examine the potential impact of the schedule change on blood lead levels, two comparisons were completed and are discussed: 1) blood lead levels in 2017 to those in 2018, and 2) weekly blood lead results in 2013. Both reviews indicate that the timing of the LHIP did not bias blood lead levels in 2017.

In 2017 and 2018, the LHIP dates for the Box and Basin were similar (August 7-23, 2017 and August 13-18, 2018) and mean blood lead levels were similar or lower in 2018 than 2017 (Figure 7 and Figure 24). To further evaluate whether the timing of the LHIP could bias blood lead levels, weekly LHIP results from 2013 in the Box were reviewed. The LHIP annual blood lead screening in the Box in 2013 spanned from July 10 through August 23. Mean blood lead

levels by week were similar based on a review of box plots (Figure 42). This suggests that the timing of the LHIP did not bias 2017 blood lead data.

2.4.2.2 E years

2.4.2.3 Climate Data and River Stages

Temperature and precipitation data from 2015 through 2018 from the National Weather Service were obtained from the closest available station (the Spokane Washington airport) (NOAA, 2019). These years correspond with LHIP questionnaires containing detailed questions about recreational activities (Appendix A). Detailed temperature and climate data are included in Appendix F and summarized in this section.

The summers of 2017 and 2018 had hotter temperatures and less precipitation than normal (Figure 43 and Figure 44). Although average summer monthly temperatures were similar in 2017 and 2018, August 2017 had more days with a maximum temperature above 90 degrees than 2015, 2016, and 2018. Total precipitation in May and June was similar in 2017 and 2018; however, there was no measured precipitation in July or August in 2017. In the years 2015, 2017, and 2018, a similar number of smoky days occurred in June through mid-August (15, 12, and 13 days, respectively), while 2016 had only 4 days of smoke, according to the National Weather Service (Appendix F).

The Coeur d'Alene River had higher discharge later into the season in 2017 compared to other years, as indicated by data collected by the U.S. Geological Survey near Cataldo (Figure 45) (USGS, 2019). In 2017, higher water levels may have allowed people to float certain stretches of the river (a popular water-based activity) for a longer time in the season. The hypothesis is that higher discharge, in combination with the higher than normal temperatures and lower than normal precipitation in 2017, could have resulted in more water-based recreational activities, and potentially more exposure to lead in sediment.

2.4.2.4 Recreation

The climate and river stage data were qualitatively compared with responses to the LHIP questions about recreational habits to determine whether the lack of precipitation, abnormally high temperatures, and higher water levels in the summer of 2017 influenced the types, frequencies, and locations of recreational activities. The comparison suggests there are differences in the percentages of LHIP participants who recreate and the frequency and locations of certain recreational activities in 2017 relative to other years; however, the data do not support that these variances are due to climatic differences.

The LHIP questionnaire asks whether any members of the household do the following activities: dirt biking/4-wheeling, mountain biking, mudding (driving through mud), camping, boating, swimming, hunting, and fishing. A higher percentage of participants recreated in all activities in 2017 when compared to 2018 (Figure 46). When comparing all four years, a higher percentage of participants spent time 4-wheeling/dirt biking, biking, boating, and camping in 2017 relative to 2015, 2016, and 2018. 2018 had the lowest percentage of participants who spent time recreating (with the exception of camping and 4-wheeling/dirt biking) compared to 2015, 2016, and 2017.

A higher percentage of participants responded that they spent time doing multiple recreation activities in 2016 and 2017 compared to 2015 and 2018 (Figure 47). This suggests the total number of recreational activity types may be independent of temperature and precipitation. While 2016 and 2017 had similar total numbers of activities per LHIP participant, 2017 had a

higher number of days above 90 degrees and lower number of days with precipitation compared to 2016.

For each recreational activity, the participant is asked about the number of times or days in the past three months that they spent doing the activity, and the locations where the activity occurred. The responses for frequency and location were standardized for this evaluation. Table 13 and Table 14 in Appendix G summarize the assumptions made for frequency and location responses, respectively. Frequency was further categorized as follows:

- None – 0
- Rarely – 1 to 4 times
- Frequently – 5 to 59 times
- Almost Always – 60 or more times

Figure 48 shows the frequency of all recreation activities, the total number of days in June, July, and August with a temperature greater than 90 degrees, and the total number of days in June, July, and August with precipitation greater than 0.01 inch. The percentages of participants who did not recreate versus those who did recreate in 2017 and 2018 were similar. However, the number of days above 90 and number of days of precipitation differed between 2017 and 2018, resulting in no apparent trend in the total frequency of all recreation activities as it relates to climate. The lowest percentage of participants who did not recreate at all occurred in 2015; however, temperature and precipitation data in 2015 were similar to 2018. This supports the conclusion that the difference in recreation frequency was likely due to factors other than climate.

Figure 72 through Figure 79 in Appendix G summarize the frequency of each recreational activity, along with the estimated percentage of participants who responded with a location that is likely to be contaminated. In 2016 and 2017, a higher percentage of people who swam did so in likely-contaminated areas compared to 2015 and 2018 (Figure 77). A higher percentage of LHIP participants camped in potentially contaminated locations in 2017 relative to other years (Figure 75). A higher percentage of people spent time dirt biking or 4-wheeling and boating in 2017 compared to other years (Figure 72 and Figure 76). Across all four years, boating, mudding, fishing and dirt-biking are most likely to occur in possibly contaminated locations (>60% of participants who do those activities named locations that are likely contaminated: Figure 76, Figure 74, Figure 79, and Figure 72).

In summary, there appears to be an increase in some activities in 2017 (4 wheeling, biking, boating, and camping, Figure 46), and there was a higher likelihood that LHIP participants recreated in contaminated areas in 2017 than in other recent years (camping and swimming, Figure 75 and Figure 77); however, recreation frequency does not appear to be directly attributed to weather alone.

2.4.3 Risk Co-factors and Elevated Blood Lead Levels

The objective related to risk co-factors was to investigate if any differences in the number of LHIP participants doing those activities exist between recent and prior years. Sections 2.4.1 and 2.4.2 of this report discuss the information pertinent to that objective. Although an evaluation of risk-co-factors as they relate to blood lead levels was not completed and beyond the scope of this report, this section presents a brief summary of risk-cofactors relative to children BLLs for informational purposes. Table 4 summarizes the percentage of LHIP participants with blood lead levels < 5 µg/dL and ≥ 5 µg/dL that indicated they participated in the listed risk-cofactors.

In 2017, a higher percentage of children with a blood lead level ≥ 5 µg/dL indicated they or someone in the home did the following activities compared to children with a blood lead level < 5 µg/dL: target shooting, bullet manufacturing, auto repair, spent 10 or more hours daily outside, ate local vegetables, drank from a well, ate wild game, swam, biked, went mudding, and camped. In addition, a higher percentage of children with a blood lead level ≥ 5 µg/dL indicated that their home flooded, they owned pets, or someone in the home had an occupation related to mining or with possible exposures to lead.

In 2018, a higher percentage of children with a blood lead level ≥ 5 µg/dL indicated they or someone in the home did the following activities compared to children with a blood lead level < 5 µg/dL: target shooting, spent 5 or more hours daily outside, washed their hands, ate local vegetables, ate wild game, swam, biked, or fished. In addition, a higher percentage of children with a blood lead level ≥ 5 µg/dL indicated that they owned pets, the home had interior or exterior peeling paint or previously flooded, or someone in the home had an occupation with possible exposures to lead or an occupation with low likelihood for exposures to lead.

Each of these variables could potentially impact a child's blood lead level, which is why these questions are included on the LHIP questionnaire. However, caution should be exercised in interpreting this simplified summary of the data. A higher response percentage of children with BLLs ≥ 5 µg/dL does not necessarily mean these are the factors that caused the elevated BLLs in 2017. The LHIP follow-ups conducted by lead health professionals offer more insight into specific reasons for elevated BLLs.

Section 3 Conclusions and Recommendations

3.1 Conclusions

The following conclusions are based on the exploratory data evaluation described in Section 2.

- **Sociodemographic Characteristics**: there are differences in cohort characteristics in recent years; however, these do not appear to bias blood lead means or frequency of elevated blood lead levels.
- **Exposure Sources**: Exposure to lead in residential soils and house dust does not appear to substantially differ for LHIP participants in 2017 compared to other recent years and compared to community means. Average concentrations in both soils and house dust from residences with 2017 LHIP participants are similar to those observed in other years. Differences in the remediation approach between the Box and Basin do not appear to have contributed to the elevated BLLs observed because both the Box and Basin experienced a similar increase in the percentage of children exhibiting higher BLLs in 2017. Additional exposure sources remain in the BHSS, which were not evaluated in this report. These sources include non-remediated hillsides and recreational areas, interior dust reservoirs (i.e., attics, basements, and crawlspaces), and lead-based paint.
- **Risk Co-Factors**: The percentage of positive participant responses to certain risk co-factors was higher in 2017 compared to 2018 and other recent years. In the Basin, these include auto repair, manufacturing bullets, target shooting, occupations related to mining or with potential lead exposure, time spent outdoors, eating wild game, and flooding. In the Box, these include eating wild game and interior/exterior peeling paint at the home. Although it is possible these factors could have influenced BLLs, likely a

combination of factors impacted individuals with elevated BLLs in 2017. The scope of this work was to complete an exploratory data evaluation of the available information and did not include a quantitative or statistical analysis of risk co-factors and their potential influence on BLLs. Therefore, it is difficult to conclude whether these factors alone influenced the elevated BLLs observed in 2017.

- **Temporal and Recreation Factors**:
    - A schedule change from July to early/middle August did not bias the 2017 blood lead data.
    - Recreational habits differed from year to year. In 2017, participation in some recreation types increased (4-wheeling, biking, boating, camping), participation in multiple recreation activities increased compared to 2015 and 2018, and participation in certain activities likely occurred in a contaminated area increased. However, the changes in recreational activities do not appear to be related to climatic conditions. Additionally, the climatic conditions observed in 2017 did not appear to increase water-based activity relative to other recent years.

In summary, this exploratory data evaluation identified that the sociodemographics and environmental home exposures of the LHIP cohorts do not differ enough to explain elevated BLLs. Certain hobbies, occupations, and recreational activities somewhat increased in 2017 and may have impacted observed BLLs. However, based on the few follow-up services provided by the LHIP and the information reviewed in this data evaluation, there are likely multiple reasons for the elevated BLLs observed in 2017.

3.2 Recommendations

The recommendations based on the information in this evaluation are to:

- Continue funding the annual LHIP blood lead screening, as it is a valuable service for identifying children with elevated blood lead levels.
- Continue to identify methods to increase LHIP follow-ups because these assist families in reducing exposures for children with elevated blood lead levels. In addition, information obtained through follow-ups could be valuable in identifying primary prevention strategies to reduce lead exposure, which the CDC recommends.
- Continue targeted education efforts, especially for recreational activities in the BHSS and for people with occupations related to mining or with possible lead exposure.
- Continue to identify and implement risk management actions at recreational sites throughout the BHSS.
- Although the timing of the LHIP blood lead screening does not appear to bias blood lead data, for consistency, PHD should continue to schedule the LHIP blood lead screening in early/middle of August.

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Tables

Table 1. Estimated LHIP Participation Rates (2017 and 2018)

Estimated Population	Basin	Box
Estimated Eligible Population[a,b]	493	330
Total No. of Eligible Population Providing Samples in 2017[a]	105	124
Estimated Percentage of Population Providing Samples in 2017	21%	38%
Total No. of Eligible Population Providing Samples in 2018[a]	88	141
Estimated Percentage of Population Providing Samples in 2018	18%	43%

[a] Eligible population is from 6 months through 6 years of age for both Box and Basin.

[b] Estimated population based on 2018 enrollment data for School Districts 392, 391, 393, and 274 and the ICP Administrative Boundary. Assumes 6.5% of children are not enrolled in school (2017 Census data) and an even distribution in each age group. Calculation method is explained in Appendix B.

Table 2. Property Remediation Status for Basin LHIP Participants

Year	Number of Children	Property Remediation Status							
		Requires Remedial Action		Remediated		No Action		Other[a]	
		N	%	N	%	N	%	N	%
2009	175	26	15	117	67	25	14	7	4
2010	108	13	12	82	76	13	12	0	0
2011	75	4	5	60	80	10	13	1	1
2012	83	4	5	66	80	9	11	4	5
2013	92	2	2	78	85	12	13	0	0
2014	77	0	0	68	88	8	10	1	1
2015	94	0	0	86	91	7	7	1	1
2016	70	0	0	61	87	9	13	0	0
2017	105	0	0	96	91	9	9	0	0
2018	88	0	0	71	81	14	16	3	3

[a] "Other" includes properties where owners refused, properties with no soil, and properties deemed ineligible for the Basin Property Remediation Program (BPRP).

Table 3. Property Remediation Status for Box LHIP Participants

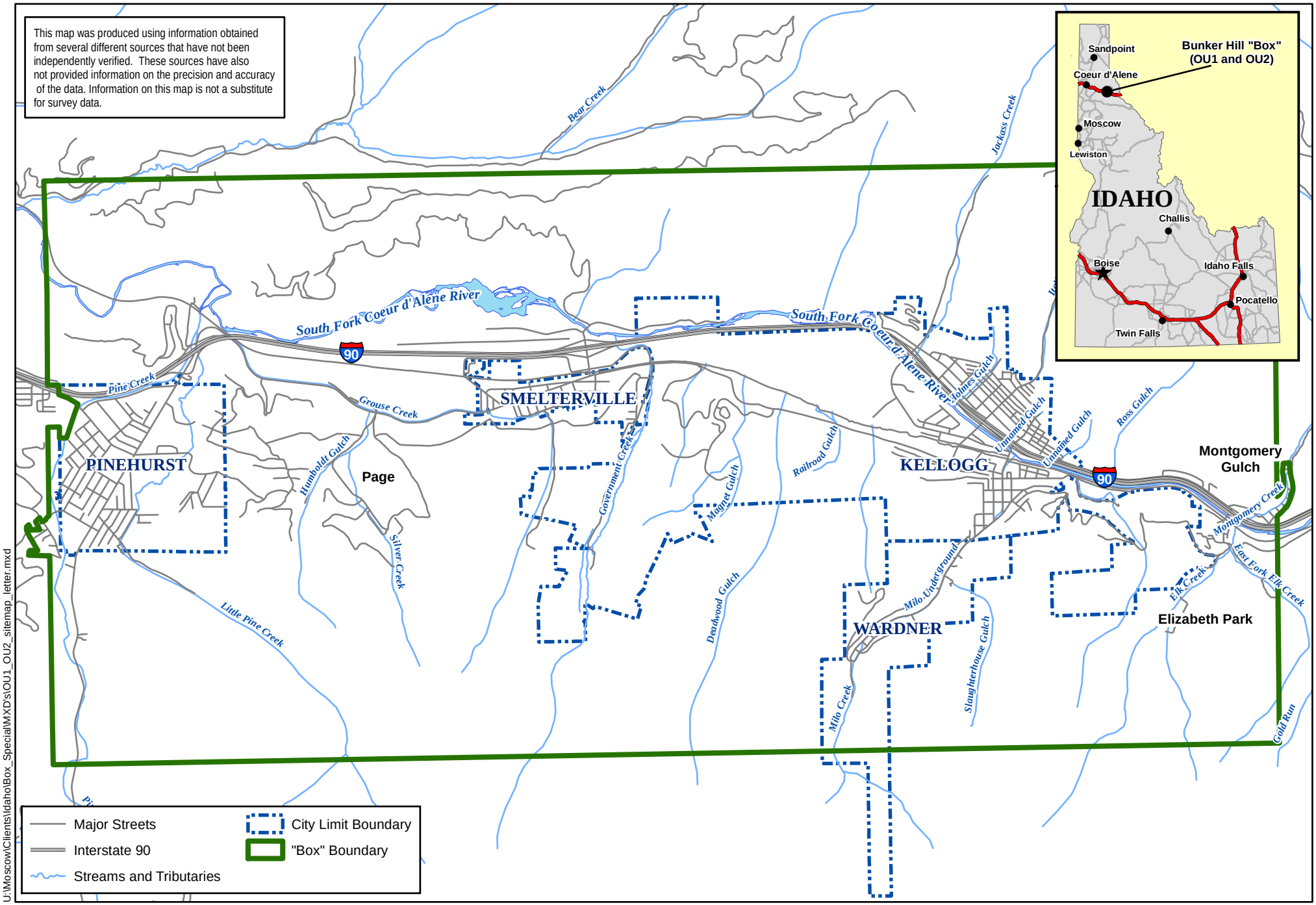
Year	Number of Children	Property Remediation Status							
		Requires Remedial Action		Remediated		No Action		Other[a]	
		N	%	N	%	N	%	N	%
2013	276	2	1	215	78	51	18	8	3
2014	4	0	0	4	100	0	0	0	0
2015	6	0	0	6	100	0	0	0	0
2016	114	0	0	95	83	16	14	3	3
2017	124	0	0	106	85	14	11	4	4
2018	141	0	0	115	82	17	12	9	6

[a] "Other" includes properties with no soil and properties developed with an ICP permit.

Table 4. Risk Co-factors and Blood Lead Levels, Site-wide

		2017		2018	
		% BLL <5 µg/dL (Total N = 189)	% BLL ≥5 µg/dL (Total N = 40)	% BLL <5 µg/dL (Total N = 210)	% BLL ≥5 µg/dL (Total N = 19)
Hobbies	Pottery	1%	0%	1%	0%
	Ceramics	0%	0%	0%	0%
	Jewelry	4%	0%	2%	0%
	Stained Glass	0%	0%	0%	0%
	Target Shooting	12%	20%	10%	21%
	Bullet Manufacture	4%	10%	2%	0%
	Lead Soldering	2%	0%	0%	0%
	Auto Repair	16%	23%	25%	26%
Housing Characteristics	Interior Paint Peeling	17%	10%	9%	21%
	Exterior Paint Peeling	29%	18%	17%	26%
	Flood	6%	13%	12%	16%
Occupations	Mining	13%	25%	9%	5%
	Landscape/Construction	8%	3%	8%	0%
	Possible Exposure	16%	25%	10%	16%
	Other	61%	45%	60%	74%
Time Spent Outdoors	0.5 to 5 hrs	70%	70%	66%	42%
	5 to 10 hrs	26%	23%	28%	37%
	10+ hrs	2%	8%	5%	21%
Habits	Having Pets	66%	88%	75%	95%
	Smoking	7%	0%	4%	0%
	Handwashing Frequency (always and sometimes)	96%	98%	91%	100%
	Drinking Water Source (Private Well)	8%	15%	9%	0%
	Local Vegetables	40%	55%	32%	37%
	Eating Wild Game	61%	80%	56%	63%
Recreation Activities	Swimming	86%	93%	76%	84%
	Dirt biking/4 wheeling	47%	55%	34%	37%
	Biking	14%	8%	5%	16%
	Mudding	10%	18%	4%	5%
	Camping	54%	78%	47%	42%
	Boating	26%	23%	13%	5%
	Hunting	3%	0%	1%	0%
	Fishing	46%	55%	29%	63%

Figures



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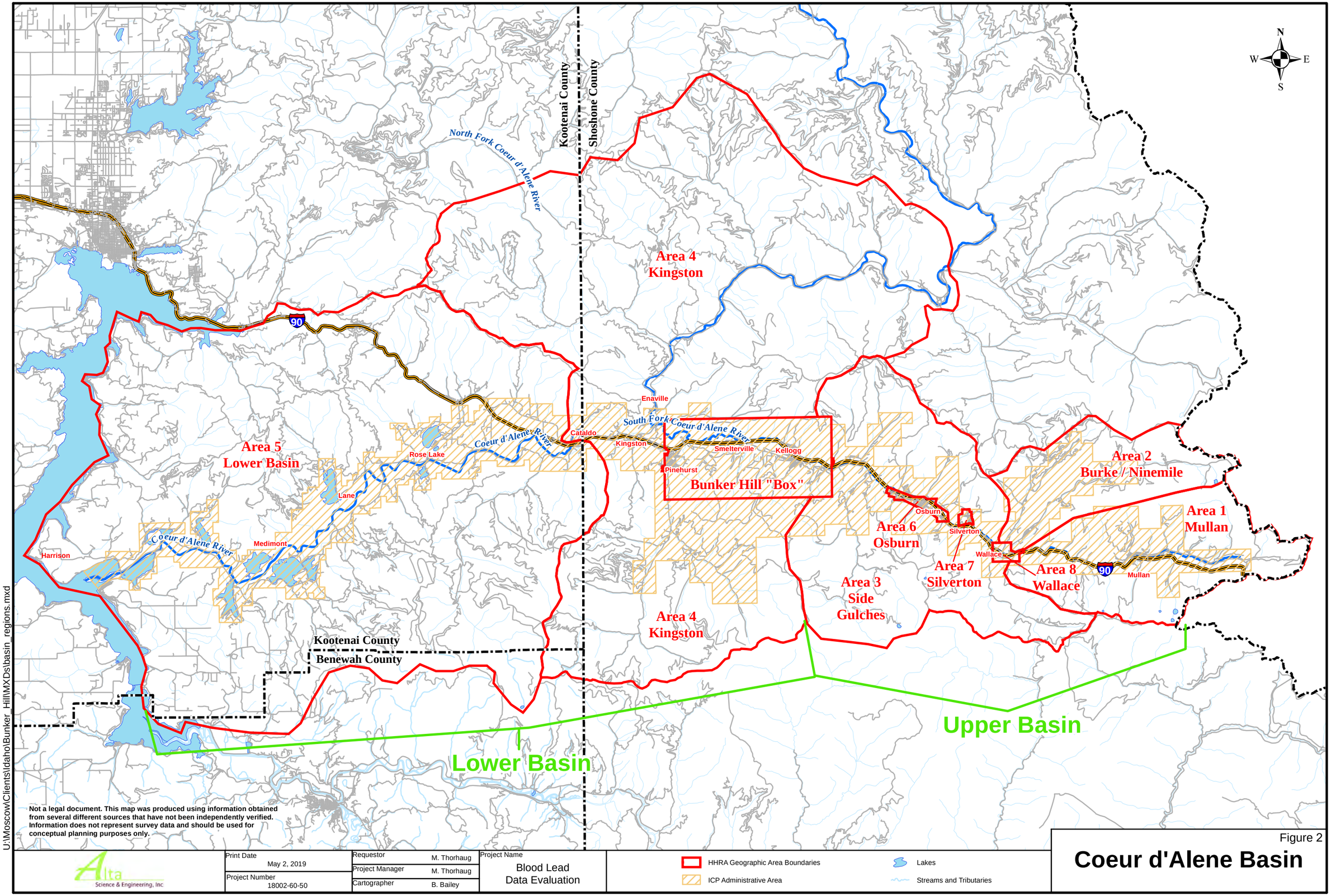
Alta Science & Engineering, Inc.

Print Date	May 2, 2019
Project Number	18002-60-50
Project Manager	M. Thorhaug
Requestor	M. Thorhaug
Cartographer	B. Bailey

1:48,000
1 inch = 1 miles
0 0.5 1 Miles

Project Name
Blood Lead Data Evaluation

Figure 1
Site Location Map



Not a legal document. This map was produced using information obtained from several different sources that have not been independently verified. Information does not represent survey data and should be used for conceptual planning purposes only.

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Alta Science & Engineering, Inc

Print Date	May 2, 2019	Requestor	M. Thorhaug	Project Name	Blood Lead Data Evaluation
Project Number	18002-60-50	Project Manager	M. Thorhaug		
		Cartographer	B. Bailey		

HHRA Geographic Area Boundaries
ICP Administrative Area
Lakes
Streams and Tributaries

Figure 2

Coeur d'Alene Basin

Figure 3. Percent of Children with Blood Lead Levels ≥ 10 µg/dL, Box and Basin, 1988-2018

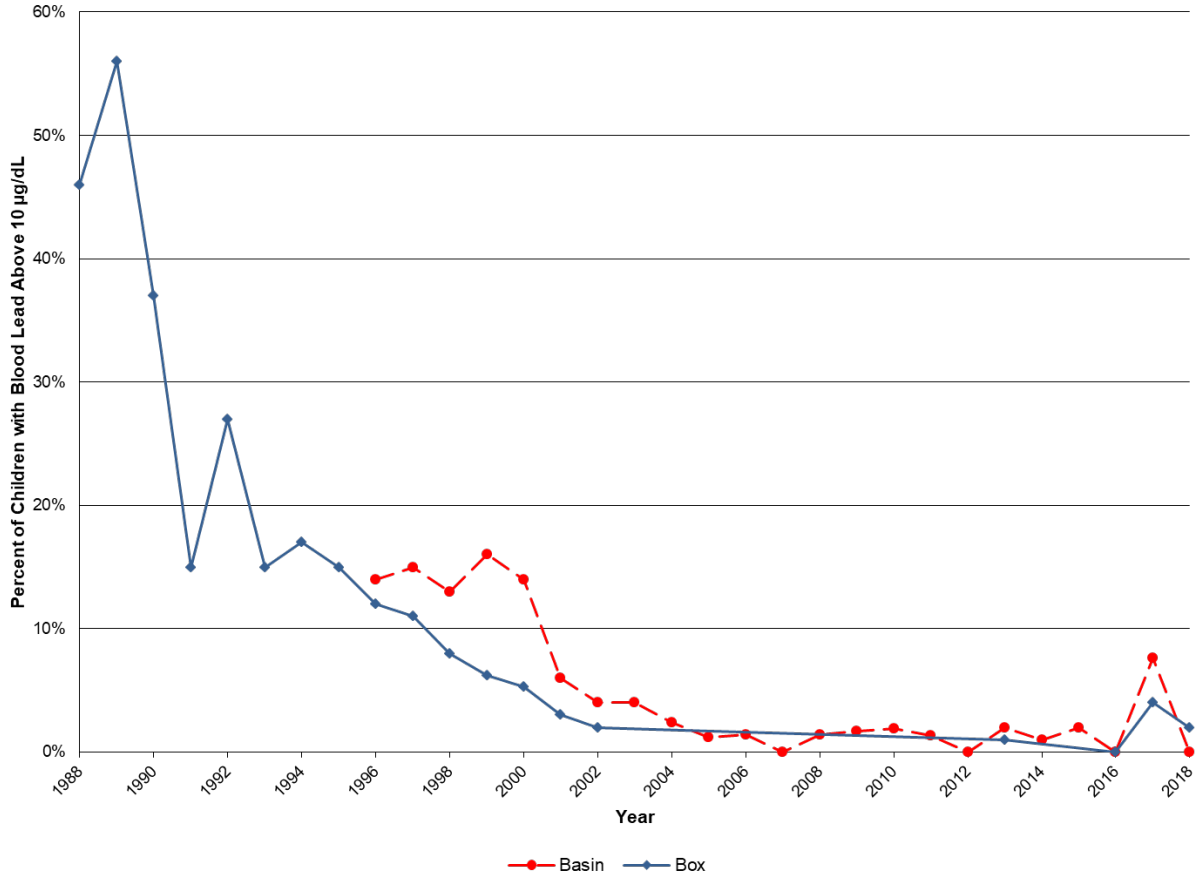
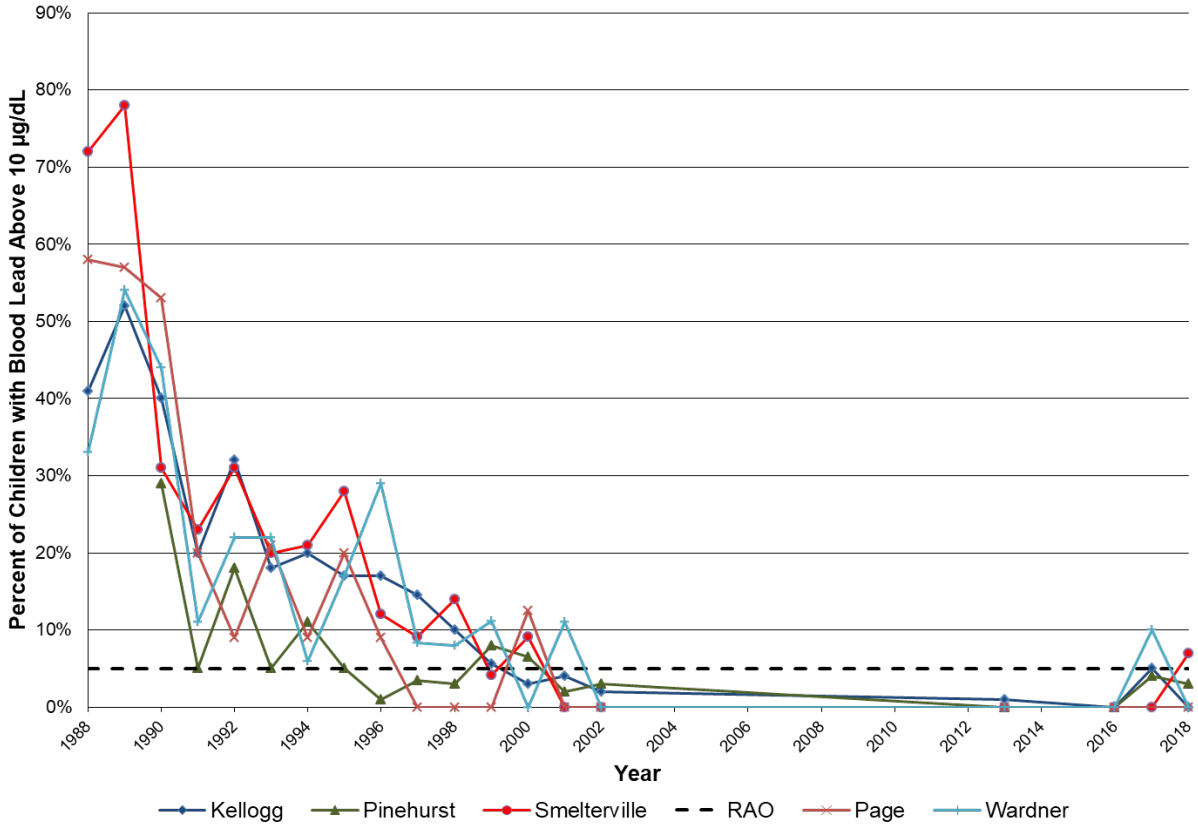


Figure 4. Percent of Box Children with Blood Lead Levels ≥ 10 µg/dL by City, 1988-2018



Note: Data from 2003 through 2012, 2014, and 2015 are not displayed because there were few participants. Since 1998, there have been ≤10 participants per year from Page and Wardner.

Figure 5. Area-Weighted Geometric Mean Soil Lead Concentration by Geographic Area and Year

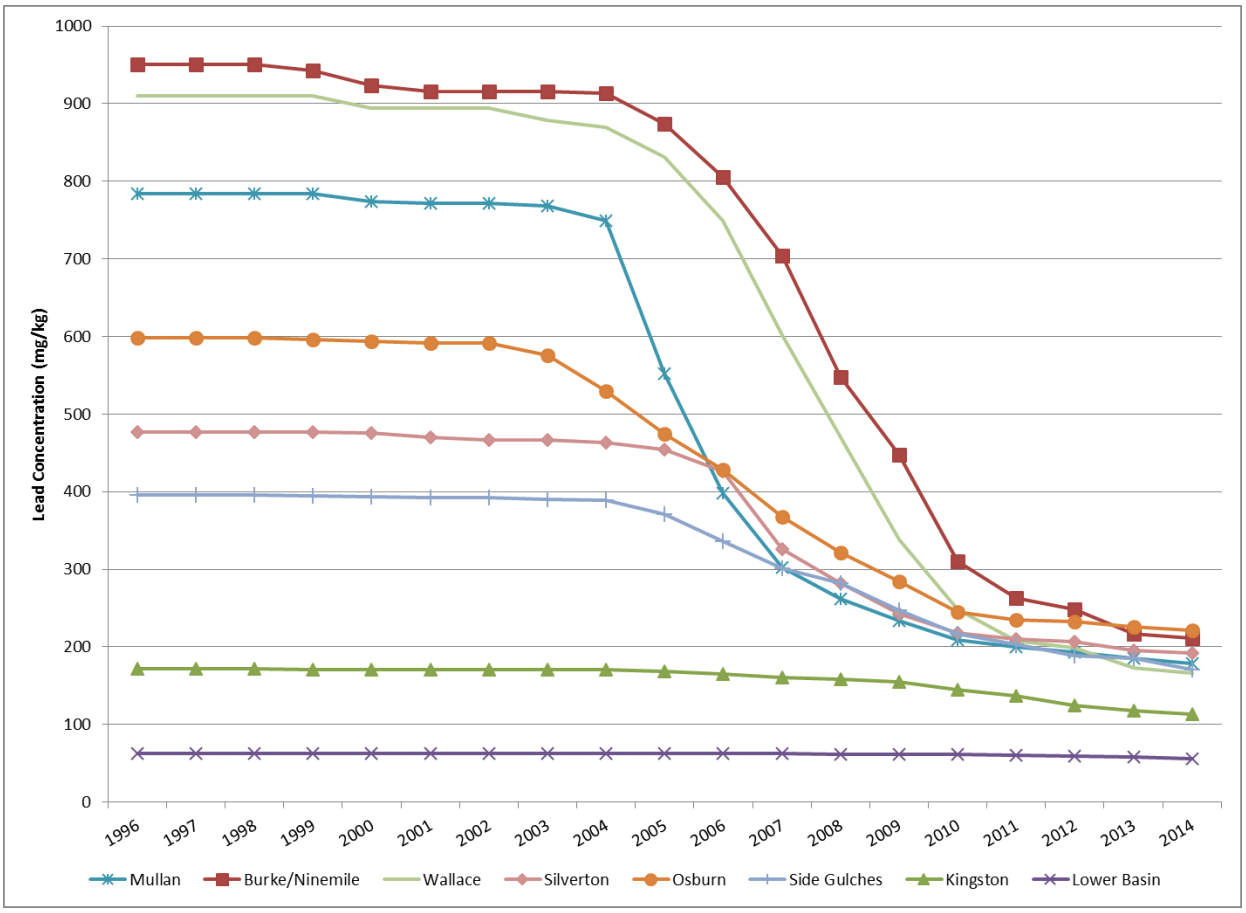


Figure 6. Basin Blood Lead Levels by Year, 1996-2018

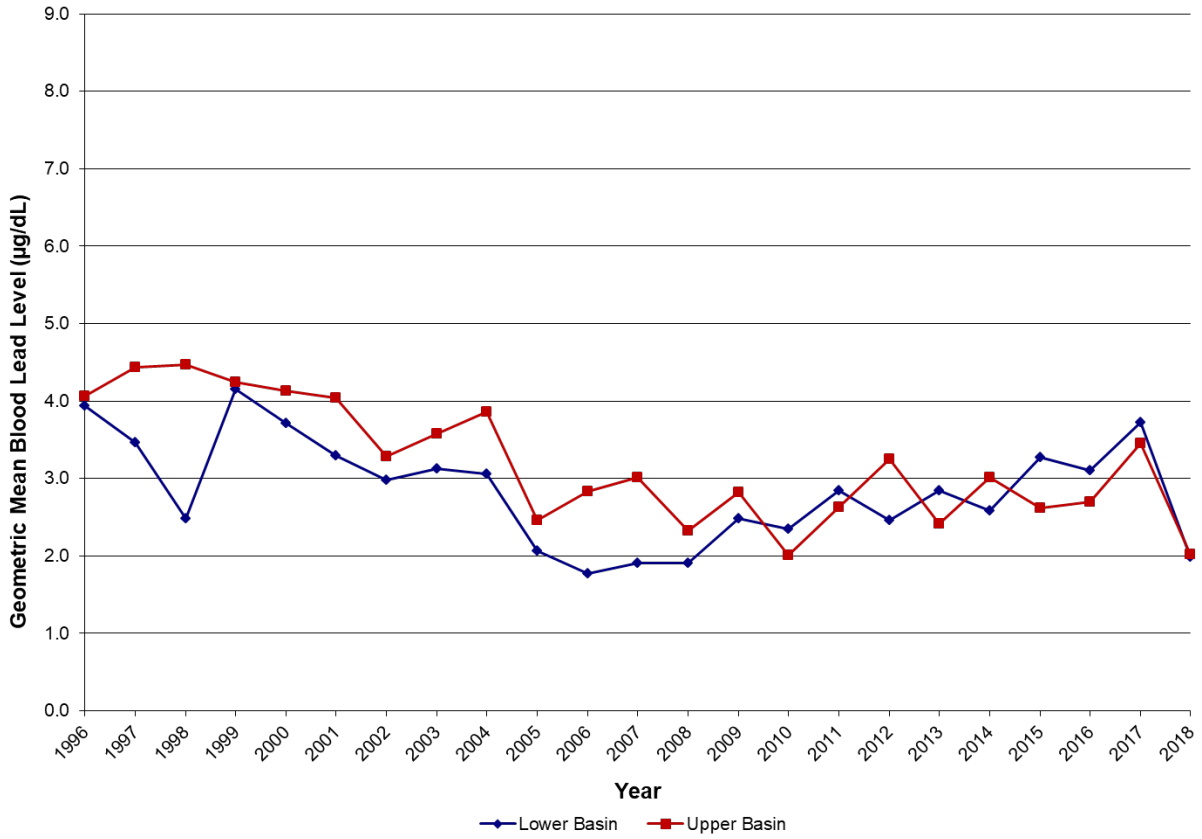


Figure 7. Box Plot of Blood Lead Data, 2009-2018, Basin

Figure 8. Percent of LHIP Participants with Elevated Blood Lead Levels – Basin

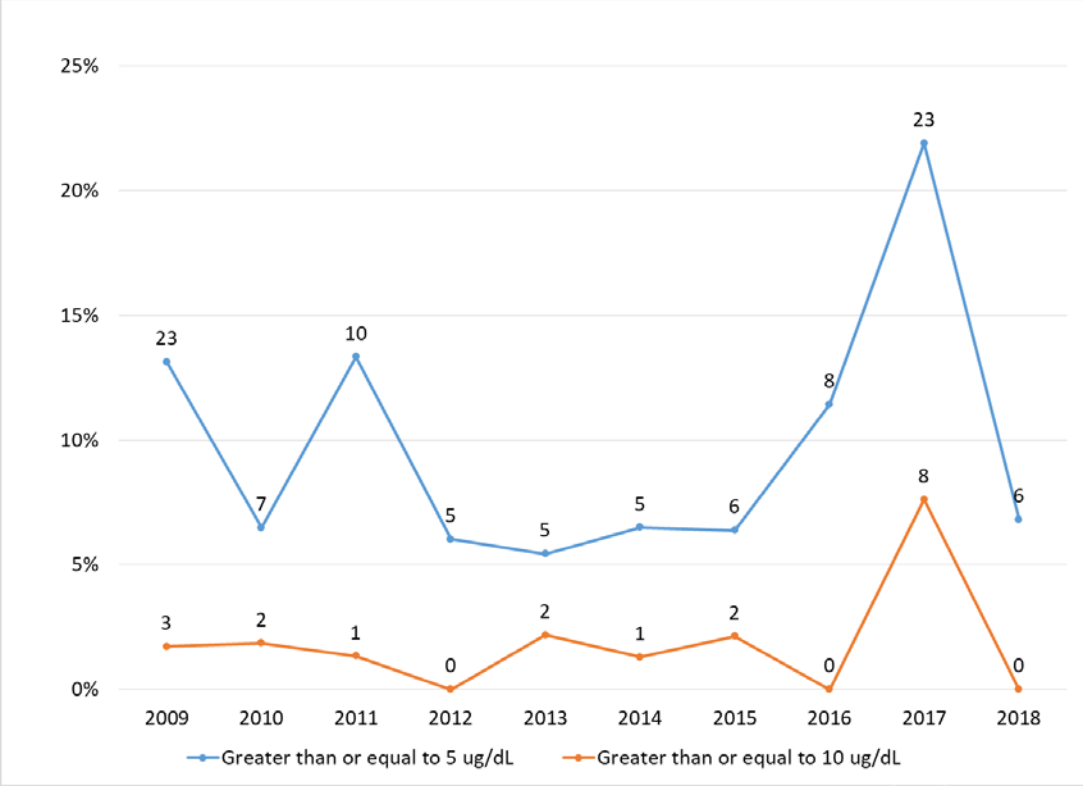


Figure 9. Participation Rate, Geometric Mean Blood Lead Level, and Percent ≥ 5 µg/dL by Age – Basin

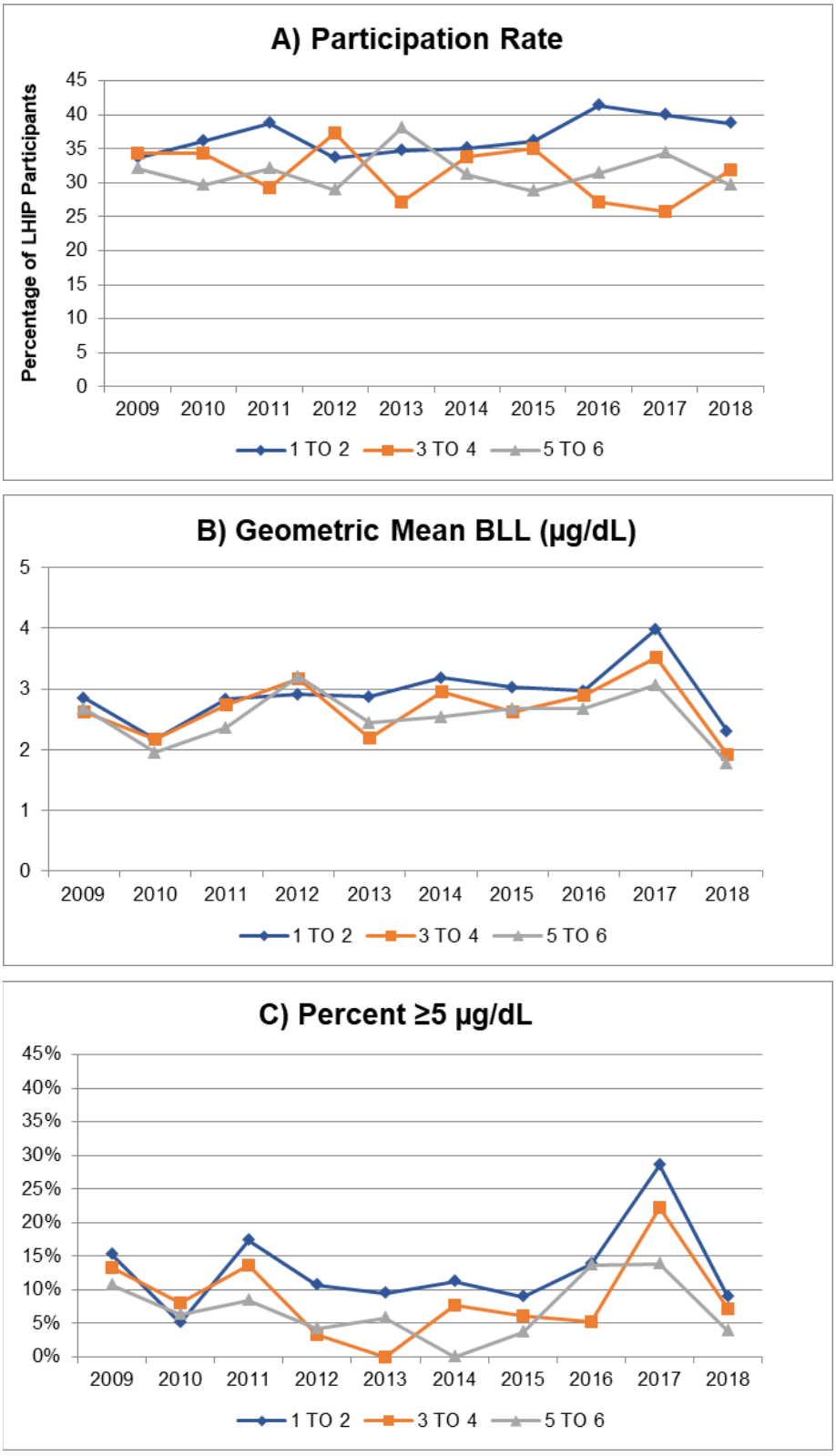
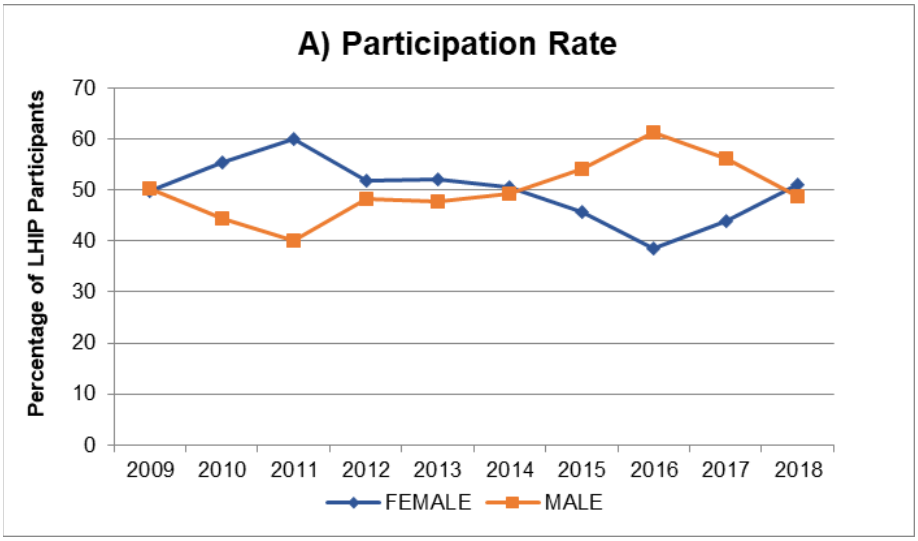
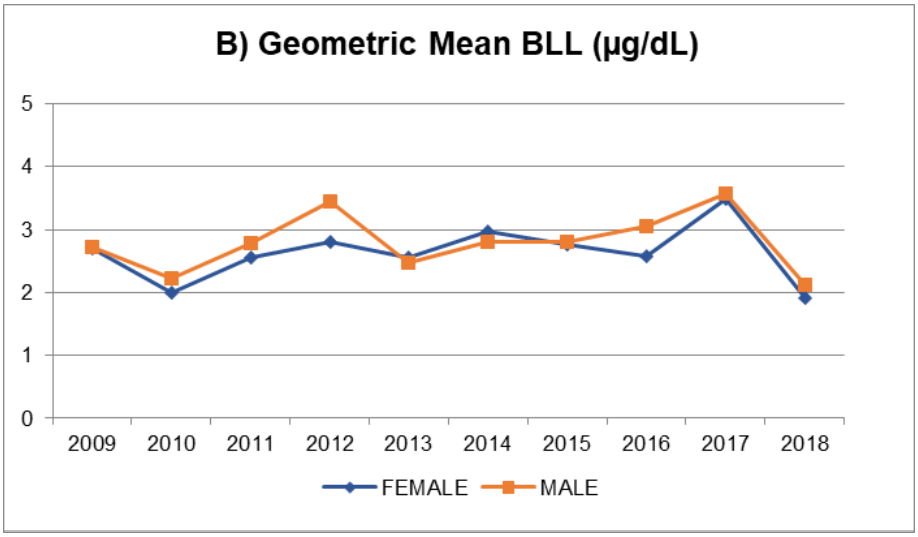


Figure 10. Participation Rate, Geometric Mean Blood Lead Level, and Percent ≥ 5 µg/dL by Gender – Basin





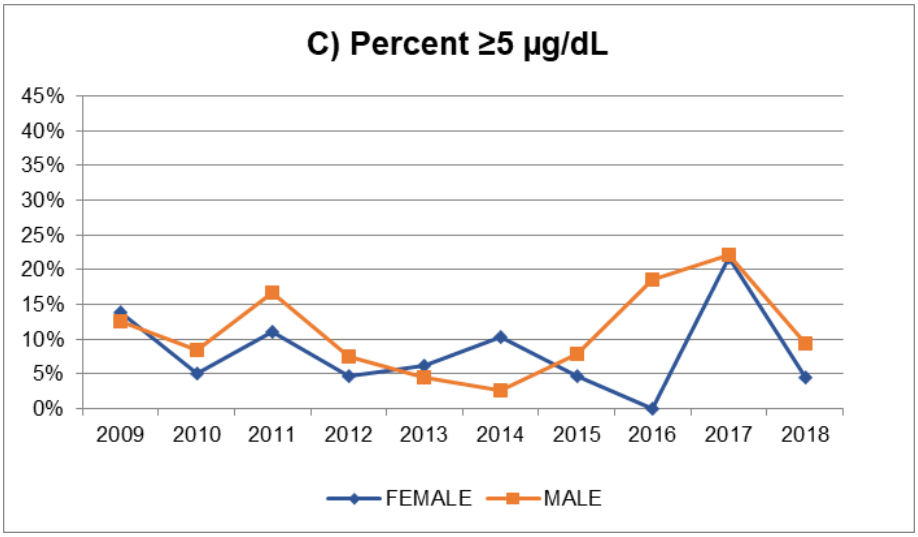
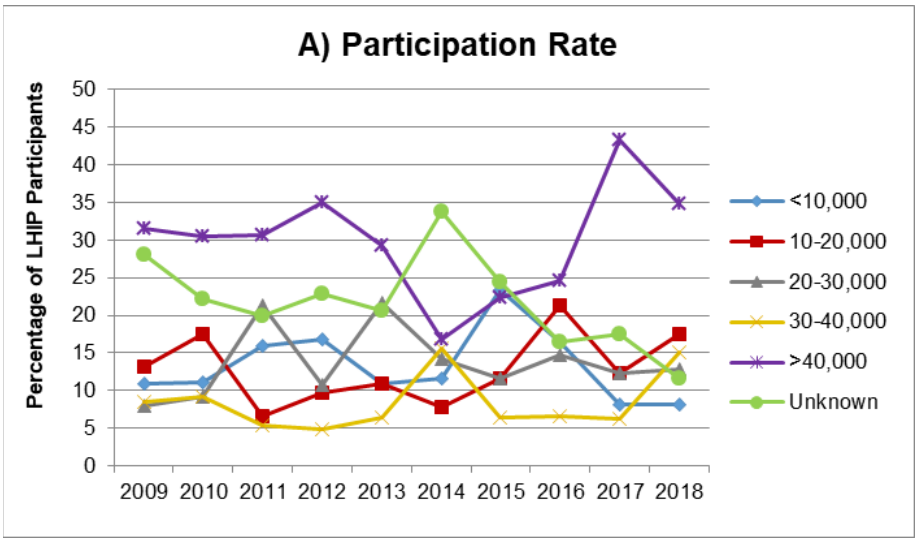
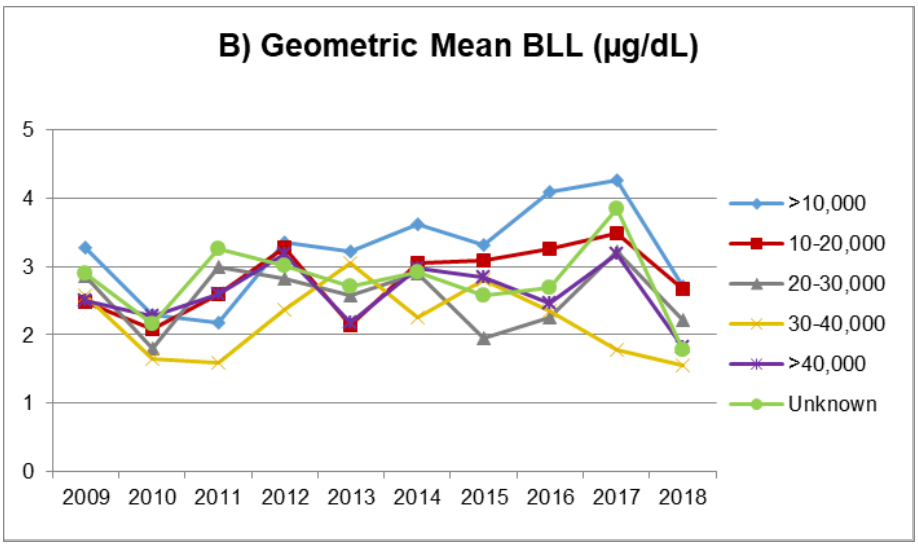


Figure 11. Participation Rate, Geometric Mean Blood Lead Level, and Percent ≥ 5 µg/dL by Family Income – Basin





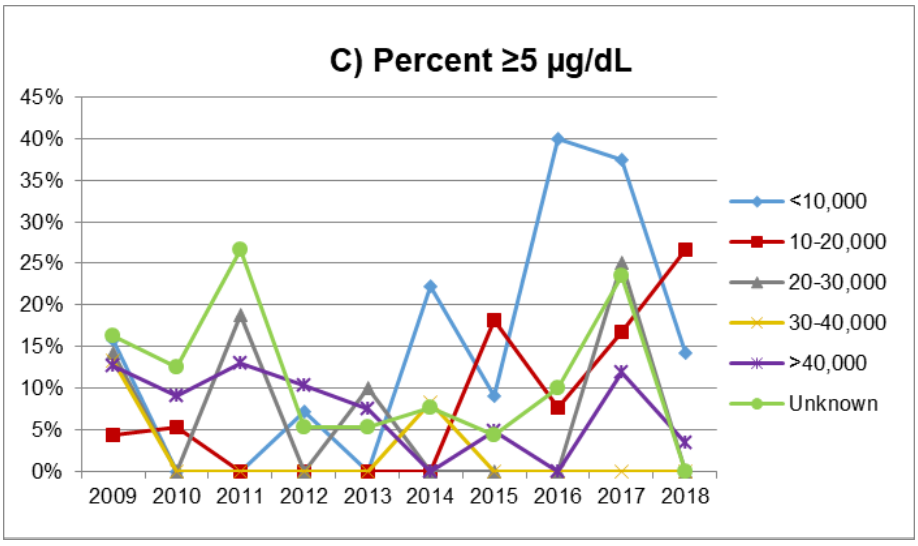


Figure 12. Participation Rate, Geometric Mean Blood Lead Level, and Percent ≥ 5 µg/dL by Family Medicaid Coverage – Basin

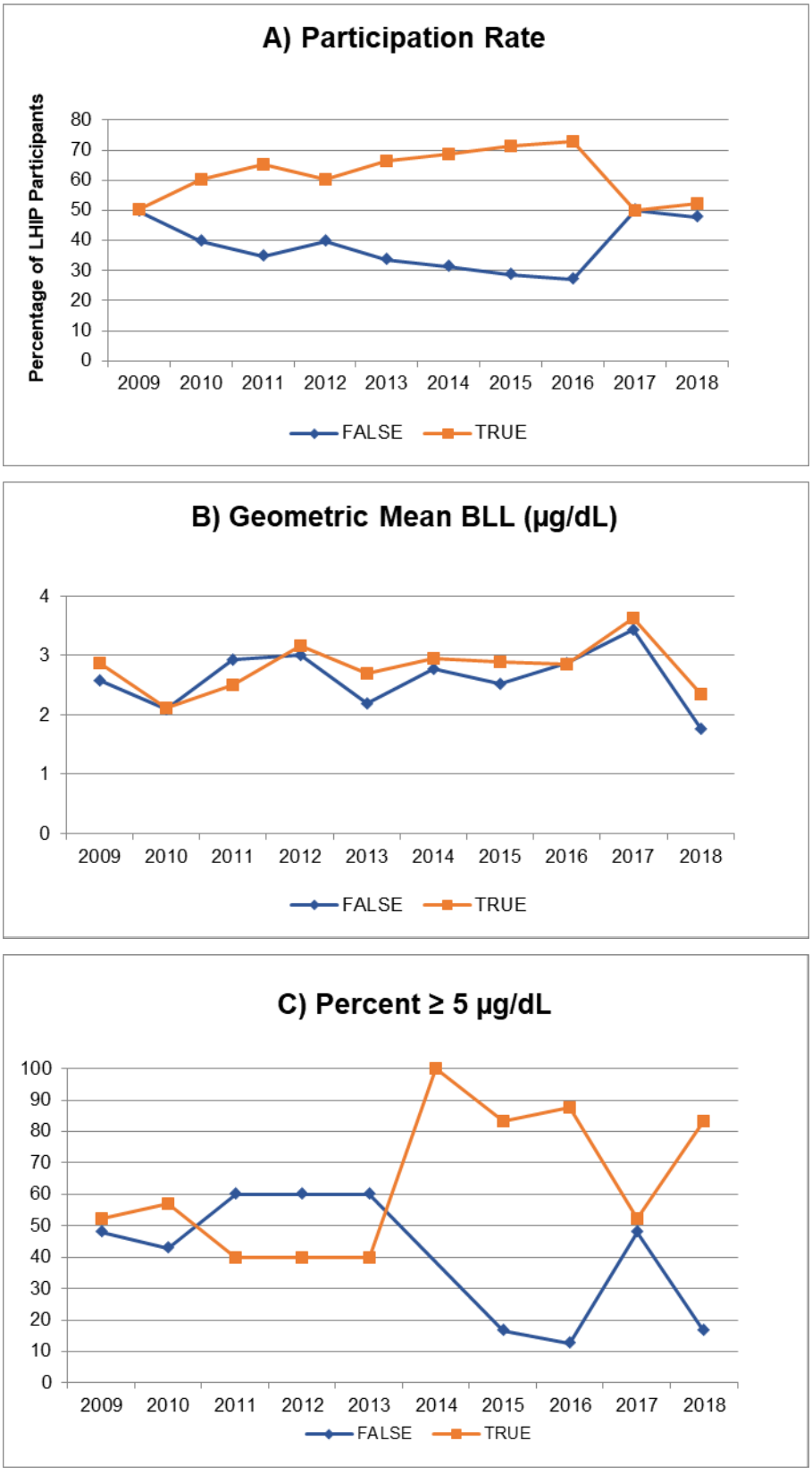


Figure 13. Participation Rate, Geometric Mean Blood Lead Level, and Percent ≥ 5 µg/dL by Parents' Education – Basin

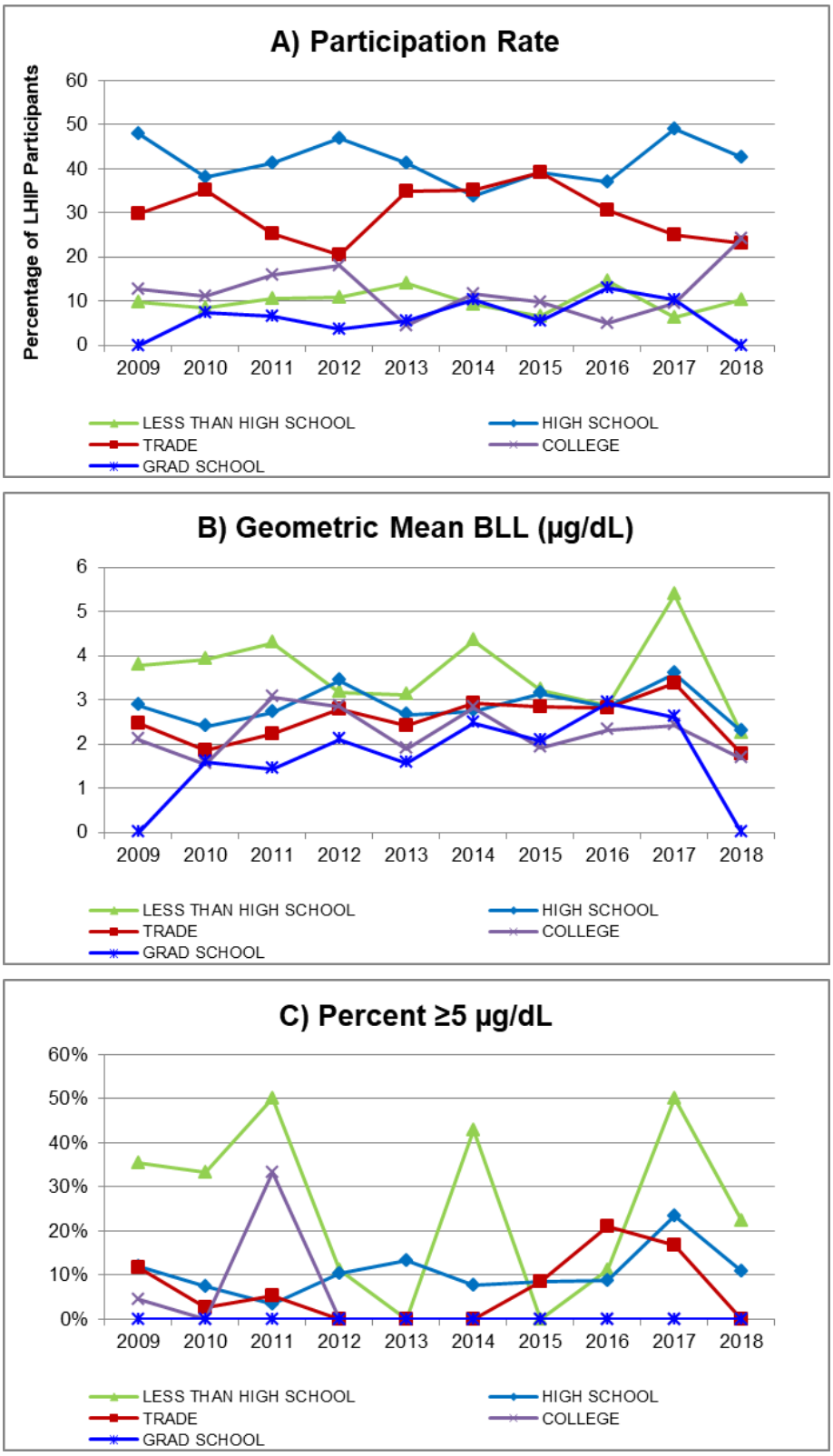


Figure 14. Participation Rate, Geometric Mean Blood Lead Level, and Percent ≥ 5 µg/dL by Ownership of Family Residence – Basin

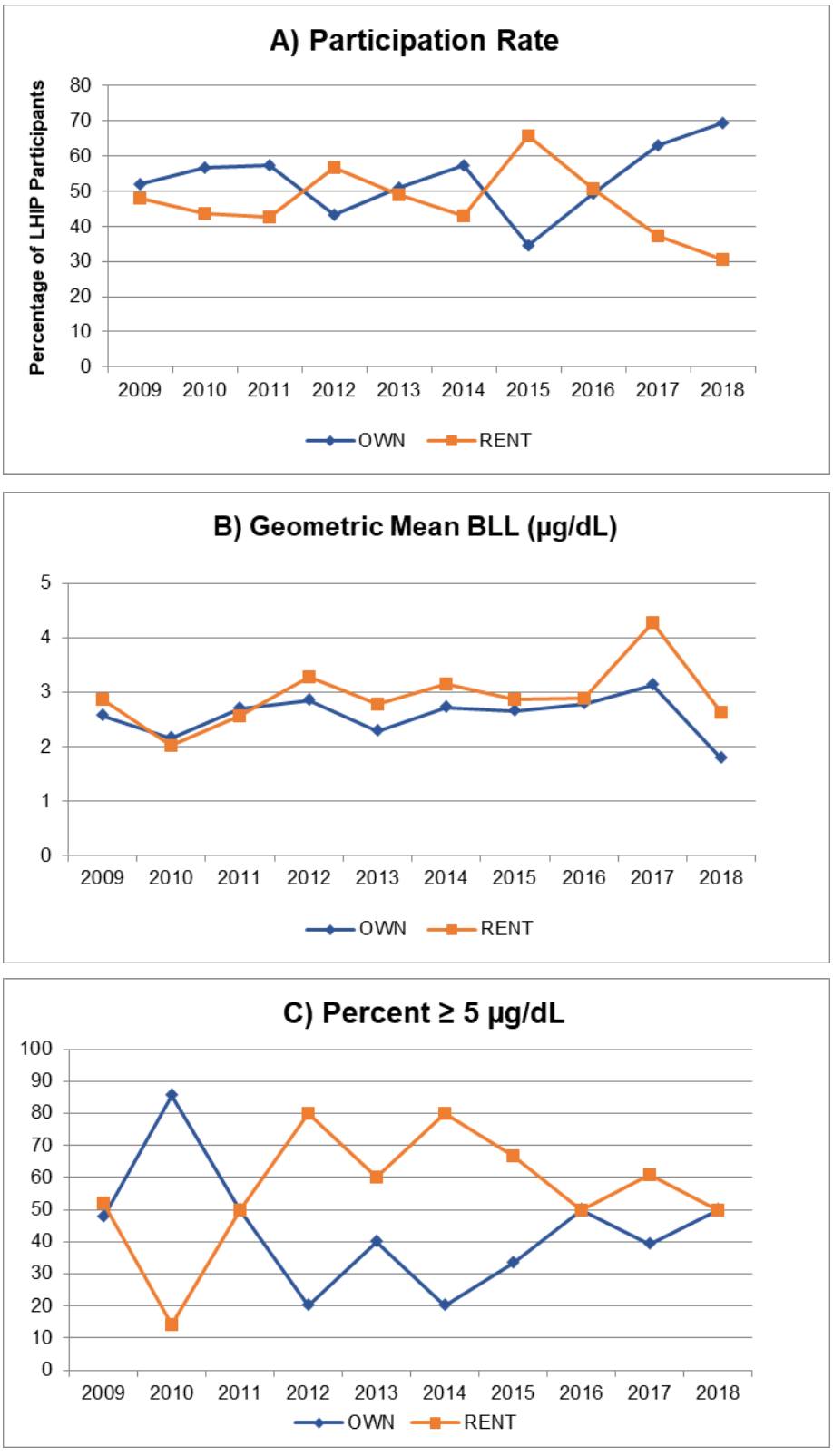
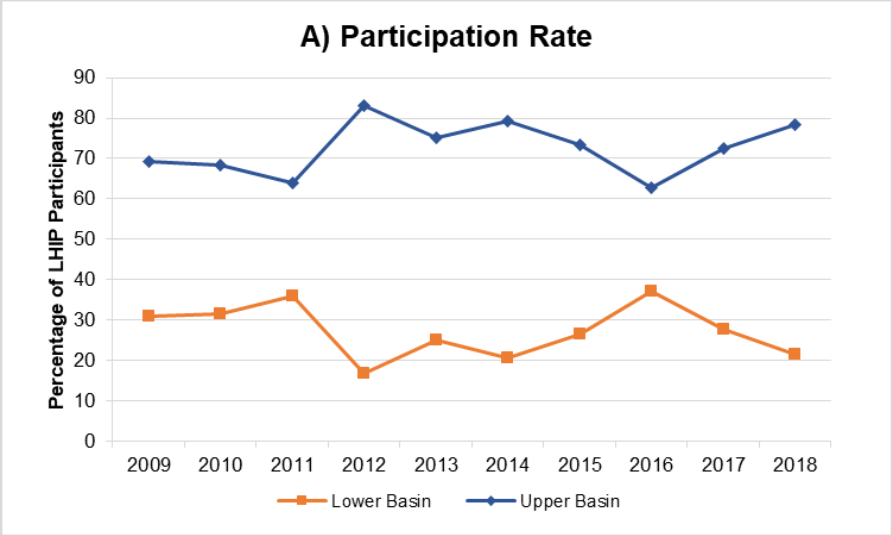
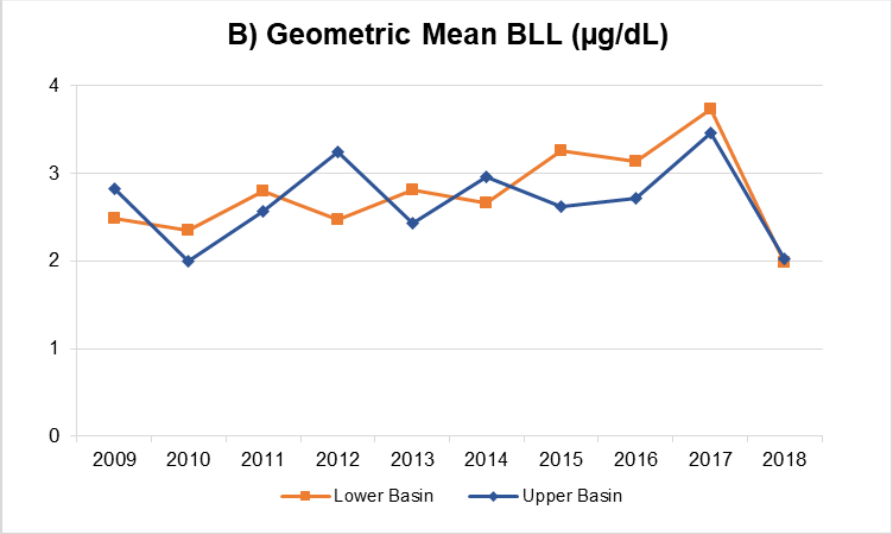


Figure 15. Participation Rate, Geometric Mean Blood Lead Level, and Percent ≥ 5 µg/dL by Sub-region – Basin





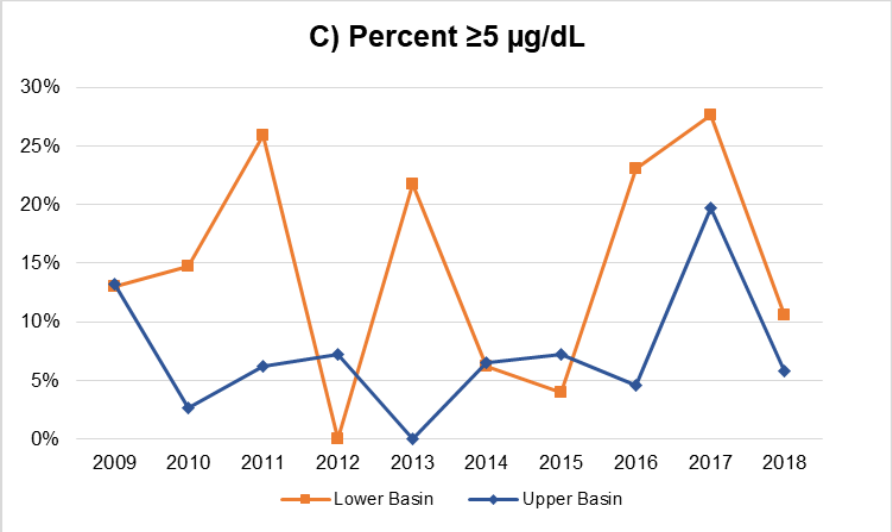


Figure 16. Participation, Geometric Mean Blood Lead Level, and Percent ≥5 µg/dL by Family's Duration at Residence – Basin

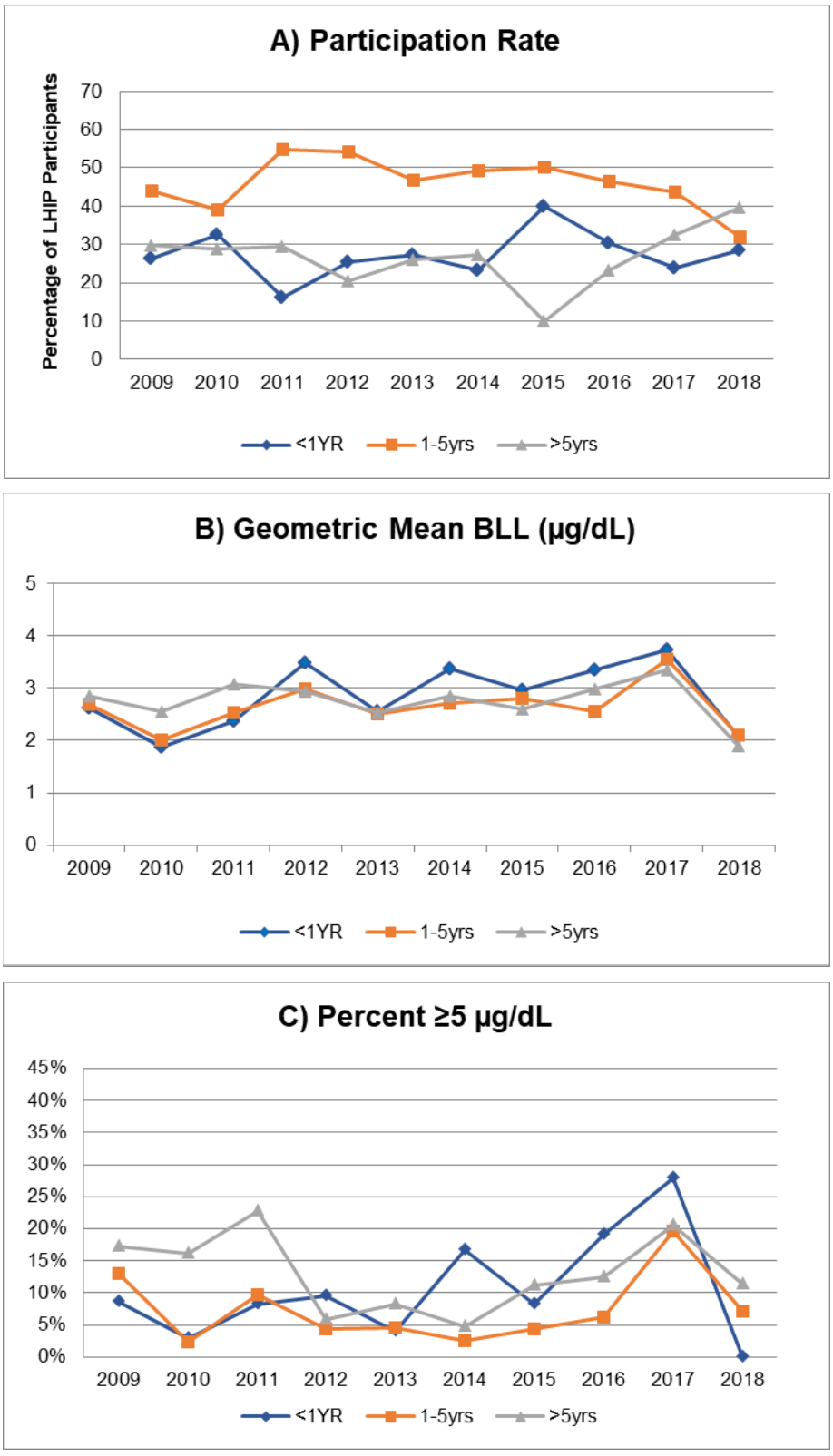


Figure 17. Upper Basin Community Mean Soil Concentrations and Mean Property Soil Exposures for LHIP Children by Year, 2009-2018

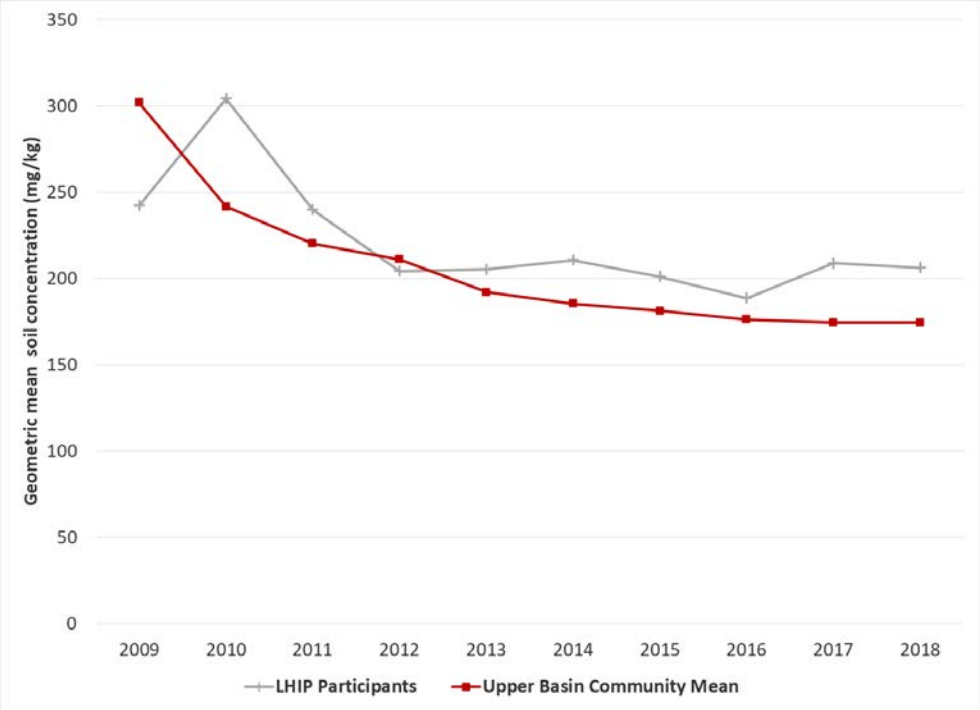


Figure 18. Lower Basin Community Mean Soil Concentrations and Mean Property Soil Exposures for LHIP Children by Year, 2009-2018

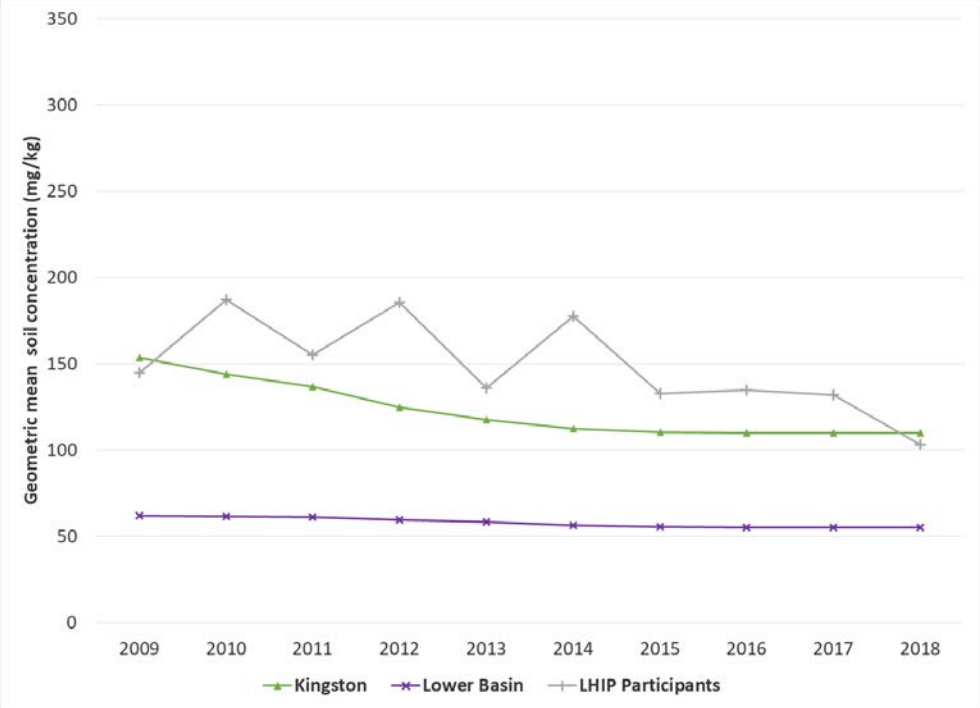


Figure 19. Basin LHIP Participant Property Soil Lead Concentrations by Year, 2009-2018

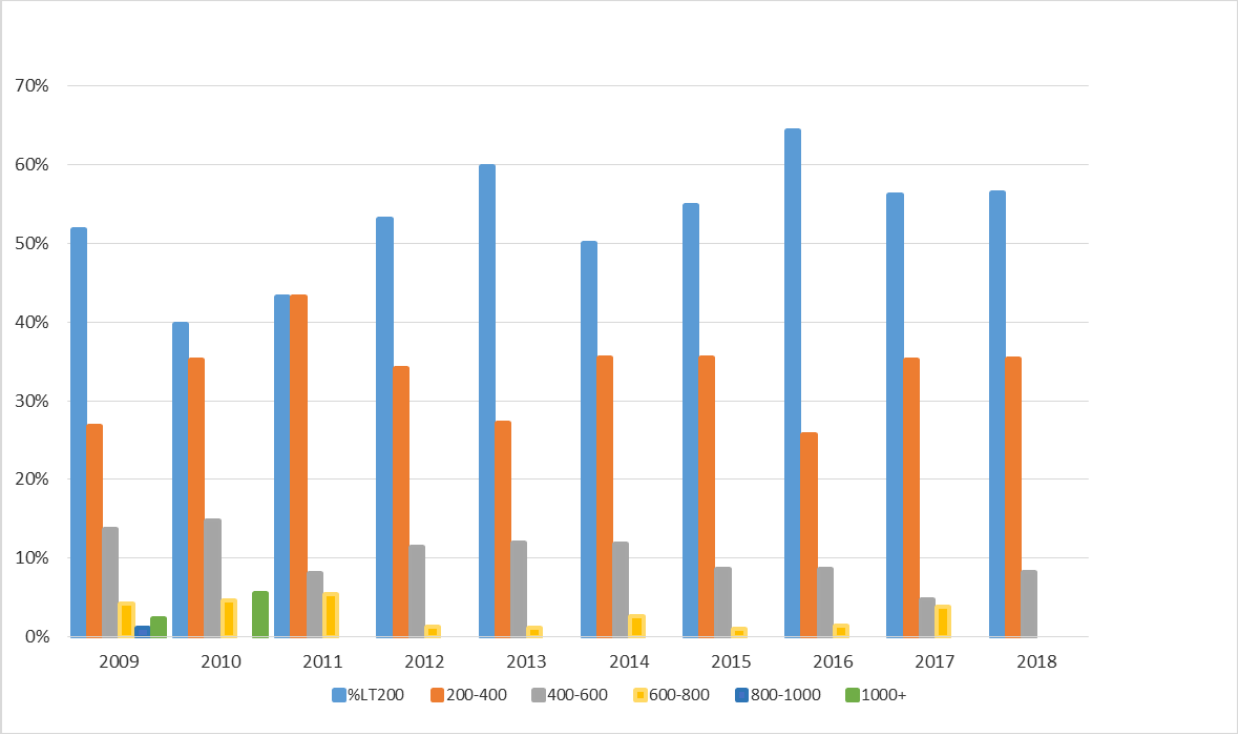


Figure 20. LHIP Participant and Community Mean Vacuum Lead Concentrations – Upper Basin

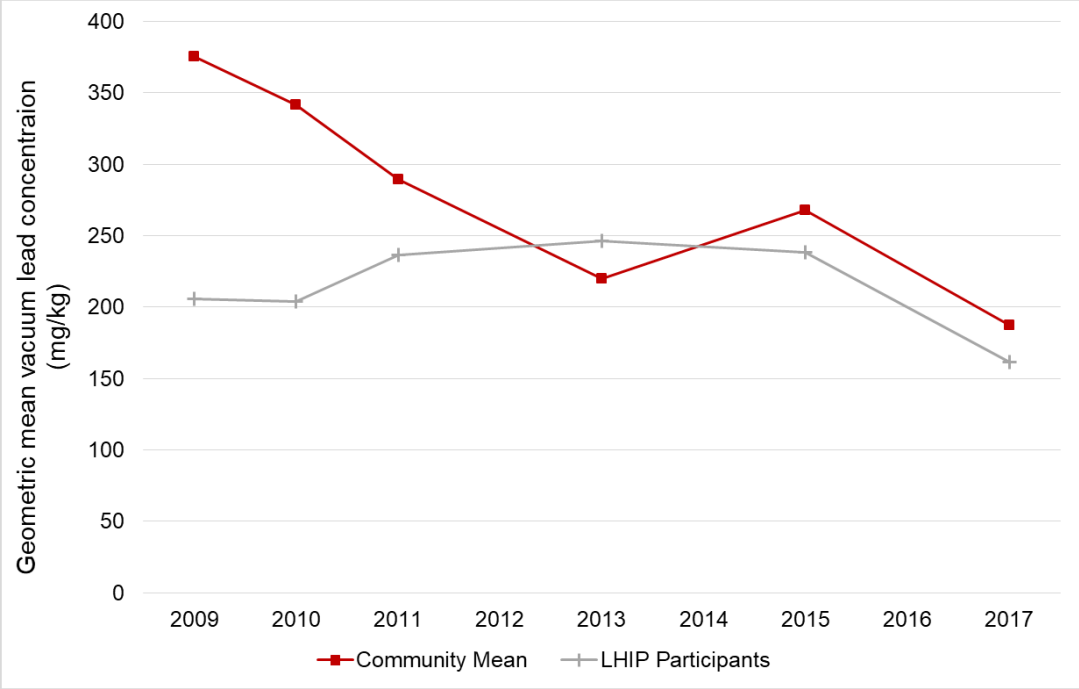


Figure 21. LHIP Participant and Community Mean Mat Lead Concentrations – Upper Basin

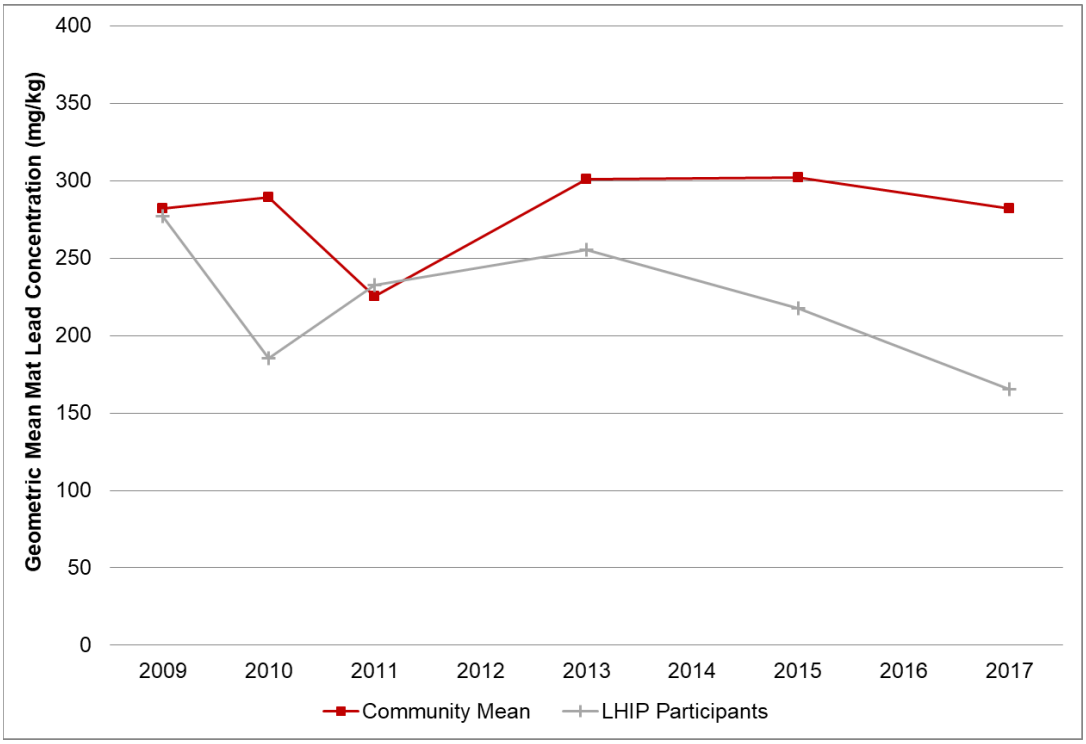


Figure 22. Vacuum Dust Lead Concentrations of Basin LHIP Participants

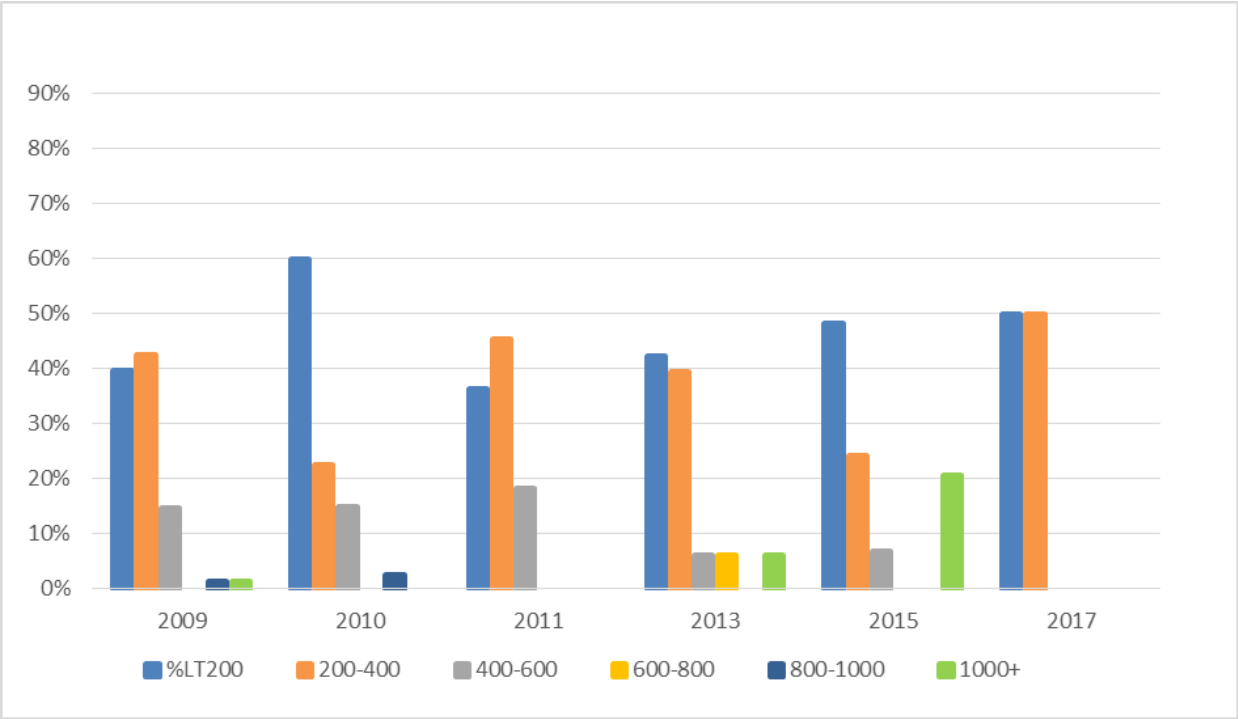


Figure 23. Mat Dust Lead Concentrations of Basin LHIP Participants

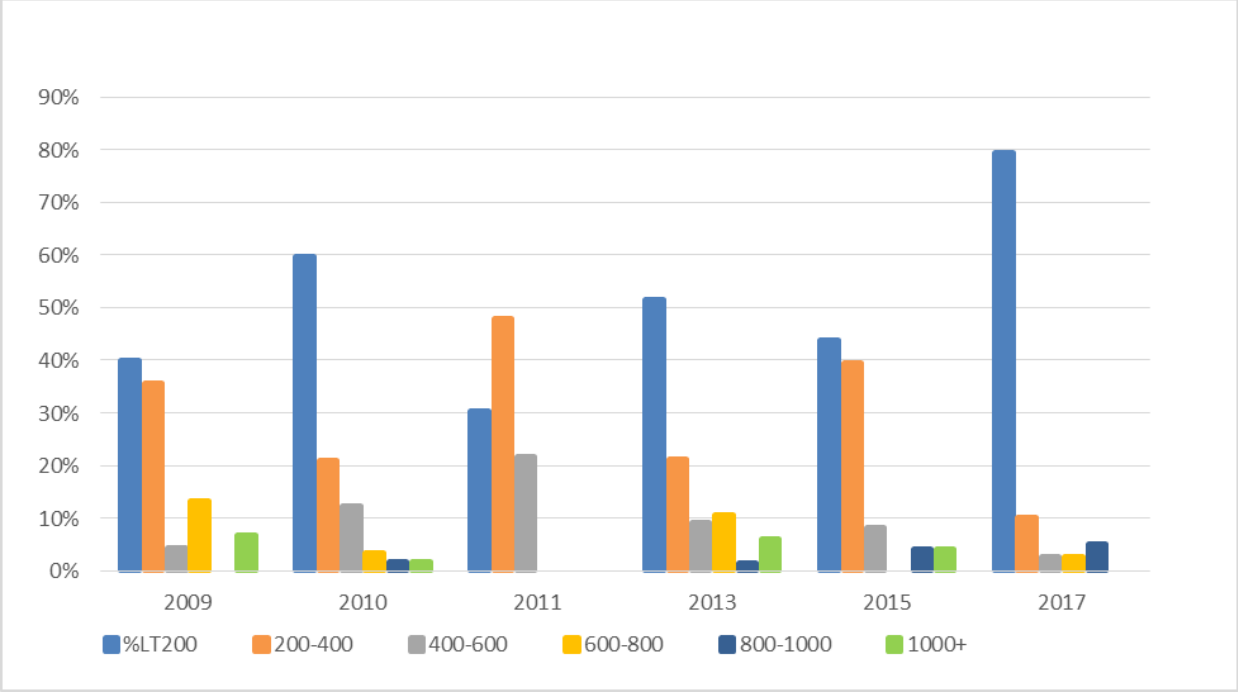


Figure 24. Box Plot of Blood Lead Levels, 2013 through 2018 - Box

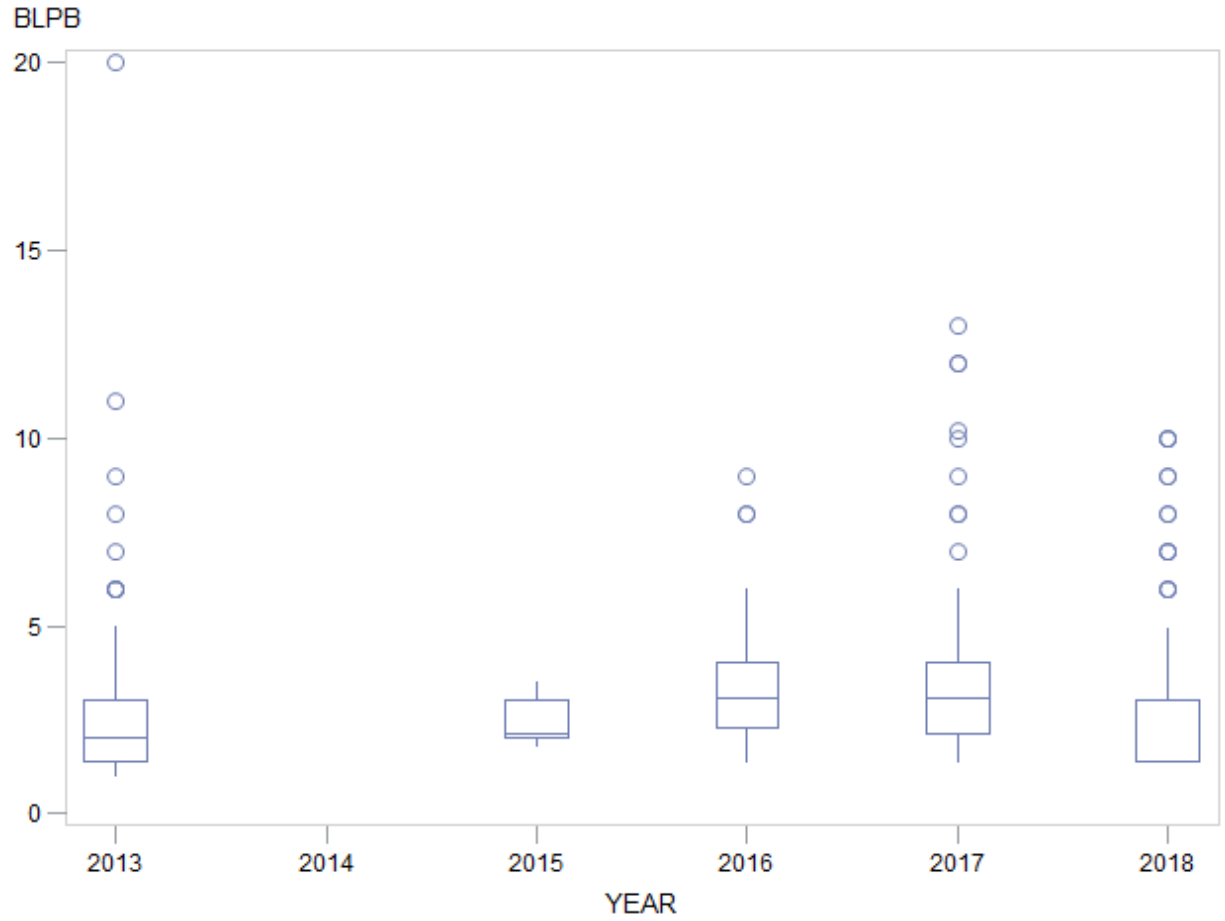


Figure 25. Percent of LHIP Participants with Elevated Blood Lead Levels - Box

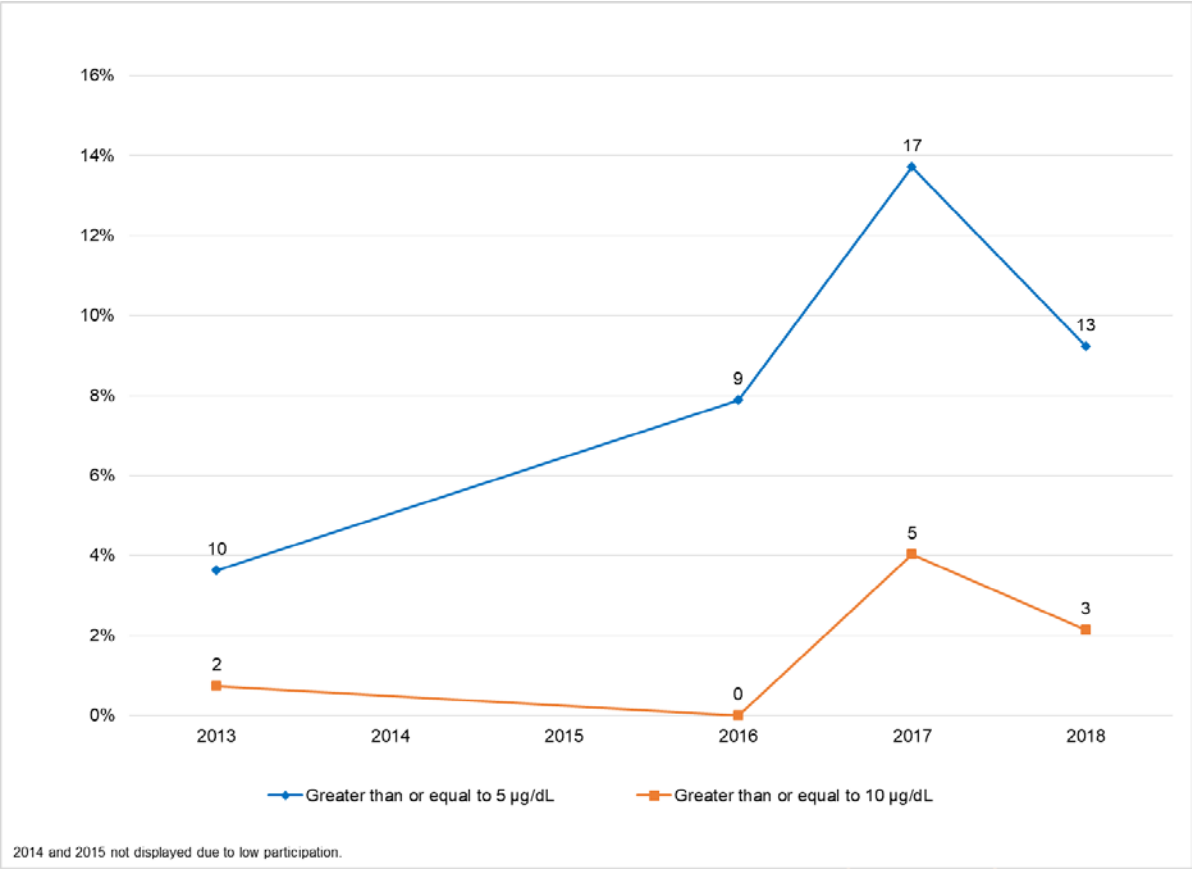


Figure 26. Participation Rate, Geometric Mean Blood Lead Level, and Percent ≥ 5 µg/dL by Family Income - Box

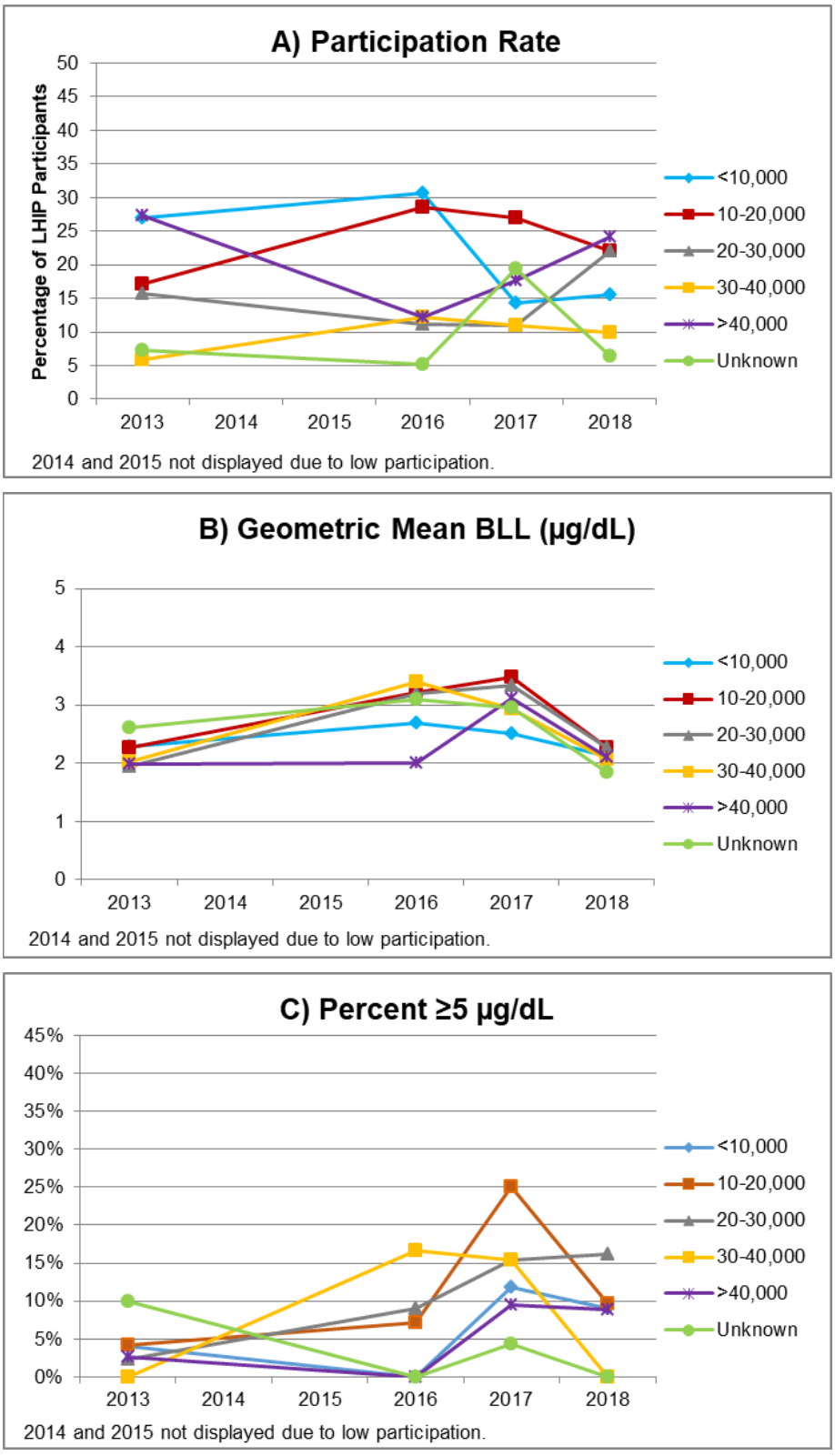


Figure 27. Participation Rate, Geometric Mean Blood Lead Level, and Percent ≥ 5 µg/dL by Age – Box

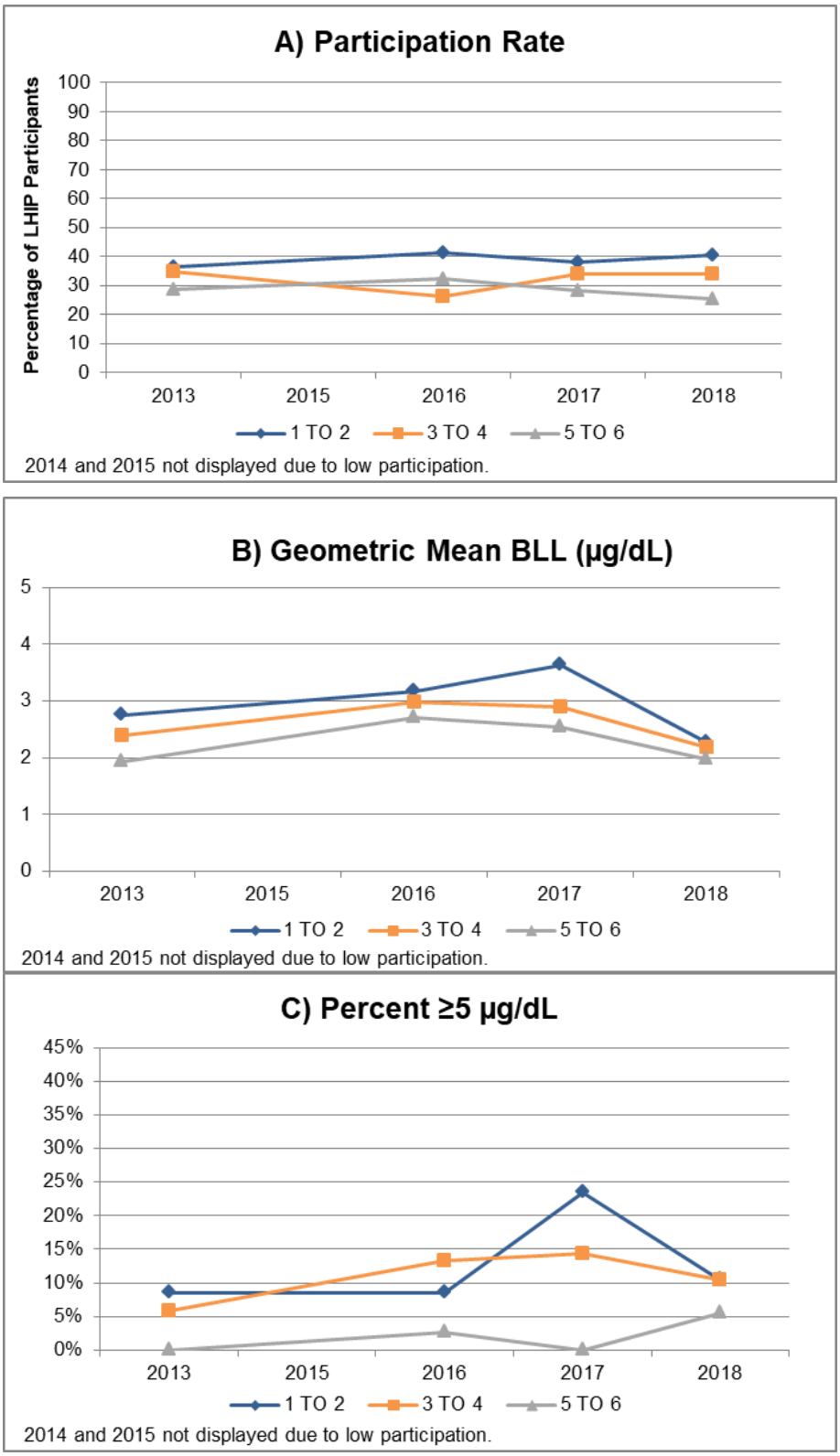
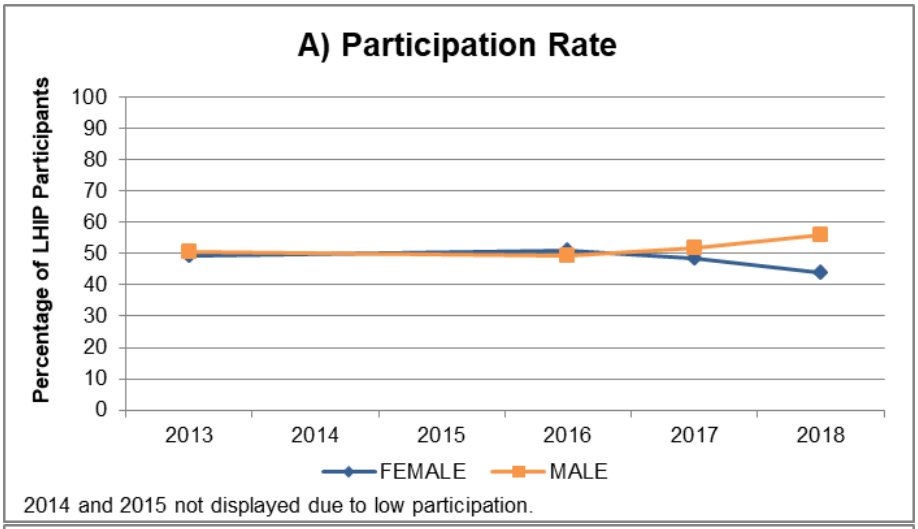
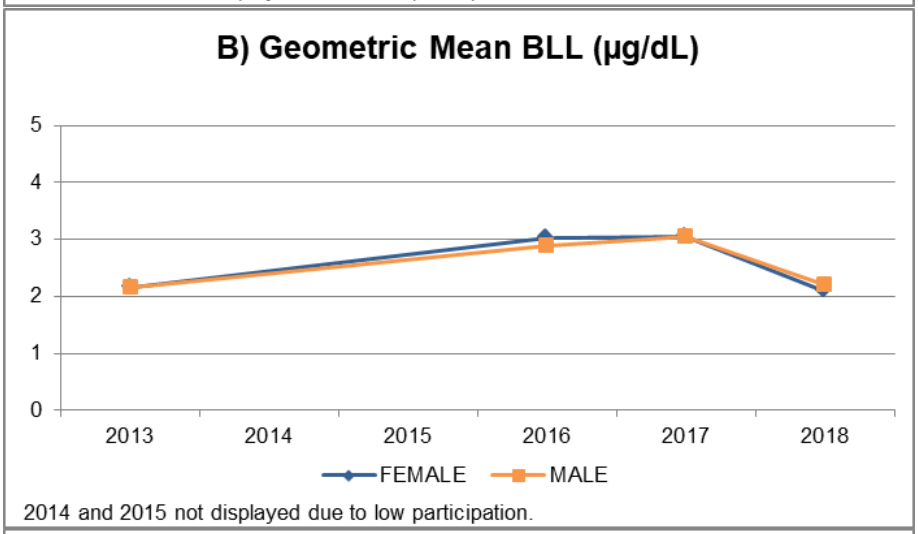


Figure 28. Participation Rate, Geometric Mean Blood Lead Level, and Percent ≥ 5 µg/dL by Gender – Box





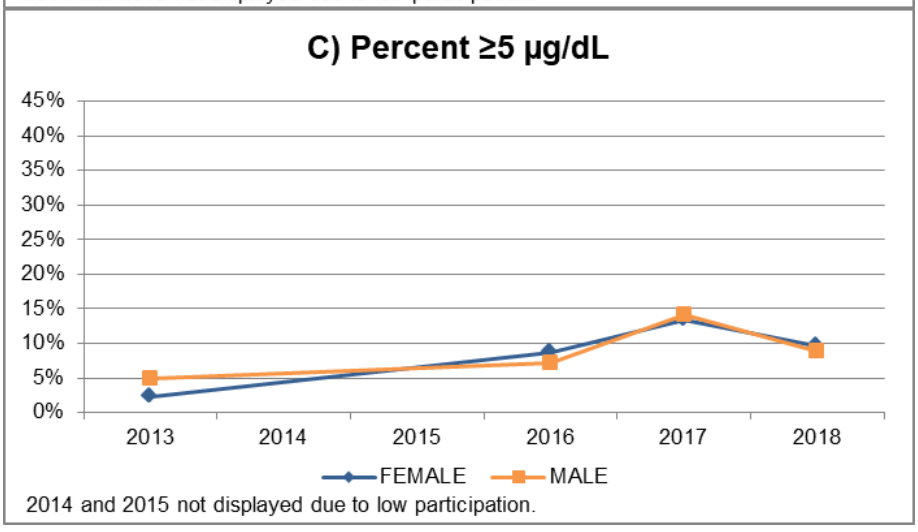
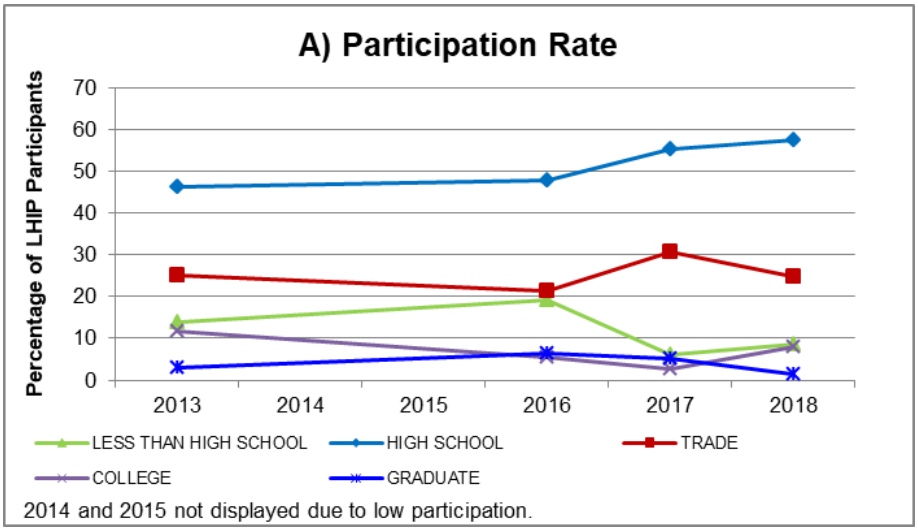
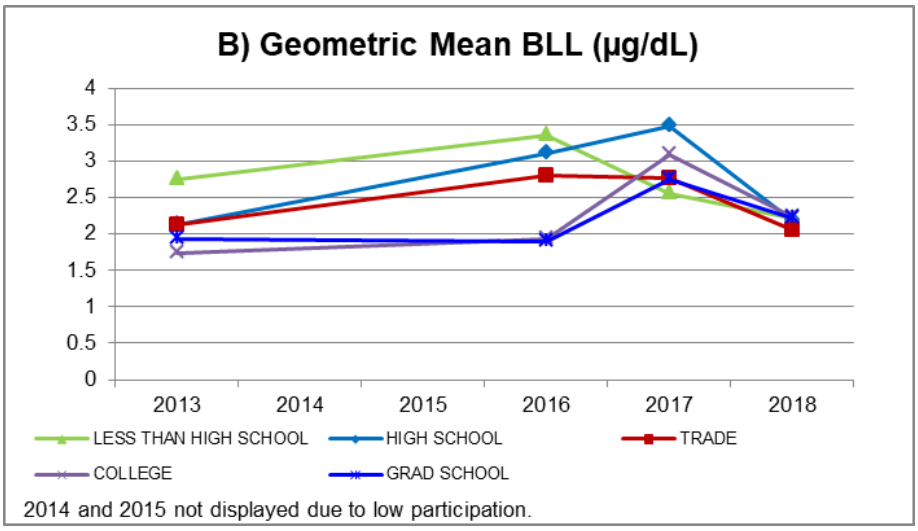


Figure 29. Participation Rate, Geometric Mean Blood Lead Level, and Percent ≥ 5 µg/dL by Parents' Education – Box





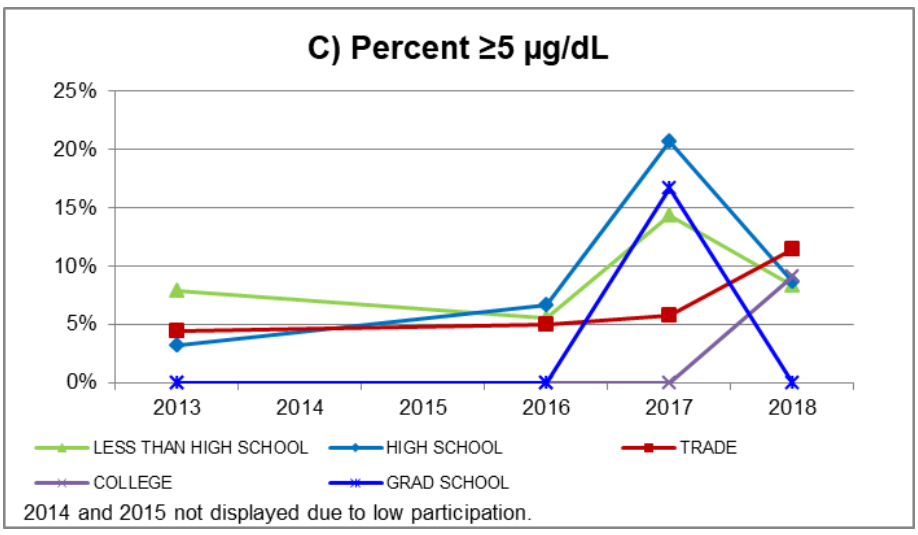


Figure 30. Participation Rate, Geometric Mean Blood Lead Level, and Percent ≥ 5 µg/dL by Ownership of Family Residence – Box

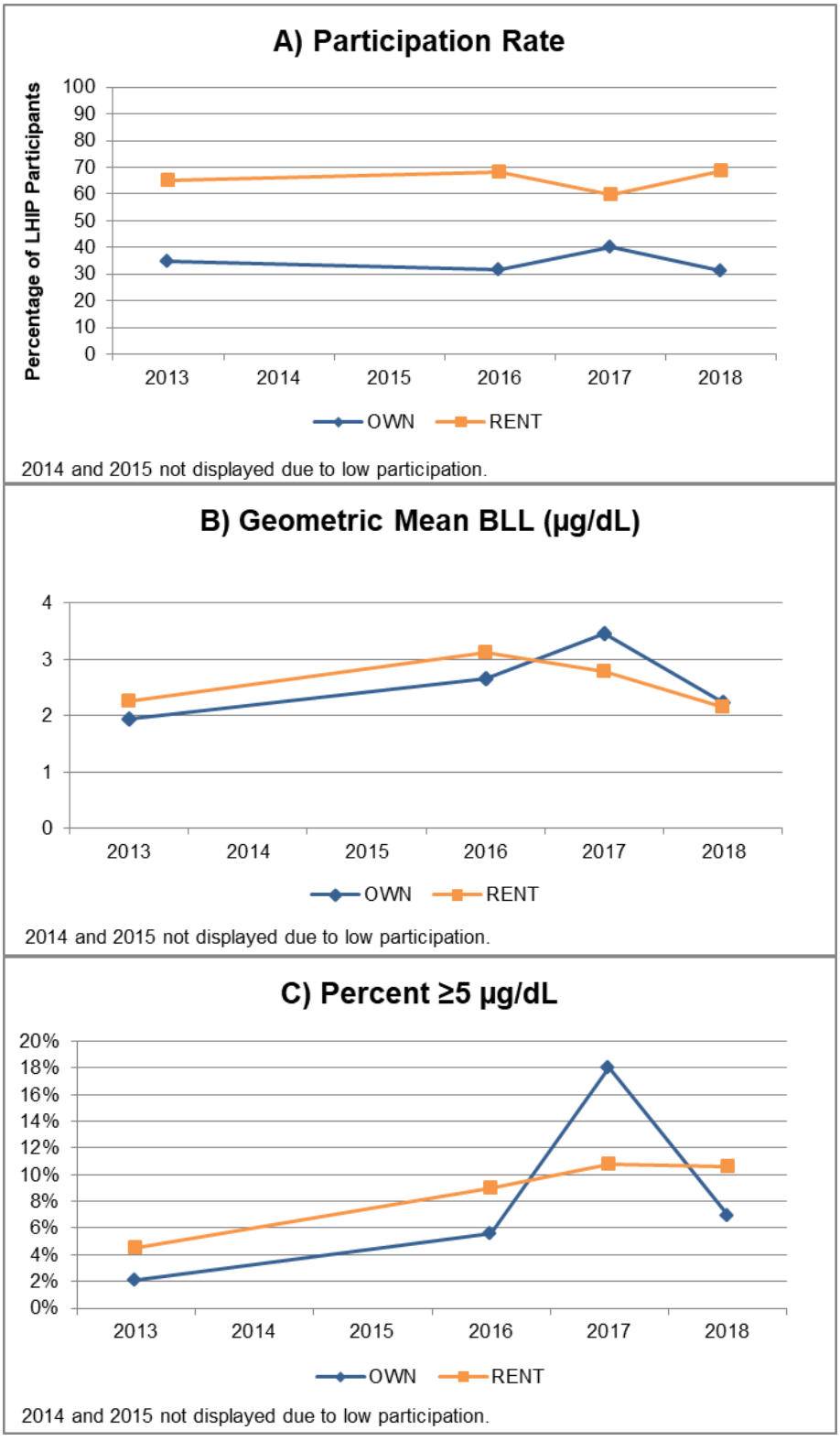
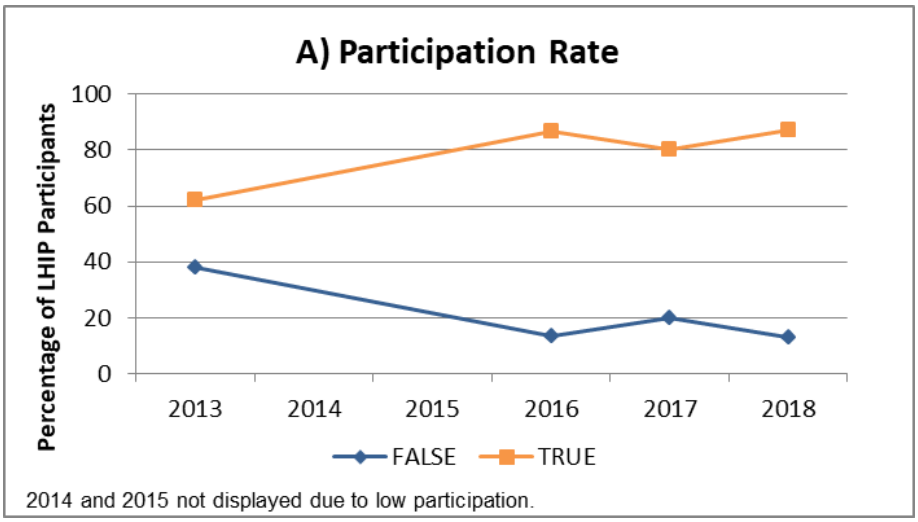
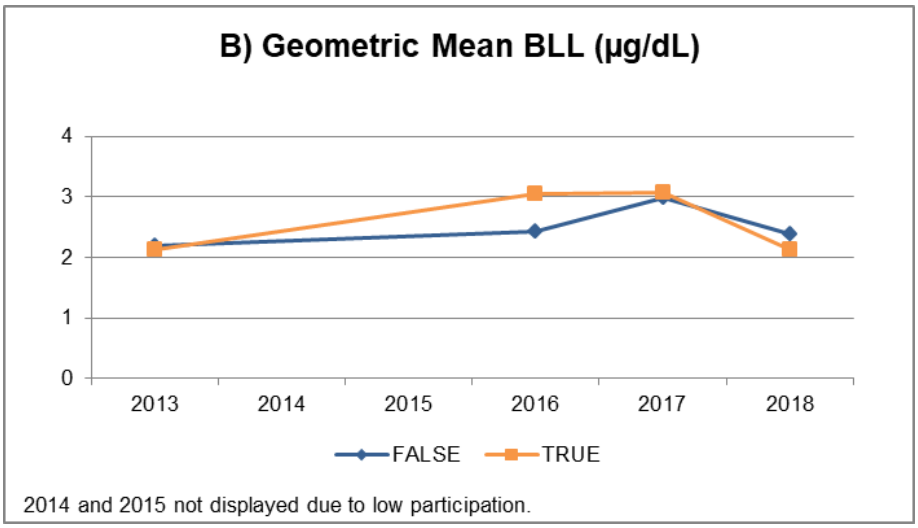


Figure 31. Participation Rate, Geometric Mean Blood Lead Level, and Percent ≥ 5 µg/dL by Medicaid Coverage – Box





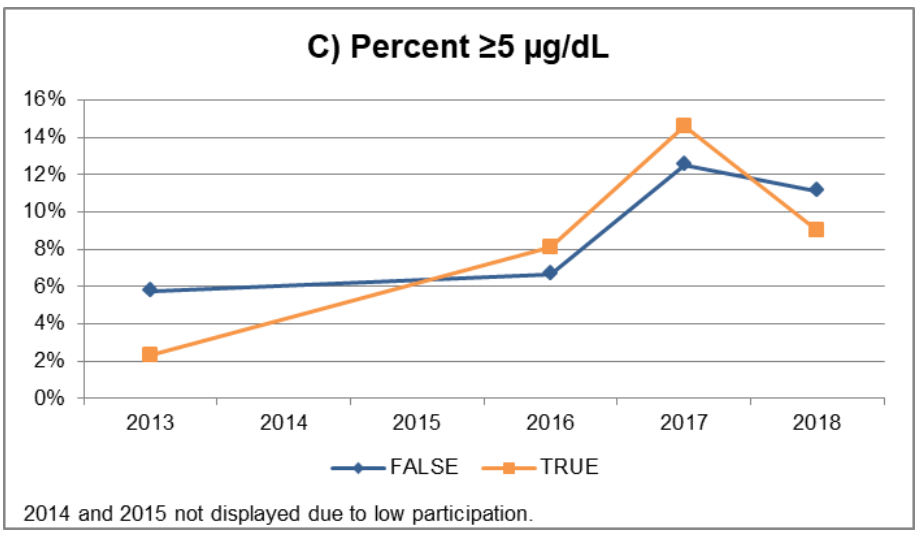
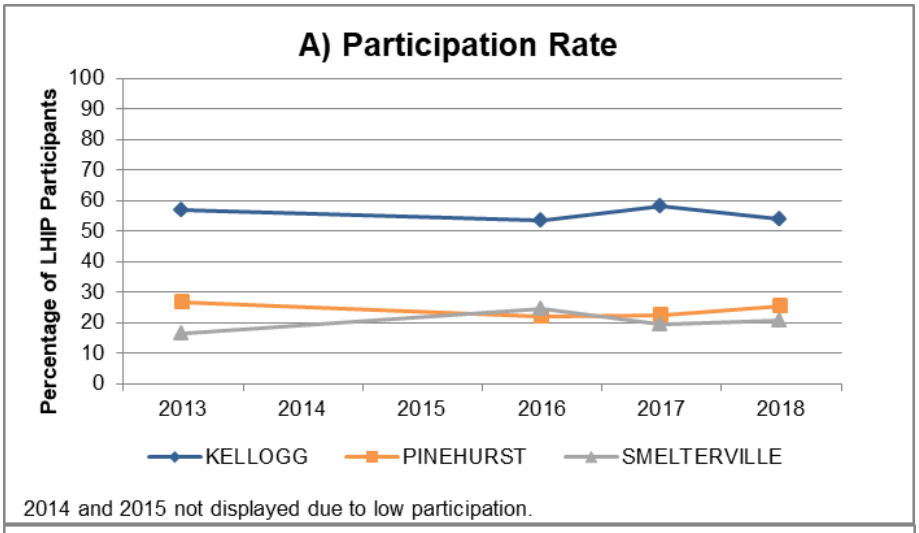
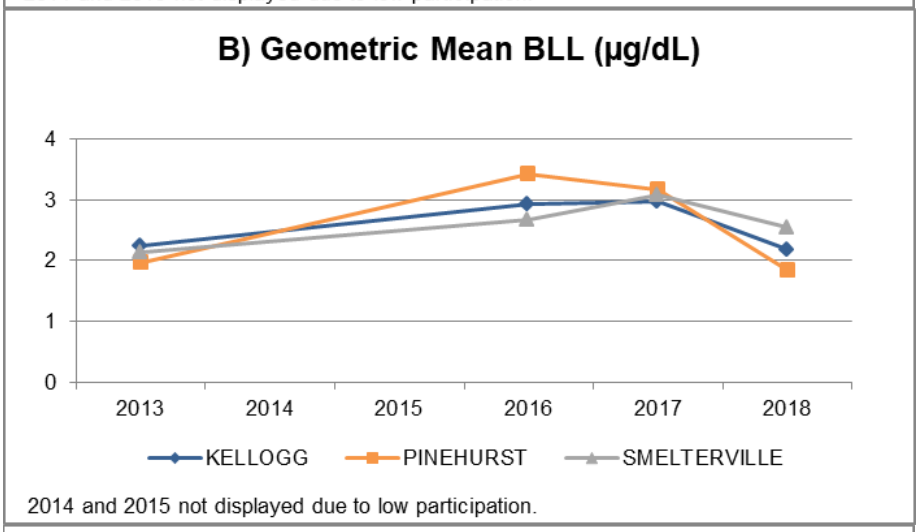


Figure 32. Participation Rate, Geometric Mean Blood Lead Level, and Percent ≥ 5 µg/dL by Location – Box





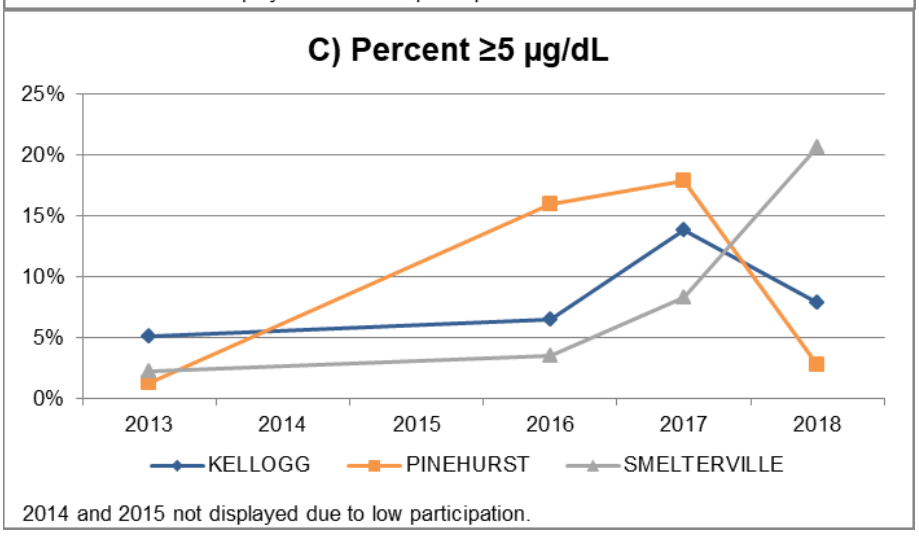


Figure 33. Participation Rate, Geometric Mean Blood Lead Level, and Percent ≥ 5 µg/dL by Family's Duration at Residence - Box

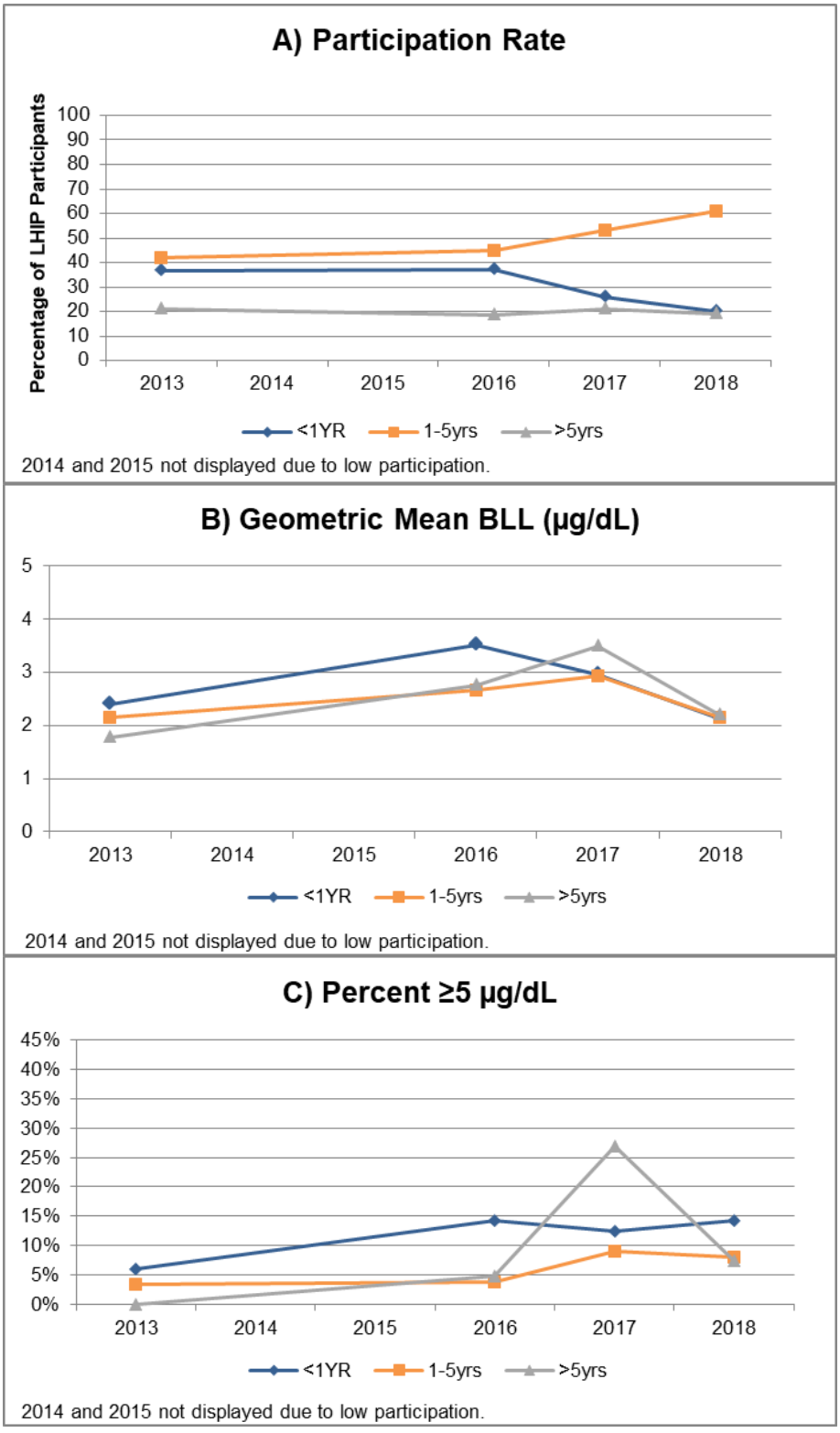
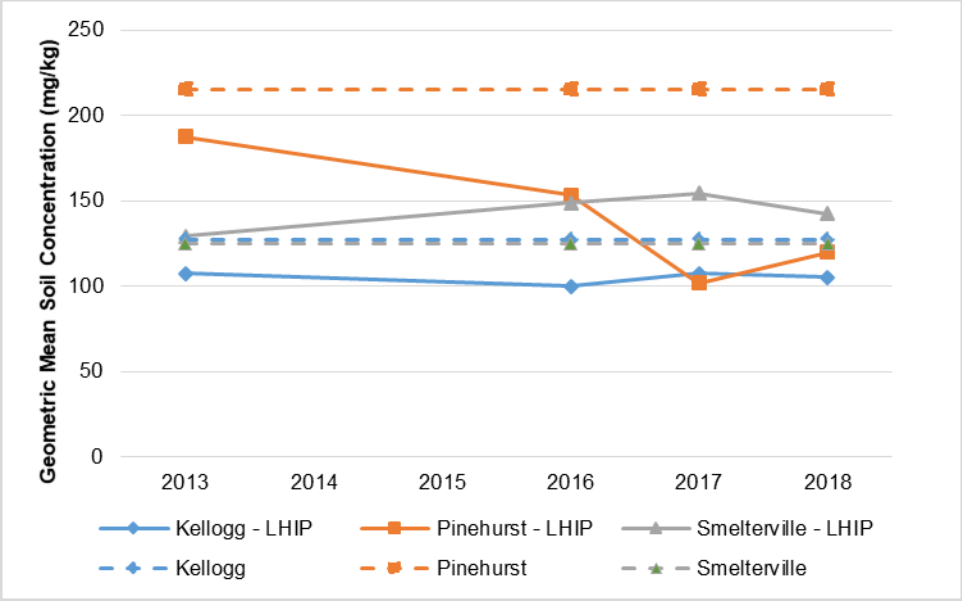


Figure 34. Box Community Mean Yard Soil Lead Concentrations and Mean Yard Soil Exposures for LHIP Children by Year, 2013-2018



2014 and 2015 not displayed due to low participation.

Page is included with Pinehurst. Wardner is included with Kellogg.

The community means that are displayed are the averages of the residential yard soil geometric mean lead concentrations.

Figure 35. Box LHIP Participant Yard Soil Lead Concentrations by Year, 2013-2018

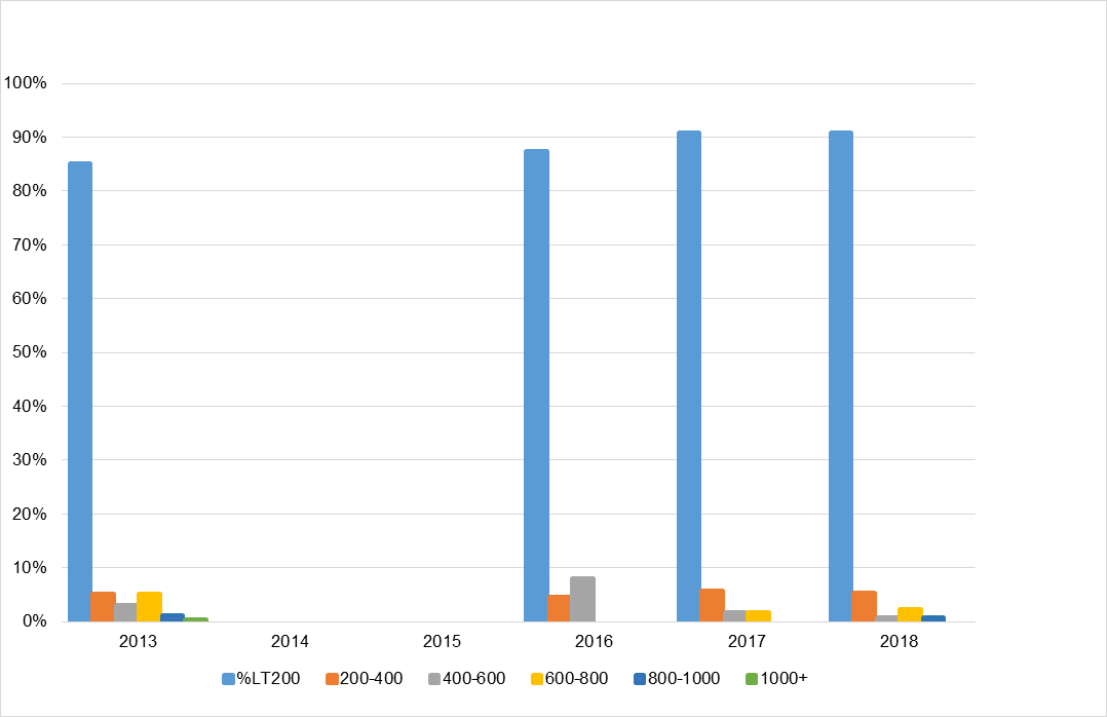


Figure 36. Percent of Participant Responses to Occupation – Basin

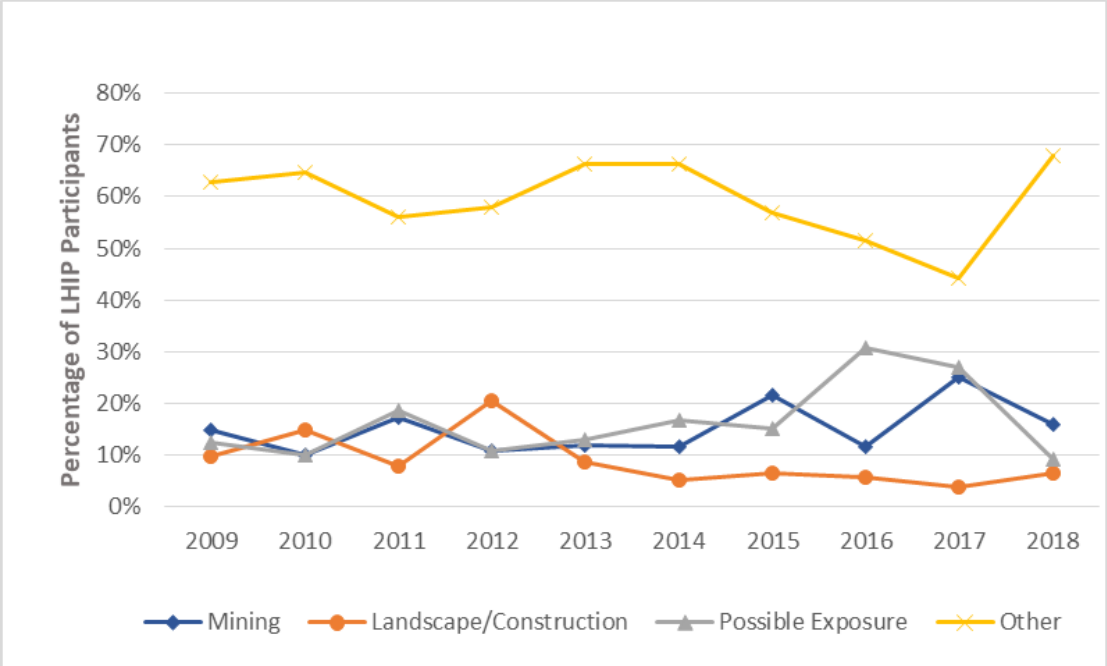


Figure 37. Percent of Participant Responses to Amount of Time Spent Outdoors – Basin

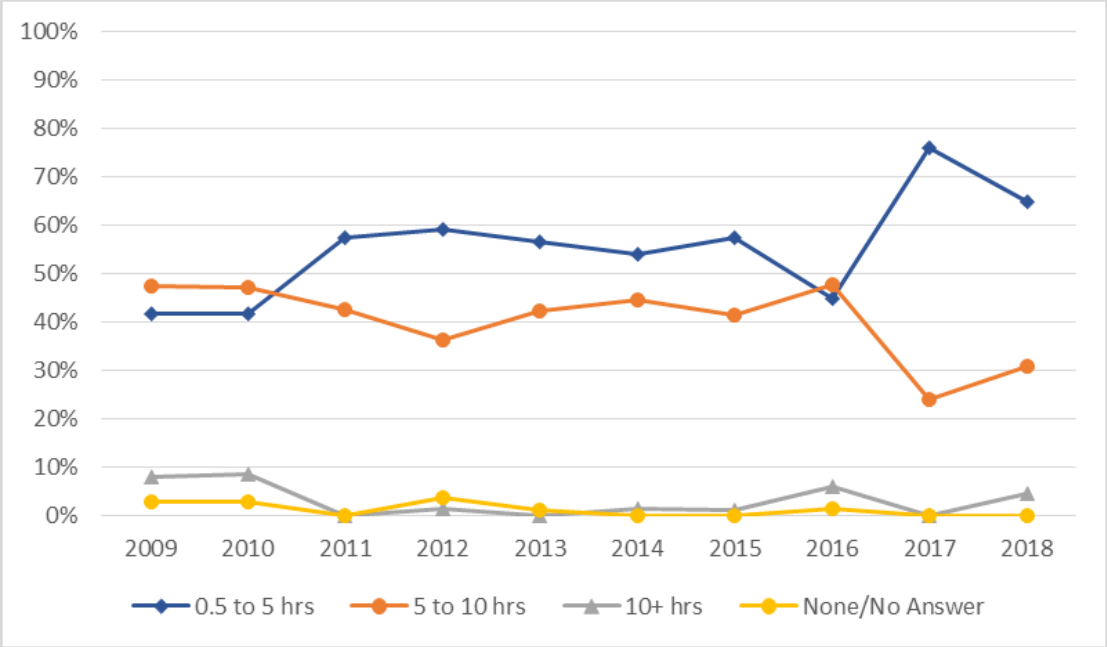


Figure 38. Percent of Basin LHIP Participants who Responded Yes – Habits

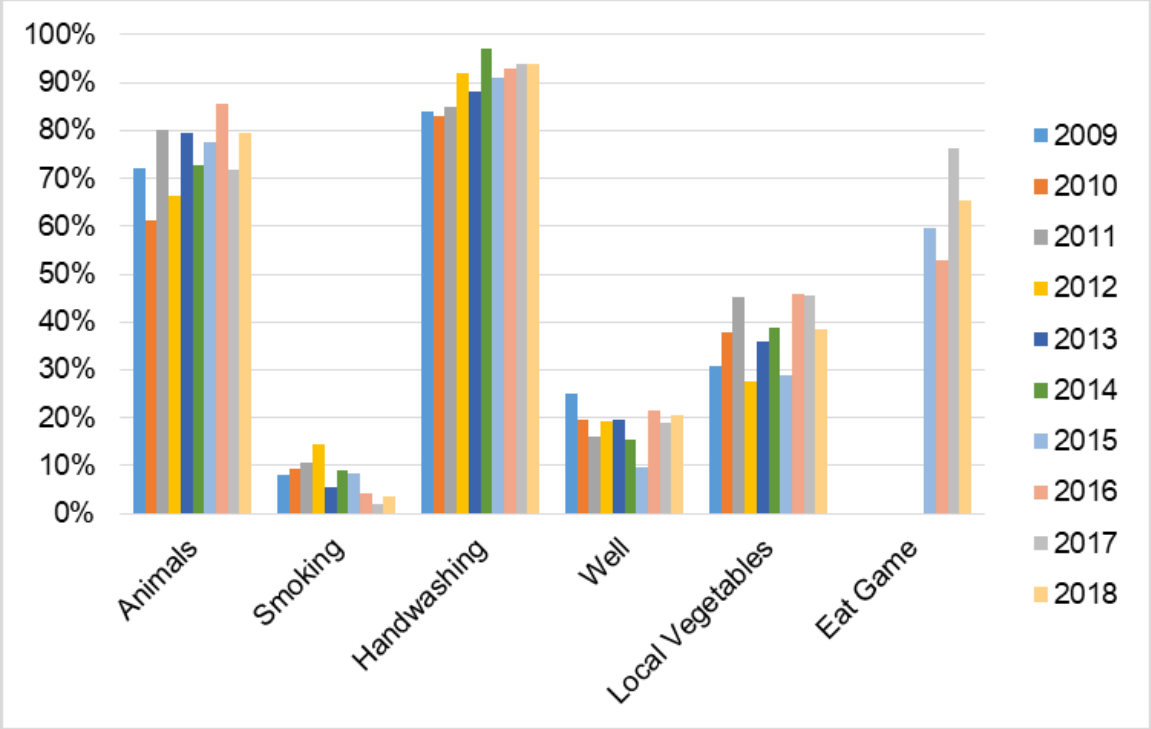


Figure 39. Percent of Box LHIP Participants who Responded Yes – Habits and Drinking Water

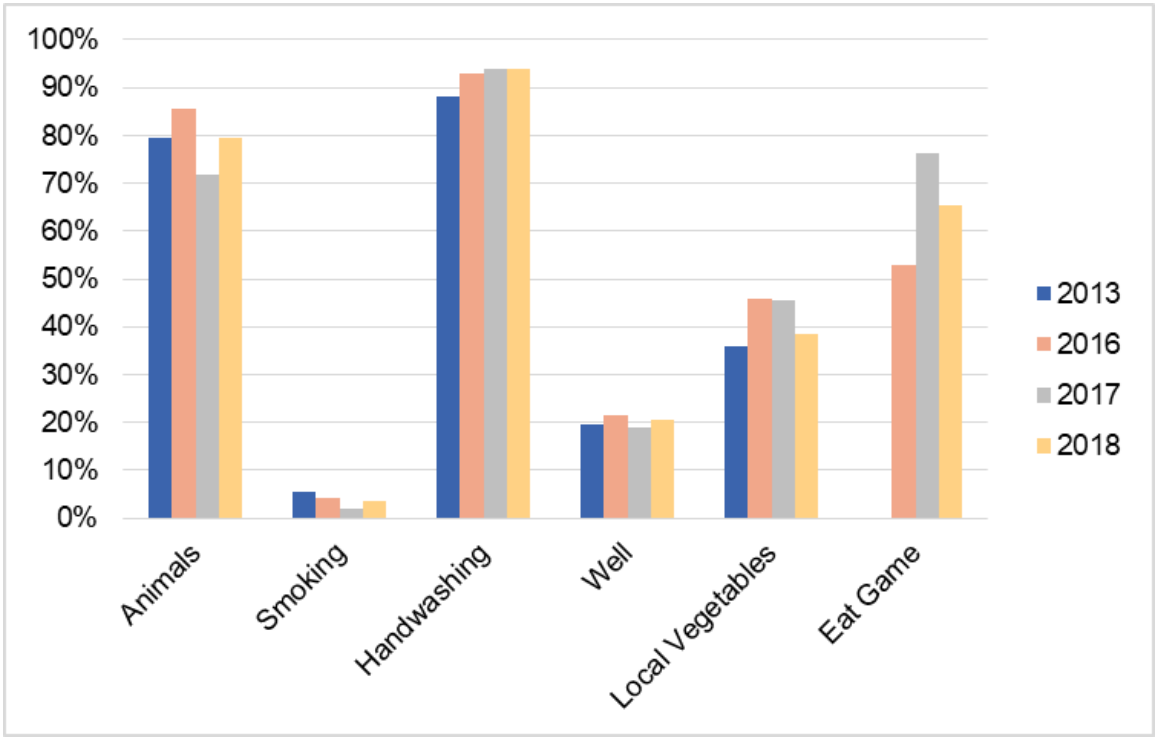


Figure 40. Percent of LHIP Participants who Responded Yes – Hobbies

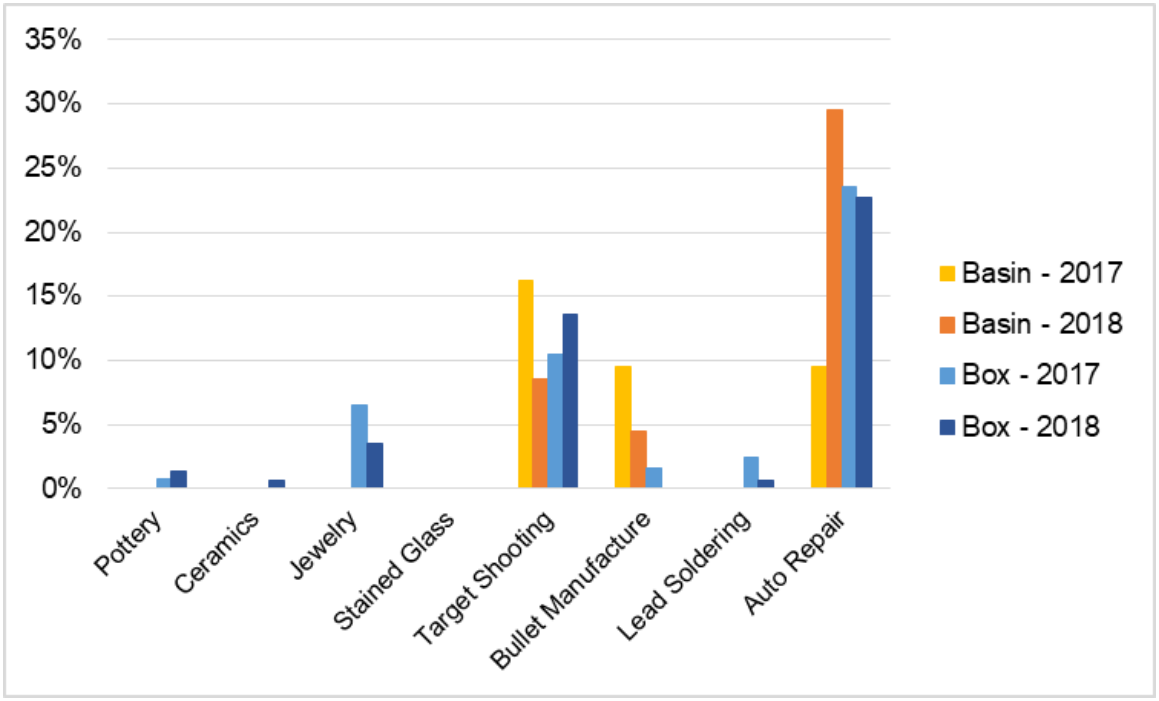


Figure 41. Percent of LHIP Participants who Responded Yes - Housing Characteristics

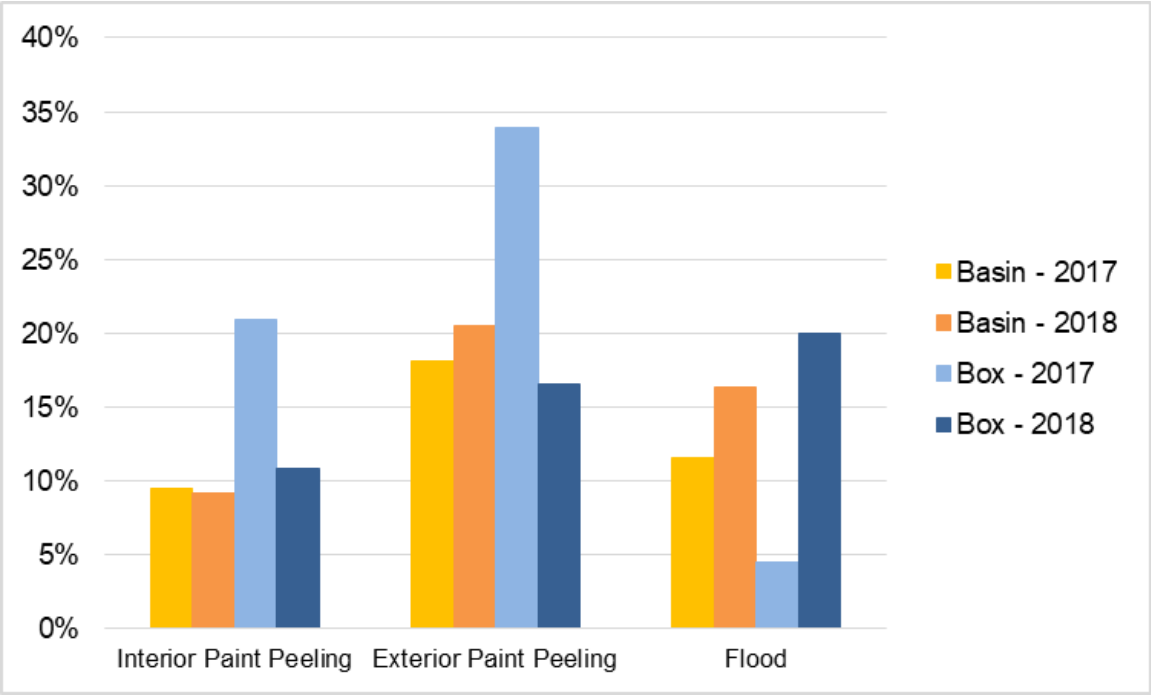
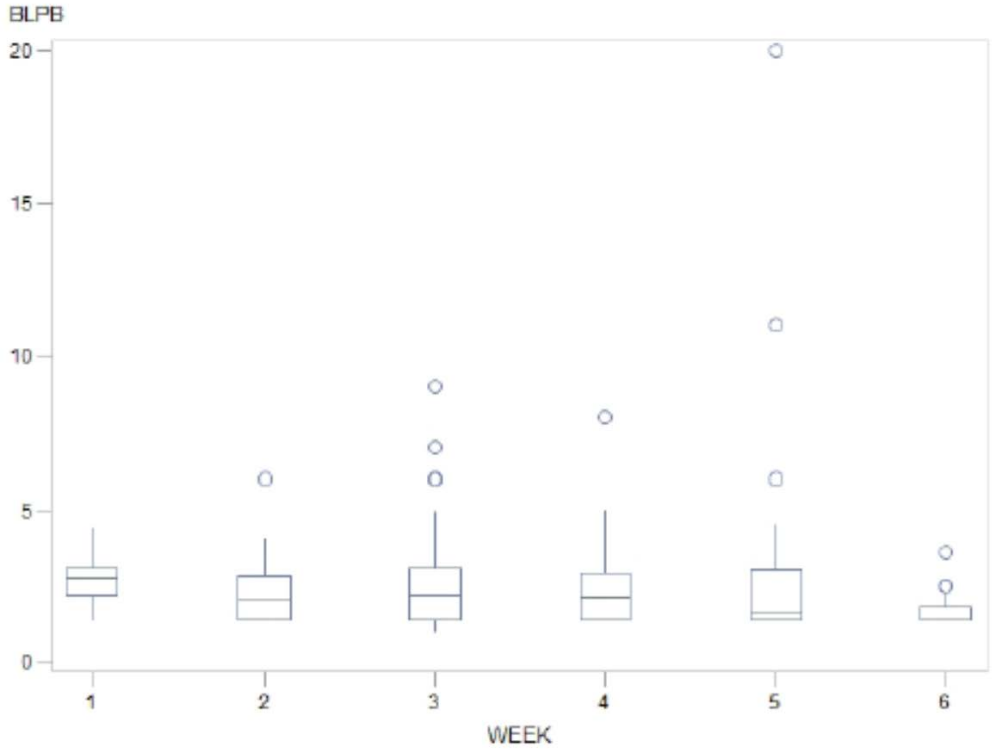


Figure 42. Blood Lead Levels by Week in Children Residing in the Box, 2013



Note: Week number is each week, starting with 1 as the week of 7/10/2013, through 6 as the week of 8/12/2013.

Figure 43. Temperature Data, 2015 – 2018

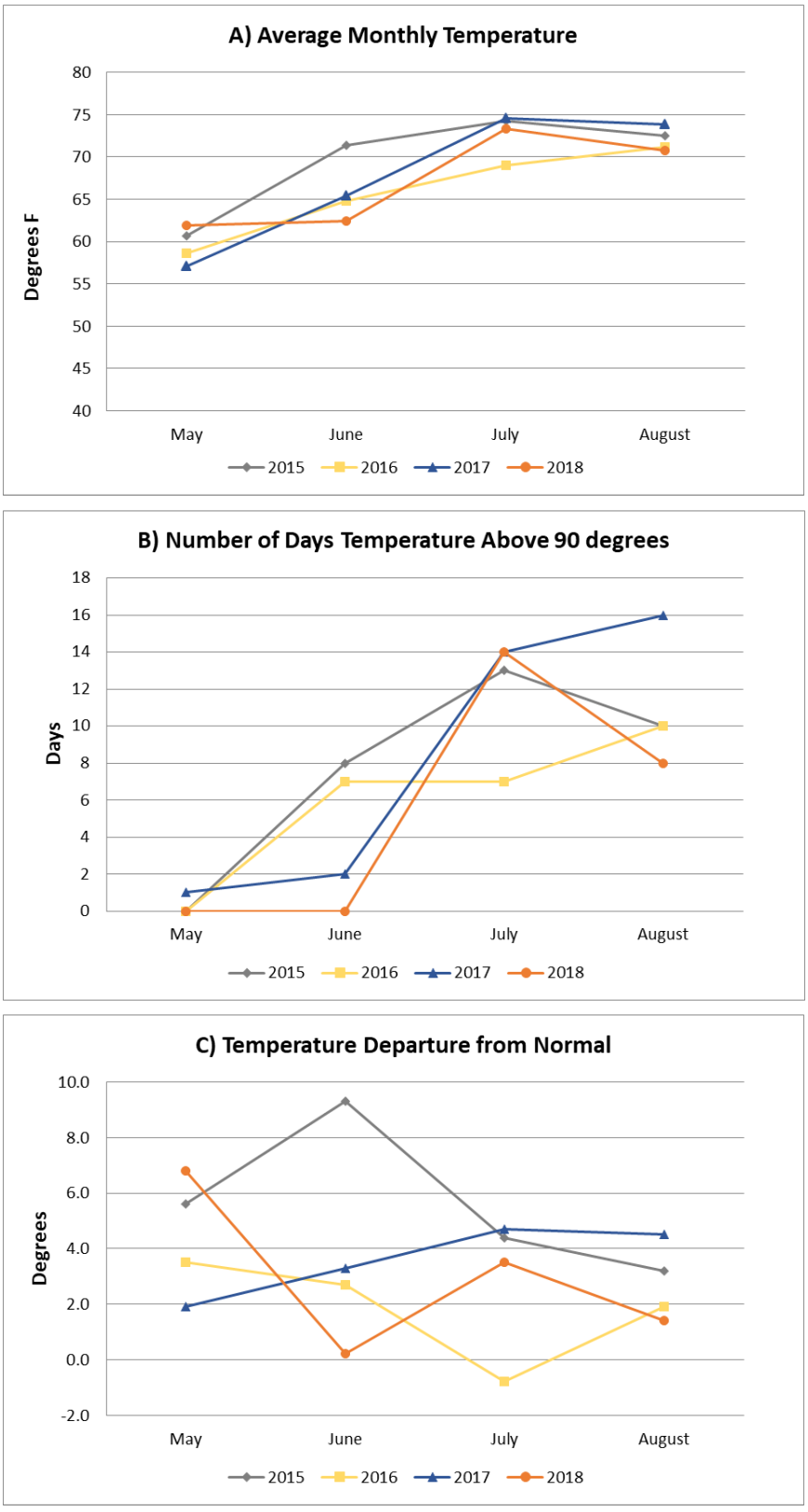


Figure 44. Precipitation Data, 2015 – 2018

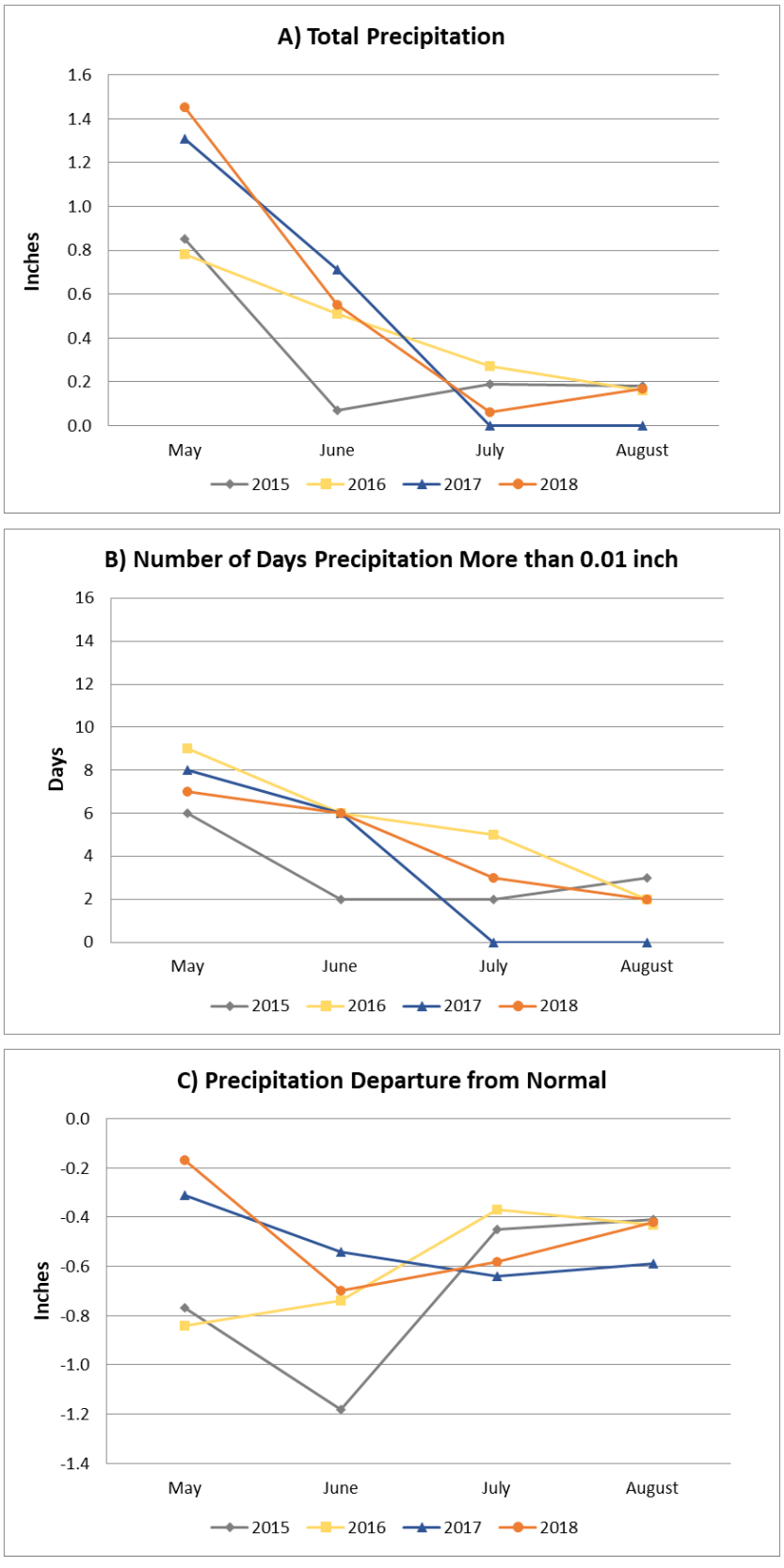
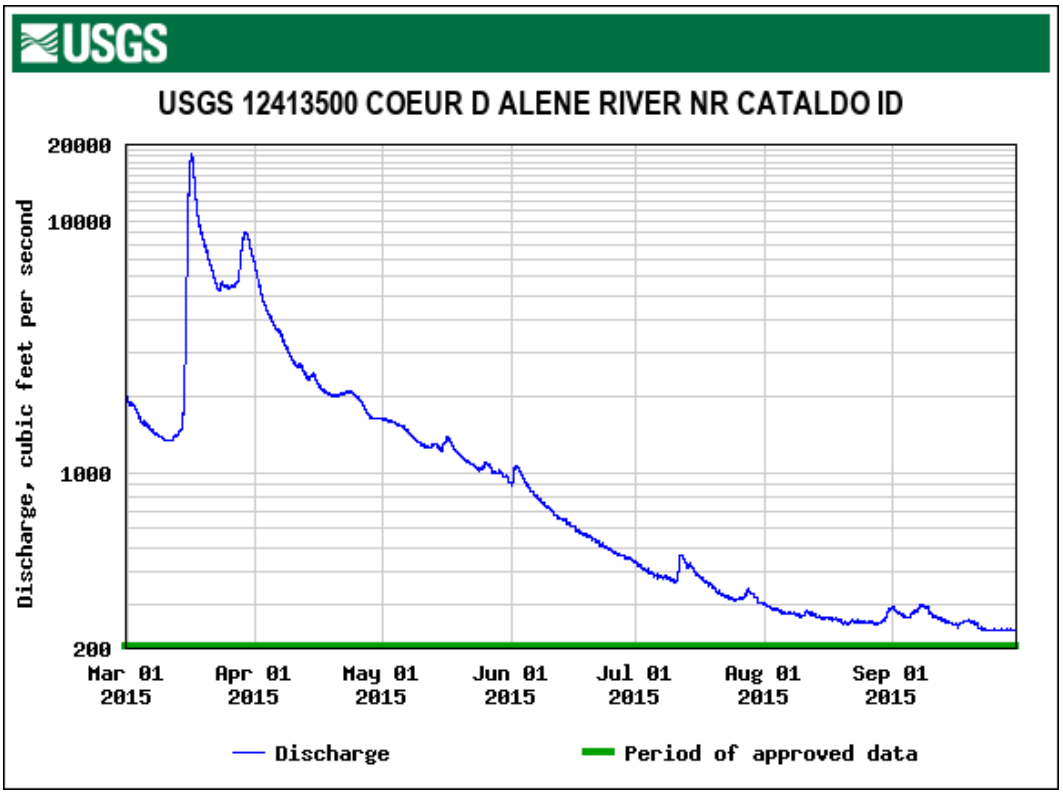
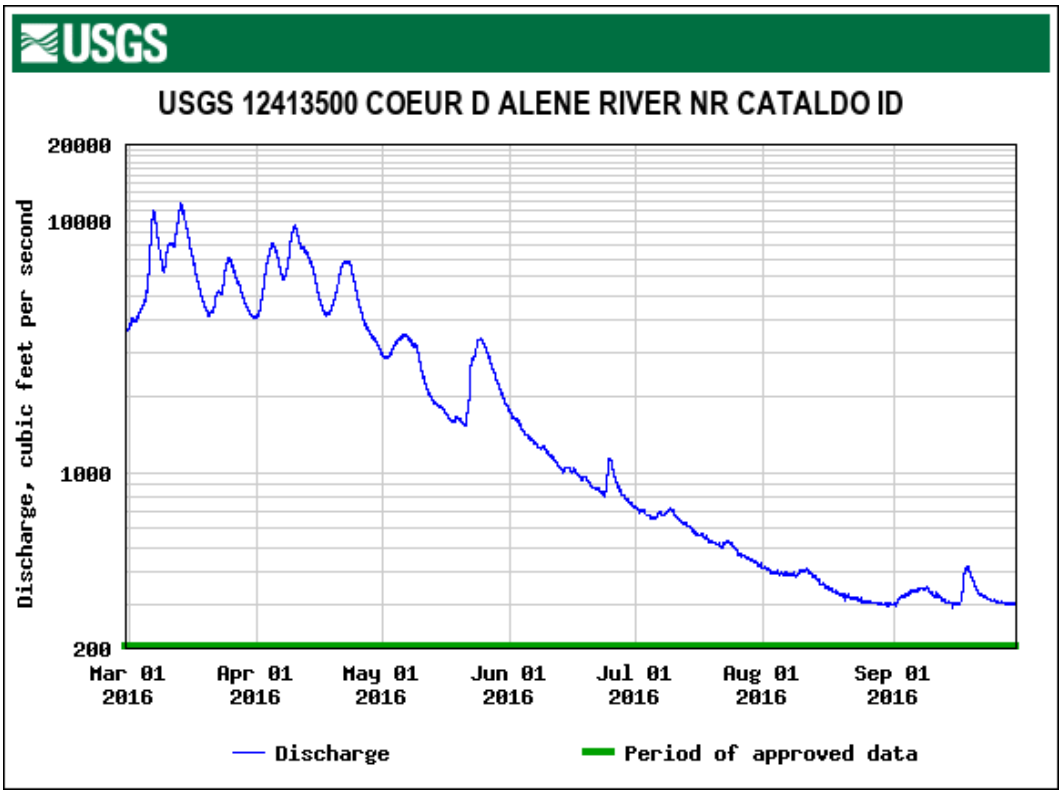
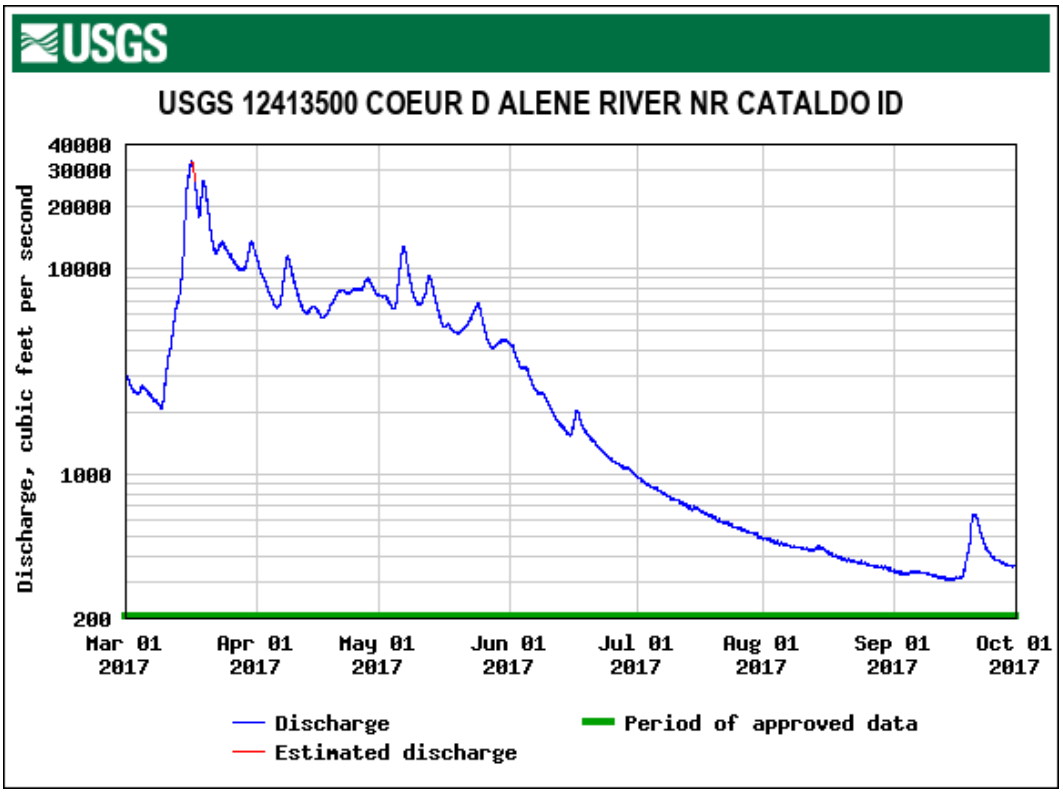


Figure 45. Coeur d'Alene River Stage Data, March – August, 2015 – 2018 (2 pages)






USGS
USGS 12413500 COEUR D ALENE RIVER NR CATALDO ID
Discharge, cubic feet per second
40000
30000
20000
10000
1000
200
Mar 01 2017
Apr 01 2017
May 01 2017
Jun 01 2017
Jul 01 2017
Aug 01 2017
Sep 01 2017
Oct 01 2017
Discharge
Estimated discharge
Period of approved data

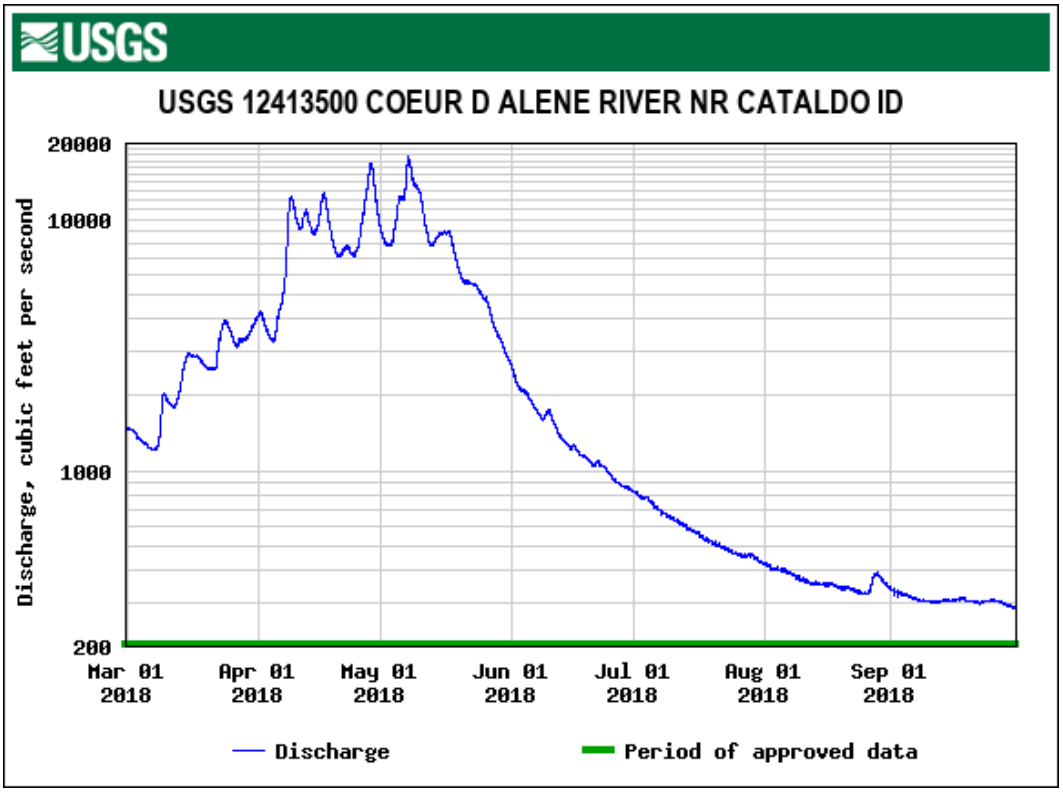

USGS
USGS 12413500 COEUR D ALENE RIVER NR CATALDO ID
Discharge, cubic feet per second
20000
10000
1000
200
Mar 01 2018
Apr 01 2018
May 01 2018
Jun 01 2018
Jul 01 2018
Aug 01 2018
Sep 01 2018
Discharge
Period of approved data

Figure 46. Percent of LHIP Participants who Responded Yes - Recreation

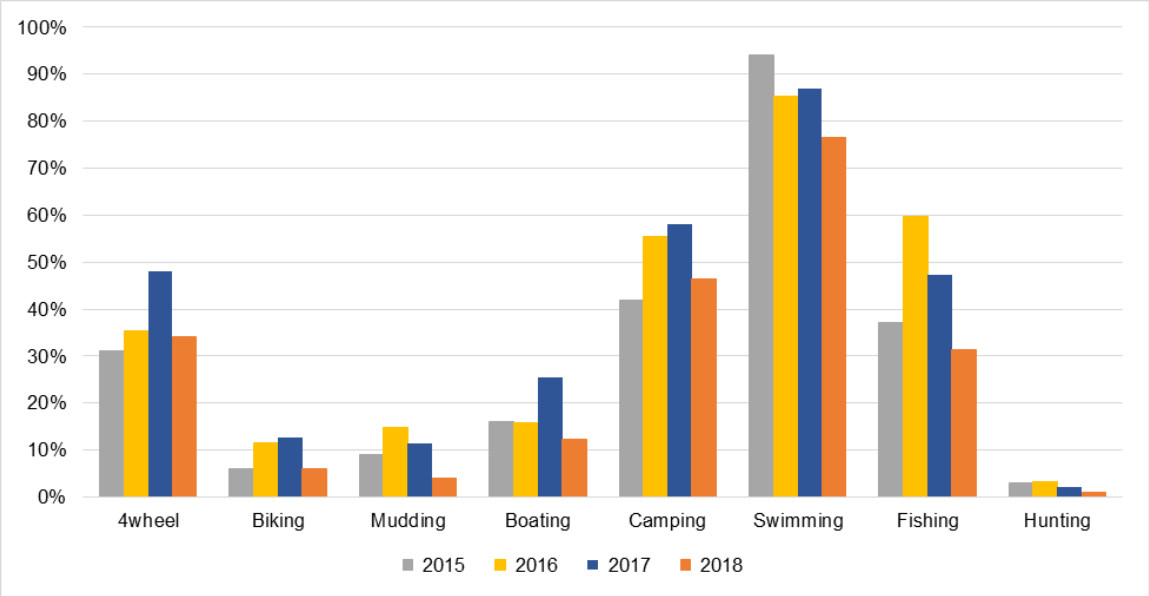


Figure 47. Number of Recreational Activity Types and Climate, Sitewide

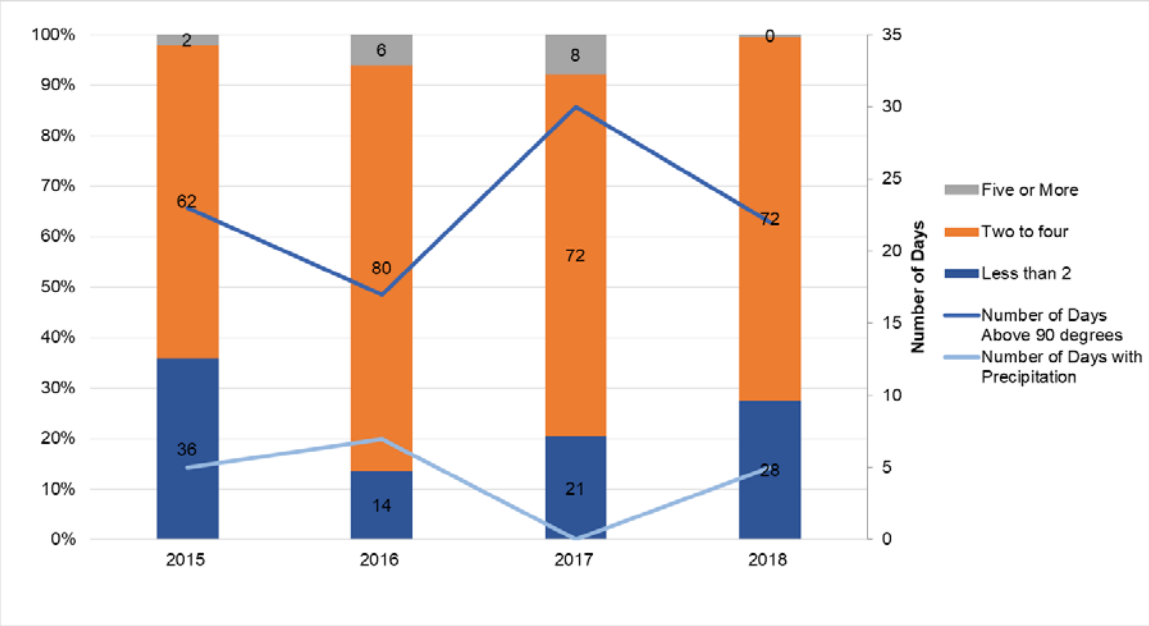
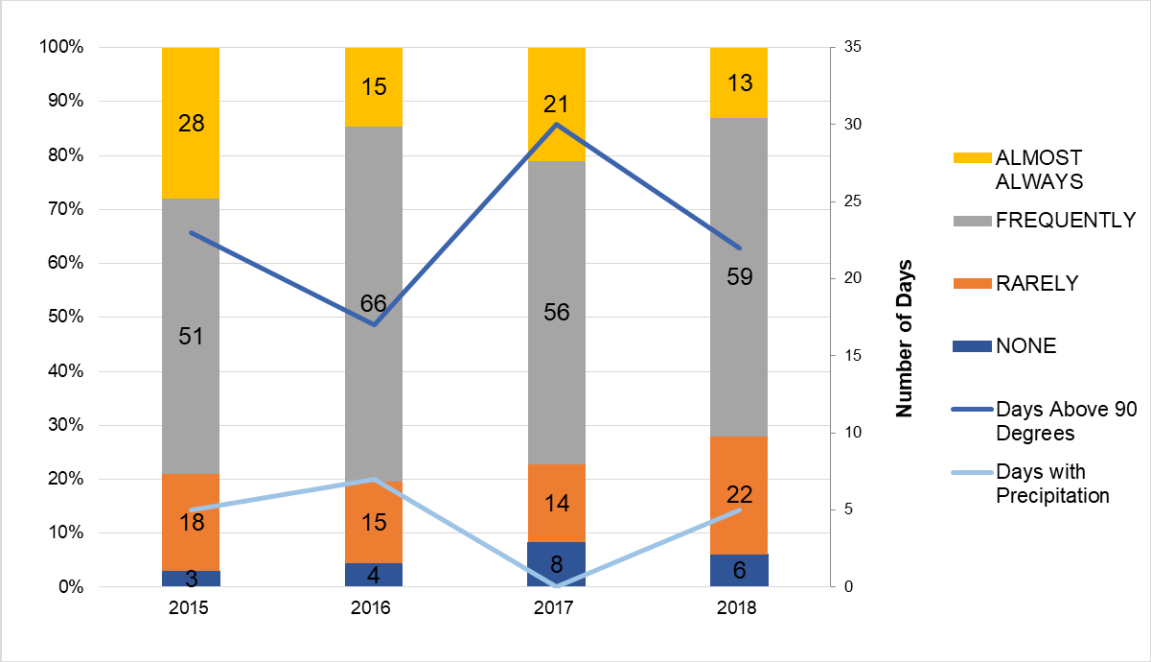


Figure 48. Total Frequency of All Recreation Activities and Climate, Sitewide



Appendix A
LHIP Questionnaire

Note: Questions 4, 6, 12, 17, 24, and 25 were not evaluated in this report.

Public Health
Prevent. Promote. Protect.
Panhandle Health District

Panhandle Health District

Healthy People in Healthy Communities

Institutional Controls Program
35 Wildcat Way, Suite A
Kellogg, ID 83837
Phone: 208-783-0707
Fax: 208-783-4242
www.panhandlehealthdistrict.org

ID# __ __ __ __ __ __ _ Box □ Basin □

SILVER VALLEY LEAD HEALTH INTERVENTION

Child Questionnaire

1. How long has this family been living at the current address: (circle one)

   1 = Less than 1 month
   2 = 1 month or more but less than 2 months
   3 = 2 to 3 months
   4 = More than 3 months but less than 6 months
   5 = 6 months to 1 year
   6 = More than 1 year but less than 5 years
   7 = 5 years or more
   8 = Do not know or unknown

2. What was the prior residence of this family: Use codes from question #3 to answer "How Long".

City/State	Address	How long?
City/State	Address	How long?
City/State	Address	How long?

3. What is your telephone number: HOME/ CELL __ __ __ / __ __ __ / __ __ __ __
   WORK __ __ __ / __ __ __ / __ __ __ __ MESSAGE __ __ __ / __ __ __ / __ __ __ __

4. Does your child spend time at another location? Daycare_____Relative _____No _____

   Address: _____ Amount of time/day _____ hours.

5. What is the main source of drinking water for the home?

   1 = well water
   2 = city water
   3 = bottled water
   4 = other_____
   9 = don't know

6. Has the yard at this residence been remediated? _____No _____Yes Year ____Don't Know_____

7. Has the immediate yard or home ever flooded? _____No _____Yes Year _____Don't Know_____

8. Do you eat vegetables from a local garden? _______Yes _______No

Type of produce _____________________________ How often _______________________

9. Do you eat wild game? _______Yes _______No How often ________________

10. Do you own or rent your home? ________Rent _______Own

11. Occupation: You ________________________________

Spouse:____________________________

12. Do you plan to do any remodeling or landscaping in the near future? ________Yes ________No

13. Do you have paint peeling inside your current residence? ________Yes ________No

14. Do you have paint peeling outside your current residence? ________Yes ________No

15. Do you have dogs, cats or any other pets that go in and out of the house?

1 = yes 2 = no 9 = don't know

16. Does anyone smoke cigarettes inside your house? 1 = yes 2 = no 9 = don't know

17. Where (child's name) plays?

_________________	1 = Mostly grass, concrete, asphalt, or wood	2 = Mostly dirt or sand	3 = Other	9 = don't know
_________________	1 = Mostly grass, concrete, asphalt, or wood	2 = Mostly dirt or sand	3 = Other	9 = don't know
_________________	1 = Mostly grass, concrete, asphalt, or wood	2 = Mostly dirt or sand	3 = Other	9 = don't know
_________________	1 = Mostly grass, concrete, asphalt, or wood	2 = Mostly dirt or sand	3 = Other	9 = don't know
_________________	1 = Mostly grass, concrete, asphalt, or wood	2 = Mostly dirt or sand	3 = Other	9 = don't know

18. How many hours a day on the average does (child's name) play outdoors? (99 = don't know)

Name	Hours	Name	Hours
_____	___ ___	_____	___ ___
_____	___ ___	_____	___ ___
_____	___ ___	_____	___ ___

19. Were (child's name) hands almost always, sometimes or almost never washed before bed?

_____	1 = always	2 = sometimes	3 = almost never	9 = don't know
_____	1 = always	2 = sometimes	3 = almost never	9 = don't know
_____	1 = always	2 = sometimes	3 = almost never	9 = don't know
_____	1 = always	2 = sometimes	3 = almost never	9 = don't know
_____	1 = always	2 = sometimes	3 = almost never	9 = don't know

20. Do any members of the household (including you) do the following activities? [First check Yes, No, or Don't Know for each activity. Complete the remaining columns only for activities checked Yes. Be sure to circle the appropriate unit (# times or # days) for all activities checked Yes.]

Activity	**No**	**Don't Know**	**Yes**	**# Times or Days in the Past Three Months**
Pottery				times / days
Ceramics				times / days
Jewelry Making				times / days
Stained Glass				times / days
Target Shooting				times / days
Bullet Manufacture				times / days
Lead Soldering				times / days
Auto Repair				times / days

21. Do any members of the household (including you) do the following activities? [First check Yes, No, or Don't Know for each activity. Complete the remaining columns only for activities checked Yes. Be sure to circle the appropriate unit (# times or # days) for all activities checked Yes.]

Activity	**No**	**Don't Know**	**Yes**	**# Times or Days in the Past Three Months**	**Location(s)**
Dirt biking/4-wheeling				times / days	
Mountain biking				times / days	
Mudding				times / days	
Camping				times / days	
Boating				times / days	
Swimming				times / days	
Hunting				times / days	
Fishing				times / days	

22. What is your total gross household income before taxes?

1 = less than $10,000 per year
2 = $10,000 to $14,999 per year
3 = $15,000 to $19,999 per year
4 = $20,000 to $24,999 per year
5 = $25,000 to $29,000 per year
6 = $30,000 to $39,999 per year
7 = more than $40,000 per year
8 = refused 9 = don't know

23. What is the highest year of education that was completed by the head of this household?

No schooling	000							
Elementary School	001	002	003	004	005	006	007	008
High School (GED-012)	009	010	011	012				
Technical or Trade School	T13	T14						
Junior or Community College	J13	J14						
4-year College or University	013	014	015	016				
Graduate School (or higher)	017							
Refused to answer	088							
Don't know	099							

24. Race (check all that apply)

American Indian		
Asian		
Black or African American		
Native Hawaiian		
Pacific Islander		
White		
Refused to answer		
Unknown		

25. Ethnicity

Hispanic		
Non-Hispanic		
Unknown		

Appendix B
Estimation of Participation Rates

In order to calculate LHIP participation rates, the total number of children living in the BHSS (in the Box and the Basin) between the ages of 6 months and 6 years were estimated. The Superintendents' offices from BHSS area School Districts (#391, 392, 393, and 274) provided 2018 kindergarten and first grade enrollment data. Table 5summarizes the 2018 kindergarten and first grade enrollment data for the Kootenai School District (#274), Kellogg School District (#391), Osburn-Wallace School District (#393), and Mullan School District (#392). School district enrollment totals for all districts were increased by 6.5% to account for 5 and 6 year old students enrolled in private schools or home schooled, based on BHSS area census estimates (approximately 6.5 percent of 5 and 6 year olds were not enrolled in school in 2017, https://www.census.gov/data/tables/2017/demo/school-enrollment/2017-cps.html). An estimate of total population between 6 months and 6 years in the school district boundaries was calculated by assuming an equal distribution of population for each age year:

$$\left(6.5 \times \frac{EnrolledChildrenAged5and6 * 1.065}{2}\right)$$

This estimate was adjusted to account for the children living in a School District Boundary, but outside the BHSS. 2010 Census block group data were used to determine the percentage of children from each school district residing inside the ICP boundary (versus outside) and inside the Box (versus Basin). Although the most recent Census data are from 2017, the 2017 data are not census count data; they are estimates based on numerous assumptions, and they are also not available in census block groups, which are spatially smaller than census block data.

Visual analysis of houses in imagery was completed with the following rules to derive an estimate of the percent of children inside the ICP boundary in each school district:

- If >50% of residences fell inside the ICP boundary, all children in that block group were counted as inside ICP.
- If >50% of residences fell outside the ICP boundary, all children in that block group were counted as outside ICP.
- Percent of children residing in the ICP Boundary was derived for each school district based on the proportion of children residing in block groups that are within the ICP boundary based on the above rules.

The Sitewide Estimated Number of 6 month to 6 year olds was then derived by multiplying the 'Estimated 6 month to 6 year olds – School District Boundaries' by 'Estimated Percent of Children Inside ICP Boundary' (Table 5).

School District 391 includes children who live both within and outside of the Box. The proportion of students living within the Box was estimated using the 2010 Census data, the number of parcels that had a numerical address assigned by the tax assessor, and the proportion of those parcels that are within the Box boundary. The proportion (71%) was applied to the estimated child population derived from School District #391 enrollment data to obtain an estimate of children residing in the Box. Similarly, that population was subtracted from the BHSS estimate in order to obtain the estimate of children living in the Basin.

Using this estimation method, the number of children between 6 months and 6 years in 2018 is 824 (493 children residing in the Basin and 330 children residing in the Box). In order to verify accuracy, these estimates were compared with two other sources: 1) estimates based on 2014 school district enrollment data, and 2) an estimate derived from the 2010 census data. The calculation method used with 2014 enrollment data is explained in TerraGraphics, et al., 2001, and TerraGraphics and IDEQ, 2010, and TerraGraphics, 2015, and provides similar estimates for 2018, with an estimated 483 children residing in the Basin and 381 children residing in the Box. The 2010 census estimate was obtained by selecting the census block groups that are

within or cross the BHSS boundary and subtracting the child populations in census block groups where more than 50% of homes are outside the BHSS boundary. That method provides a slightly lower estimate of 793, which may be attributed to population growth in the area since 2010.

Table 5. School District Enrollment Data and Estimated Child Population in the BHSS

Child Population Parameter	School District				Total
	Kootenai #274	Kellogg #391	Wallace / Osburn #393	Mullan #392	
Number of K and 1st Grade Students in 2018 (5- and 6-year-olds)	20	143	73	17	253
Enrollment plus 6.5% to account for private schools and home schooling	21	152	78	18	269
Estimated Number of Children per Age Year	11	76	39	9	135
Estimate of 6 month to 6-year-olds - School District Boundaries	69	495	253	59	876
Estimated Percent of Children Inside ICP Boundary	75%	94%	98%	100%	--
Estimated Number of 6 month to 6-year-olds - Sitewide	52	465	248	59	824
Percent of Estimate in Basin	100%	29%	100%	100%	
Estimated Number of 6 month to 6-year-olds in Basin	52	135	248	59	493
Percent of Estimate in Box		71%			
Estimated Number of 6 month to 6-year-olds in Box		330			330

Table 6. Summary of Repeat Children

Area	Year	Total Number of Children*	Not Previously Tested		Tested Once Before		Tested at Least Two Times Before	
			N	%	N	%	N	%
Basin	2009	175	117	67	24	14	34	19
	2010	108	42	39	43	40	23	21
	2011	75	25	33	24	32	26	35
	2012	83	57	69	9	11	17	20
	2013	92	42	46	34	37	16	17
	2014	77	29	38	17	22	31	40
	2015	94	44	47	26	28	24	26
	2016	70	40	57	17	24	13	19
	2017	105	66	63	12	11	27	26
	2018	88	41	47	29	33	18	20
Box	2013	276	258	93	15	5	3	1
	2016	114	82	72	31	27	1	1
	2017	124	85	69	38	31	1	1
	2018	141	64	45	47	33	30	21

Footnote:

* Children aged 0-9 in the Box in 2013; children aged 0-6 for all other years.

Note: 2014 through 2015 are not displayed for the Box due to low number of participants.

Appendix C
Basin Tables and Figures

Table 7. Summary of Blood Lead Levels for Children Participating in the LHIP by Geographic Area in the Basin, 2009-2018 (6 pages)

Year	Geographic Area	Number of Children	BLL Range (µg/dL)		Mean BLL (µg/dL)		Children with BLL Below Detection Limits*		Children with BLL ≥ 5 µg/dL		Children with BLL ≥ 10 µg/dL		Children with BLL ≥ 15 µg/dL	
			Min.	Max.	Arithmetic Mean	Geometric Mean	N	%	N	%	N	%	N	%
2009	Lower Basin	20	<1.4	10	2.6	2.3	4	20	1	5	1	5	0	0
	Kingston	34	<1.4	10	3.1	2.6	7	21	6	18	2	6	0	0
	Lower Basin Subarea	54	<1.4	10	2.9	2.5	11	20	7	13	3	6	0	0
	Side Gulches	25	<1.4	5.3	3.0	2.8	3	12	2	8	0	0	0	0
	Osburn	49	<1.4	8.0	3.2	2.8	7	14	8	16	0	0	0	0
	Silverton	9	<1.4	5.1	2.7	2.6	1	11	1	11	0	0	0	0
	Wallace	8	<1.4	5.6	3.0	2.7	2	25	1	13	0	0	0	0
	Burke/Ninemile	22	<1.4	8.0	3.6	3.1	2	9	4	18	0	0	0	0
	Mullan	8	1.6	4.0	2.8	2.7	0	0	0	0	0	0	0	0
	Upper Basin Subarea	121	<1.4	8	3.1	2.8	15	12	16	13	0	0	0	0
	Basin-wide	175	<1.4	10.0	3.1	2.7	26	15	23	13	3	2	0	0
2010	Lower Basin	11	<1.4	4.2	2.0	1.9	1	9	0	0	0	0	0	0
	Kingston	23	<1.4	20	3.7	2.6	4	17	5	22	2	9	1	4
	Lower Basin Subarea	34	<1.4	20	3.2	2.4	5	15	5	15	2	6	1	3
	Side Gulches	19	<1.4	6.9	2.8	2.5	4	21	1	5	0	0	0	0
	Osburn	28	<1.4	4.1	2.0	1.9	6	21	0	0	0	0	0	0
	Silverton	5	<1.4	2.0	1.5	1.5	3	60	0	0	0	0	0	0
	Wallace	5	<1.4	4.0	2.2	2.1	0	0	0	0	0	0	0	0
	Burke/Ninemile	7	<1.4	2.8	1.8	1.8	2	29	0	0	0	0	0	0
	Mullan	10	<1.4	5.6	2.1	1.9	4	40	1	10	0	0	0	0

Table 7. Summary of Blood Lead Levels for Children Participating in the LHIP by Geographic Area in the Basin, 2009-2018 (6 pages)

Year	Geographic Area	Number of Children	BLL Range (µg/dL)		Mean BLL (µg/dL)		Children with BLL Below Detection Limits*		Children with BLL ≥ 5 µg/dL		Children with BLL ≥ 10 µg/dL		Children with BLL ≥ 15 µg/dL	
			Min.	Max.	Arithmetic Mean	Geometric Mean	N	%	N	%	N	%	N	%
	Upper Basin Subarea	74	<1.4	6.9	2.2	2.0	19	26	2	3	0	0	0	0
	Basin-wide	108	<1.4	20.0	2.5	2.1	24	22	7	6	2	2	1	1
2011	Lower Basin	8	<1.4	7.0	3.9	3.2	1	13	3	38	0	0	0	0
	Kingston	19	<1.4	12	3.4	2.7	7	37	4	21	1	5	0	0
	Lower Basin Subarea	27	<1.4	12	3.6	2.8	8	30	7	26	1	4	0	0
	Side Gulches	9	2.5	6.5	3.8	3.7	0	0	1	11	0	0	0	0
	Osburn	24	<1.4	5.8	2.6	2.4	4	17	2	8	0	0	0	0
	Silverton	5	<1.4	2.9	2.2	2.2	1	20	0	0	0	0	0	0
	Wallace	1	-	-	-	-	-	-	-	-	-	-	-	-
	Burke/Ninemile	5	<1.4	4.4	3.4	3.2	0	0	0	0	0	0	0	0
	Mullan	4	1.5	2.6	2.1	2.1	0	0	0	0	0	0	0	0
	Upper Basin Subarea	48	<1.4	6.5	2.8	2.6	6	13	3	6	0	0	0	0
	Basin-wide	75	<1.4	12	3.1	2.6	14	19	10	13	1	1	0	0
2012	Lower Basin	3	1.7	2.3	2.1	2.0	0	0	0	0	0	0	0	0
	Kingston	11	<1.4	4.9	2.8	2.6	0	0	0	0	0	0	0	0
	Lower Basin Subarea	14	<1.4	4.9	2.7	2.5	0	0	0	0	0	0	0	0
	Side Gulches	9	2.1	4.6	3.5	3.4	0	0	0	0	0	0	0	0
	Osburn	22	1.8	4.5	3.1	3.0	0	0	0	0	0	0	0	0
	Silverton	5	3.2	4.6	3.9	3.8	0	0	0	0	0	0	0	0
	Wallace	19	2.2	7.0	3.8	3.6	0	0	4	21	0	0	0	0

Table 7. Summary of Blood Lead Levels for Children Participating in the LHIP by Geographic Area in the Basin, 2009-2018 (6 pages)

Year	Geographic Area	Number of Children	BLL Range (µg/dL)		Mean BLL (µg/dL)		Children with BLL Below Detection Limits*		Children with BLL ≥ 5 µg/dL		Children with BLL ≥ 10 µg/dL		Children with BLL ≥ 15 µg/dL	
			Min.	Max.	Arithmetic Mean	Geometric Mean	N	%	N	%	N	%	N	%
	Burke/Ninemile	11	<1.4	8.0	3.4	3.0	1	9	1	9	0	0	0	0
	Mullan	3	1.6	4.5	3.0	2.8	0	0	0	0	0	0	0	0
	Upper Basin Subarea	69	<1.4	8.0	3.4	3.2	1	1	5	7	0	0	0	0
	Basin-wide	83	<1.4	8.0	3.3	3.1	1	1	5	6	0	0	0	0
2013	Lower Basin	2	-	-	-	-	-	-	-	-	-	-	-	-
	Kingston	21	<1.4	16	3.7	2.8	7	33	4	19	2	10	1	5
	Lower Basin Subarea	23	<1.4	16	3.7	2.8	7	30	5	22	2	9	1	4
	Side Gulches	17	<1.4	3.9	2.3	2.3	2	12	0	0	0	0	0	0
	Osburn	29	<1.4	4.8	2.5	2.3	5	17	0	0	0	0	0	0
	Silverton	12	<1.4	4.9	2.9	2.7	1	8	0	0	0	0	0	0
	Wallace	2	-	-	-	-	-	-	-	-	-	-	-	-
	Burke/Ninemile	7	2.2	4.4	3.0	2.9	0	0	0	0	0	0	0	0
	Mullan	2	-	-	-	-	-	-	-	-	-	-	-	-
	Upper Basin Subarea	69	<1.4	4.9	2.6	2.4	8	12	0	0	0	0	0	0
	Basin-wide	92	<1.4	16	2.8	2.5	15	16	5	5	2	2	1	1
2014	Lower Basin	3	2.1	4.1	3.2	3.1	0	0	0	0	0	0	0	0
	Kingston	13	<1.4	5.0	2.8	2.6	1	8	1	8	0	0	0	0
	Lower Basin Subarea	16	<1.4	5.0	2.9	2.7	1	6	1	6	0	0	0	0
	Side Gulches	13	<1.4	3.2	2.5	2.4	1	8	0	0	0	0	0	0
	Osburn	24	1.6	5.0	3.0	2.8	0	0	1	4	0	0	0	0

Table 7. Summary of Blood Lead Levels for Children Participating in the LHIP by Geographic Area in the Basin, 2009-2018 (6 pages)

Year	Geographic Area	Number of Children	BLL Range (µg/dL)		Mean BLL (µg/dL)		Children with BLL Below Detection Limits*		Children with BLL ≥ 5 µg/dL		Children with BLL ≥ 10 µg/dL		Children with BLL ≥ 15 µg/dL	
			Min.	Max.	Arithmetic Mean	Geometric Mean	N	%	N	%	N	%	N	%
	Silverton	10	1.6	4.4	3.2	3.0	0	0	0	0	0	0	0	0
	Wallace	0	-	-	-	-	0	-	-	-	-	-		-
	Burke/Ninemile	14	2.3	11	4.1	3.7	0	0	3	21	1	7	0	0
	Mullan	0	-	-	-	-	0	-	-	-	-	-	-	-
	Upper Basin Subarea	61	<1.4	11	3.2	3.0	1	2	4	7	1	2	0	0
	Basin-wide	77	<1.4	11	3.1	2.9	2	3	5	6	1	1	0	0
2015	Lower Basin	2	-	-	-	-	-	-	-	-	-	-	-	-
	Kingston	23	<1.4	6.0	3.5	3.3	0	0	1	4	0	0	0	0
	Lower Basin Subarea	25	<1.4	6.0	3.4	3.3	0	0	1	4	0	0	0	0
	Side Gulches	14	<1.4	10	2.6	2.1	3	21	1	7	1	7	0	0
	Osburn	23	<1.4	4.6	2.9	2.6	2	9	0	0	0	0	0	0
	Silverton	10	<1.4	4.6	2.6	2.4	1	10	0	0	0	0	0	0
	Wallace	10	<1.4	13	3.9	2.9	0	0	2	20	1	10	0	0
	Burke/Ninemile	12	<1.4	6.0	3.6	3.3	0	0	2	17	0	0	0	0
	Mullan	0	-	-	-	-	0	-	-	-	-	-	-	-
	Upper Basin Subarea	69	<1.4	13	3.0	2.6	6	9	5	7	2	3	0	0
	Basin-wide	94	<1.4	13	3.2	2.8	6	6	6	6	2	2	0	0
2016	Lower Basin	8	<1.4	8.0	4.5	3.9	1	13	3	38	0	0	0	0
	Kingston	18	<1.4	9.0	3.3	2.8	4	22	3	17	0	0	0	0
	Lower Basin Subarea	26	<1.4	9.0	3.6	3.1	5	19	6	23	0	0	0	0

Table 7. Summary of Blood Lead Levels for Children Participating in the LHIP by Geographic Area in the Basin, 2009-2018 (6 pages)

Year	Geographic Area	Number of Children	BLL Range (µg/dL)		Mean BLL (µg/dL)		Children with BLL Below Detection Limits*		Children with BLL ≥ 5 µg/dL		Children with BLL ≥ 10 µg/dL		Children with BLL ≥ 15 µg/dL	
			Min.	Max.	Arithmetic Mean	Geometric Mean	N	%	N	%	N	%	N	%
	Side Gulches	15	<1.4	5.0	3.0	2.7	3	20	2	13	0	0	0	0
	Osburn	16	2.0	4.7	3.0	2.9	0	0	0	0	0	0	0	0
	Silverton	4	<1.4	3.2	2.1	1.9	2	50	0	0	0	0	0	0
	Wallace	6	2.0	4.5	3.3	3.1	0	0	0	0	0	0	0	0
	Burke/Ninemile	3	<1.4	3.0	2.3	2.2	1	33	0	0	0	0	0	0
	Mullan	0	-	-	-	-	0	-	-	-	-	-	-	-
	Upper Basin Subarea	44	<1.4	5.0	2.9	2.7	6	14	2	5	0	0	0	0
	Basin-wide	70	<1.4	9.0	3.2	2.9	11	16	8	11	0	0	0	0
2017	Lower Basin	3	2.3	4.2	3.1	3.0	0	0	0	0	0	0	0	0
	Kingston	26	<1.9	14	4.8	3.8	2	8	8	31	3	12	0	0
	Lower Basin Subarea	29	<1.9	14	4.6	3.7	2	7	8	28	3	10	0	0
	Side Gulches	17	<1.9	20	6.3	4.3	4	24	8	47	4	24	1	6
	Osburn	25	<1.9	8.0	3.4	3.1	2	8	3	12	0	0	0	0
	Silverton	8	<1.9	4.8	2.3	2.1	3	38	0	0	0	0	0	0
	Wallace	7	2.9	14	5.7	5.0	0	0	2	29	1	14	0	0
	Burke/Ninemile	8	<1.9	9.0	4.3	3.6	1	13	2	25	0	0	0	0
	Mullan	11	2.3	4.9	3.4	3.3	0	0	0	0	0	0	0	0
	Upper Basin Subarea	76	<1.9	20	4.2	3.5	10	13	15	20	5	7	1	1
	Basin-wide	105	<1.9	20	4.3	3.5	12	11	23	22	8	8	1	1
2018	Lower Basin	5	<1.9	<1.9	NA	NA	5	100	0	0	0	0	0	0

Table 7. Summary of Blood Lead Levels for Children Participating in the LHIP by Geographic Area in the Basin, 2009-2018 (6 pages)

Year	Geographic Area	Number of Children	BLL Range (µg/dL)		Mean BLL (µg/dL)		Children with BLL Below Detection Limits*		Children with BLL ≥ 5 µg/dL		Children with BLL ≥ 10 µg/dL		Children with BLL ≥ 15 µg/dL	
			Min.	Max.	Arithmetic Mean	Geometric Mean	N	%	N	%	N	%	N	%
	Kingston	14	<1.9	9.0	2.8	2.2	8	57	2	14	0	0	0	0
	Lower Basin Subarea	19	<1.9	9.0	2.5	2.0	13	68	2	11	0	0	0	0
	Side Gulches	15	<1.9	8.0	2.5	2.0	10	67	2	13	0	0	0	0
	Osburn	24	<1.9	6.0	2.3	2.0	14	58	1	4	0	0	0	0
	Silverton	11	<1.9	4.9	2.0	1.8	7	64	0	0	0	0	0	0
	Wallace	6	<1.9	4.8	2.5	2.2	3	50	0	0	0	0	0	0
	Burke/Ninemile	5	<1.9	6.0	2.6	2.2	2	40	1	20	0	0	0	0
	Mullan	8	<1.9	4.3	2.3	2.0	4	50	0	0	0	0	0	0
	Upper Basin Subarea	69	<1.9	8.0	2.3	2.0	40	58	4	6	0	0	0	0
	Basin-wide	88	<1.9	9.0	2.4	2.0	53	60	6	7	0	0	0	0

"<" indicates the result is below the detection limit
* Detection limit was 1.4 µg/dL prior to 2017 and 1.9 µg/dL in 2017 and 2018.
- = data not displayed if number of participants is less than 3.
NA = Not Applicable

Figure 49. Box Plot of Blood Lead Data, 2009-2018, Lower Basin

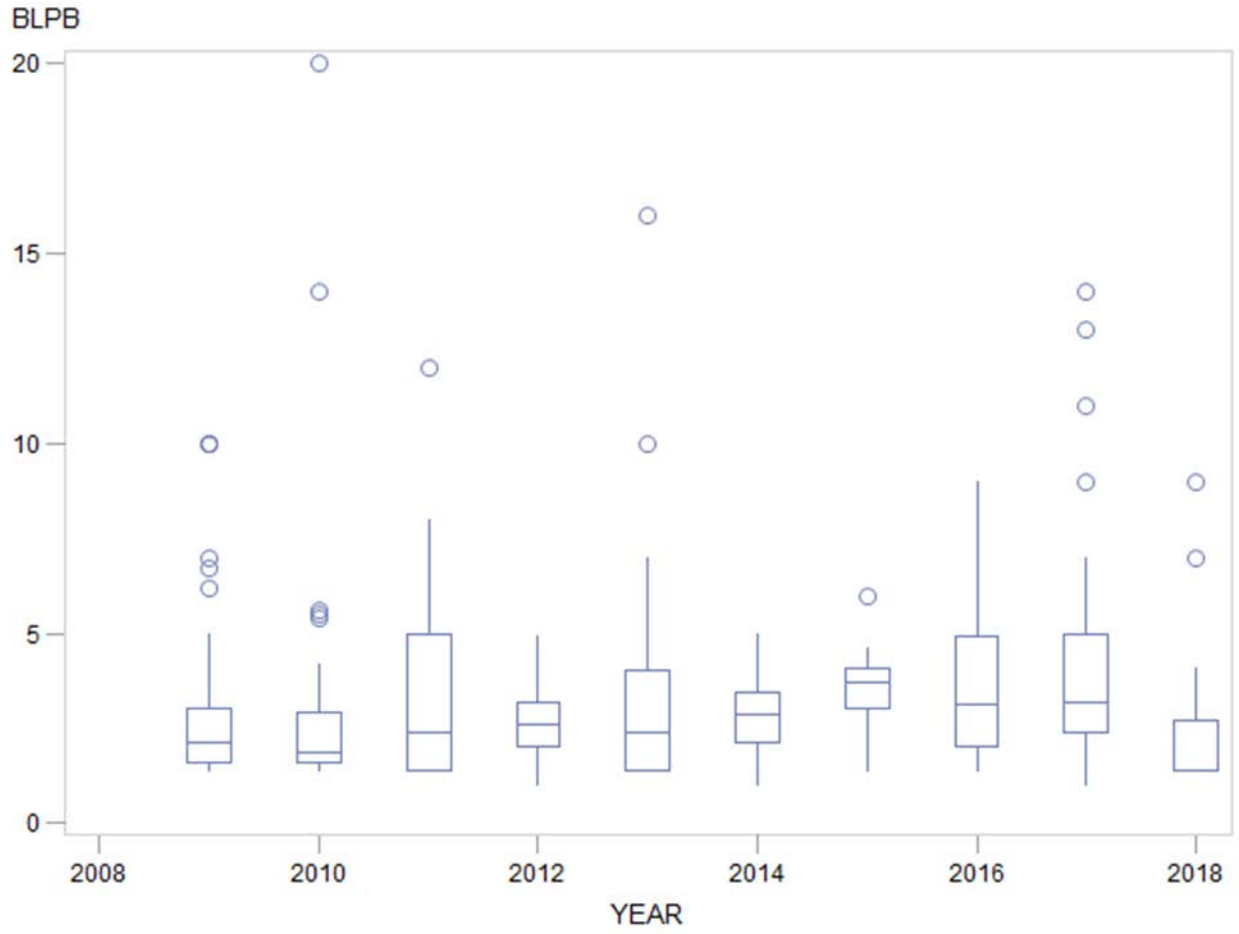


Figure 50. Box Plot of Blood Lead Data, 2009-2018, Upper Basin

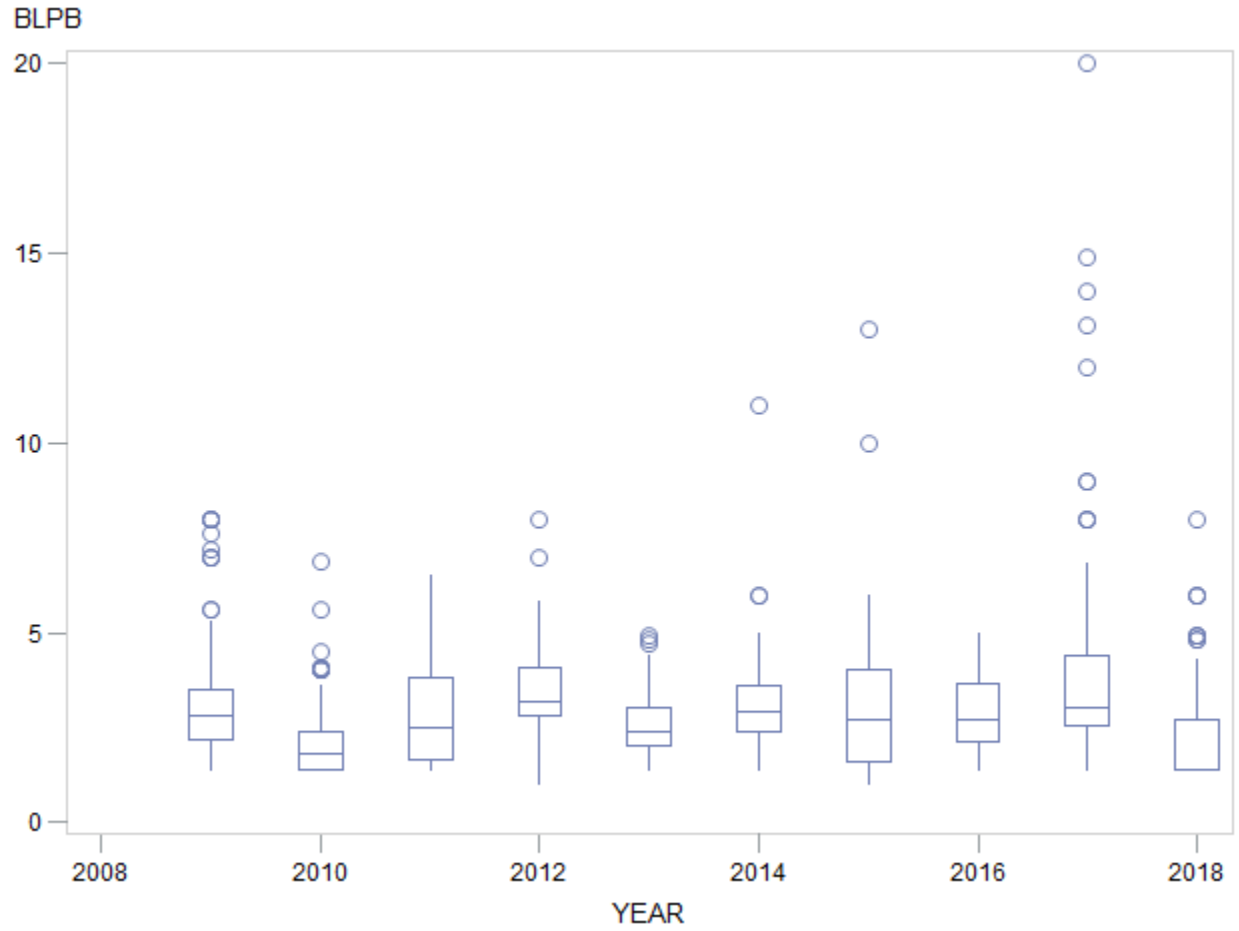


Figure 51. Percent of LHIP Participants with Elevated Blood Lead Levels – Lower Basin

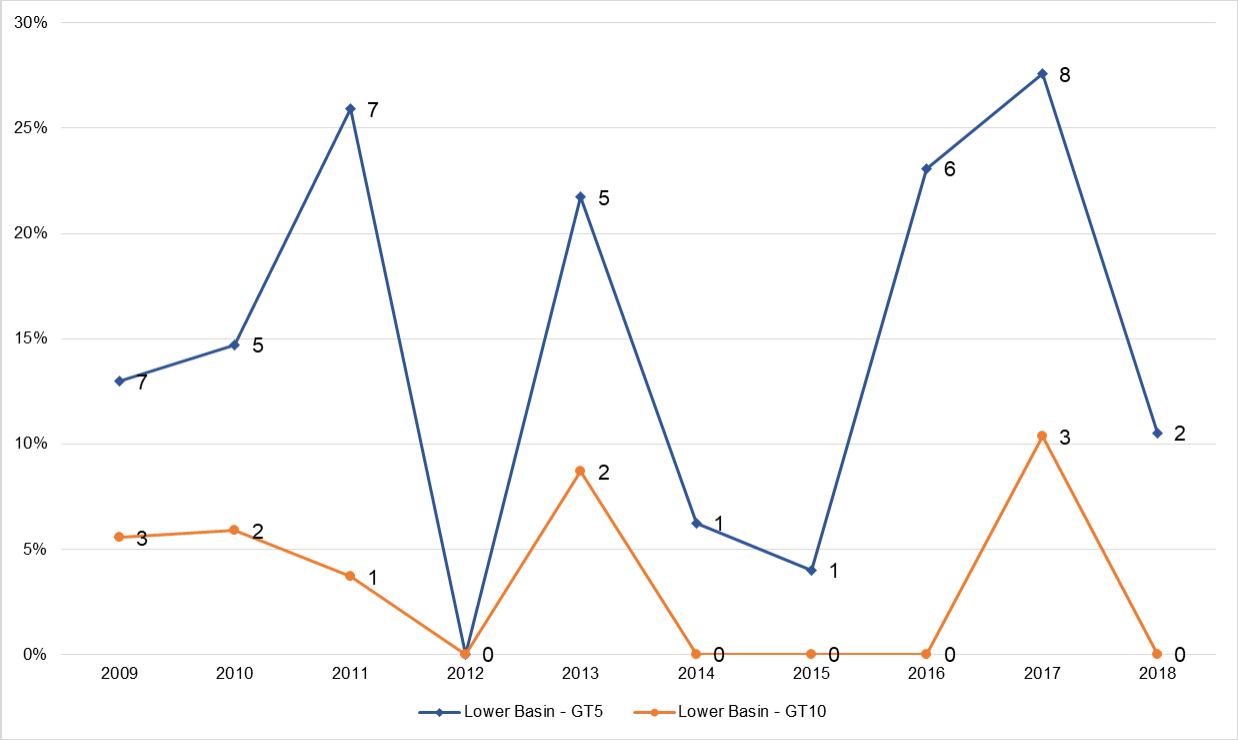
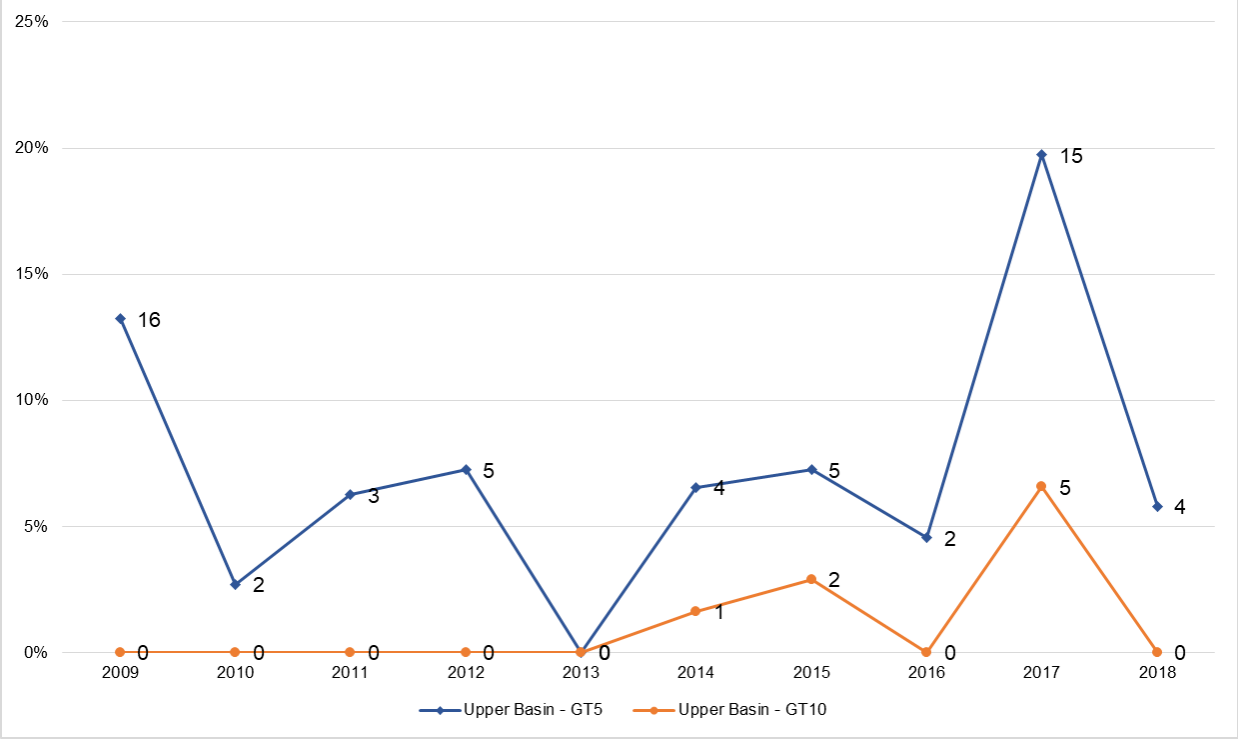


Figure 52. Percent of LHIP Participants with Elevated Blood Lead Levels – Upper Basin



Evaluation of LHIP Participants that are New to the Area:

For participants who lived at their home for less than 6 months, if a prior address was provided, the address was categorized as follows: in the Box, Basin, Nearby but outside BHSS (Coeur d'Alene/Spokane), or Out of the Region. The number of participants from Out of the Region was compared to the total number of LHIP participants in that year. 18 participants in 2017 and 16 participants in 2018 lived at their homes for less than 6 months. Of those participants, 15 and 14, respectively, provided their previous addresses, of which 3 and 4, respectively, were from a previous address that is Out of the Region.

Table 8. Basin LHIP Participants New to the Area

Year	Total Number of LHIP participants	Number of participants that are new to the area	% of participants that are new to the area*
2009	175	3	2%
2010	108	4	4%
2011	75	2	3%
2012	83	6	7%
2013	92	2	2%
2014	77	1	1%
2015	94	2	2%
2016	70		0%
2017	105	3	3%
2018	88	5	6%

* New to area = resided at home for less than 6 months and had a prior address that is not in the region (in the BHSS, Coeur d'Alene/Spokane).

Appendix D
Box Tables and Figures

Table 9. Summary of Blood Lead Levels for Children Participating in the LHIP in the Box, 2013-2018 (2 pages)

Year	City	Number of Children	BLL Range (µg/dL)		Mean BLL (µg/dL)		Children with BLLs Below Detection Limits*		Children with BLLs ≥ 5 µg/dL		Children with BLLs ≥ 10 µg/dL		Children with BLLs ≥ 15 µg/dL	
			Min.	Max.	Arithmetic Mean	Geometric Mean	N	%	N	%	N	%	N	%
2013	Kellogg	147	1.0	20	2.6	2.3	43	29	8	5	2	1	1	1
	Page	6	<1.4	4.4	2.6	2.4	2	33	0	0	0	0	0	0
	Pinehurst	68	<1.4	6	2.1	1.9	33	49	1	1	0	0	0	0
	Smelterville	45	<1.4	6	2.3	2.1	18	40	1	2	0	0	0	0
	Wardner	10	<1.4	4.6	2.5	2.3	2	20	0	0	0	0	0	0
	Site-wide	276	1.0	20	2.4	2.2	98	36	10	4	2	1	1	0
2014	Site-wide	4	2.0	4.0	2.7	2.6	0	0	0	0	0	0	0	0
2015	Site-wide	6	1.8	3.5	2.4	2.4	0	0	0	0	0	0	0	0
2016	Kellogg	61	<1.4	8	3.2	2.9	8	13	4	7	0	0	0	0
	Page	6	2.6	9	4.9	4.3	0	0	2	33	0	0	0	0
	Pinehurst	19	<1.4	6	3.4	3.2	1	5	2	11	0	0	0	0
	Smelterville	28	<1.4	5	2.9	2.7	5	18	1	4	0	0	0	0
	Wardner	0	-	-	-	-	0	0	-	-	-	-	-	-
	Site-wide	114	<1.4	9	3.2	3.0	14	12	9	8	0	0	0	0
2017	Kellogg	62	<1.4	13	3.6	3.0	13	21	9	15	3	5	0	0
	Page	2	-	-	-	-	-	-	-	-	-	-	-	-
	Pinehurst	26	<1.4	10	3.6	3.1	3	12	5	19	1	4	0	0
	Smelterville	24	<1.4	6	3.3	3.1	12	50	2	8	0	0	0	0
	Wardner	10	<1.4	10.2	3.4	2.9	5	50	1	10	1	10	0	0
	Site-wide	124	<1.4	13	3.5	3.0	20	16	17	14	5	4	0	0
2018	Kellogg	71	<1.9	9	2.7	2.3	30	42	6	8	0	0	0	0
	Page	2	-	-	-	-	-	-	-	-	-	-	-	-
	Pinehurst	34	<1.9	10	2.0	1.8	23	68	1	3	1	3	0	0

Table 9. Summary of Blood Lead Levels for Children Participating in the LHIP in the Box, 2013-2018 (2 pages)

Year	City	Number of Children	BLL Range (µg/dL)		Mean BLL (µg/dL)		Children with BLLs Below Detection Limits*		Children with BLLs ≥ 5 µg/dL		Children with BLLs ≥ 10 µg/dL		Children with BLLs ≥ 15 µg/dL	
			Min.	Max.	Arithmetic Mean	Geometric Mean	N	%	N	%	N	%	N	%
	Smelterville	29	<1.9	10	3.3	2.6	12	41	6	21	2	7	0	0
	Wardner	5	<1.9	<1.9	NA	NA	5	100	0	0	0	0	0	0
	Site-wide	141	<1.9	10	2.6	2.2	70	50	13	9	3	2	0	0

Note: Children aged 0-9 in 2013; children aged 0-6 in 2014-2018

Note: Summary data by city for 2014 and 2015 are not displayed due to low number of participants.

* Detection limit was 1.4 µg/dL prior to 2018 and 1.9 µg/dL in 2018.

- = data not displayed if number of participants is less than 3.

NA = not applicable

Figure 53. Box Plot of Blood Lead Data, 2013-2018 – Kellogg

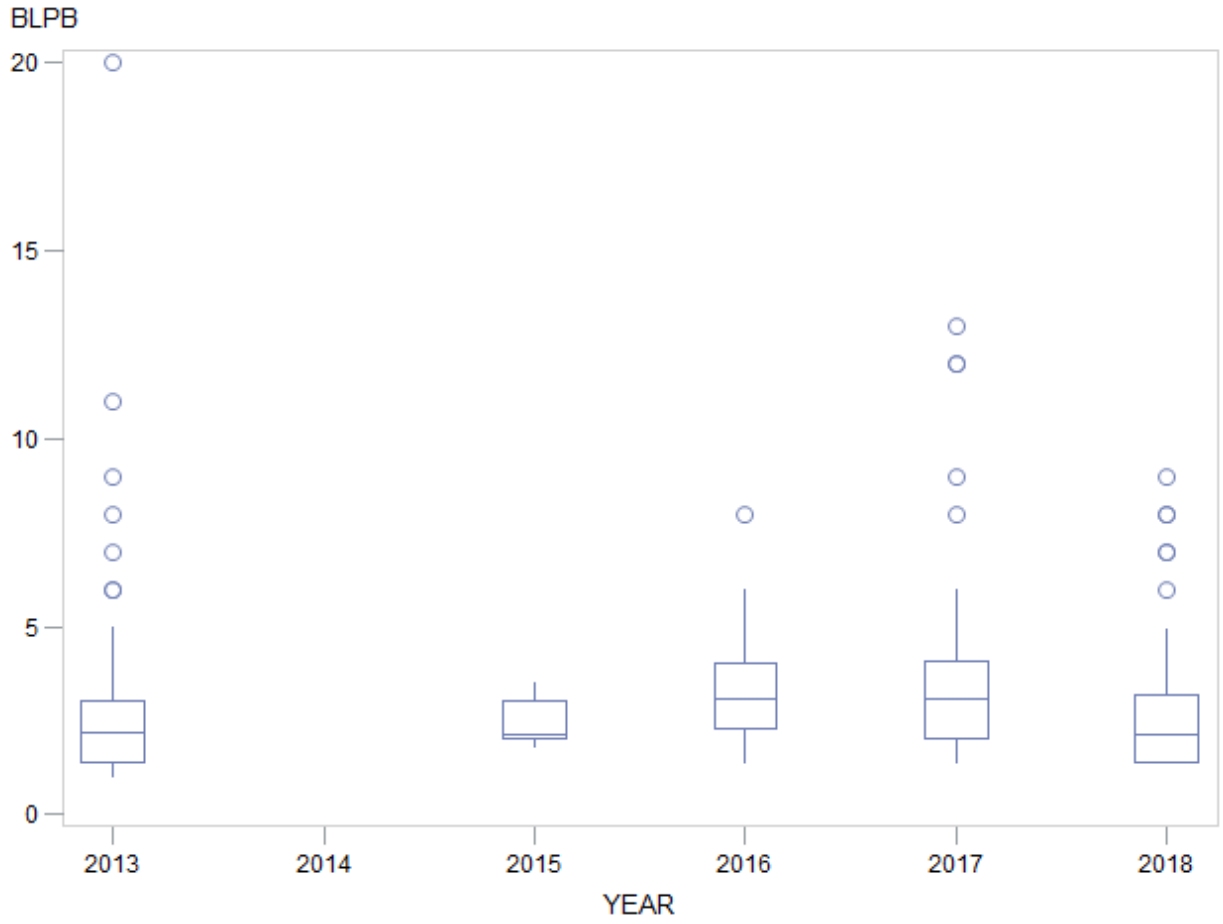


Figure 54. Box Plot of Blood Lead Data, 2013-2018 – Smelterville

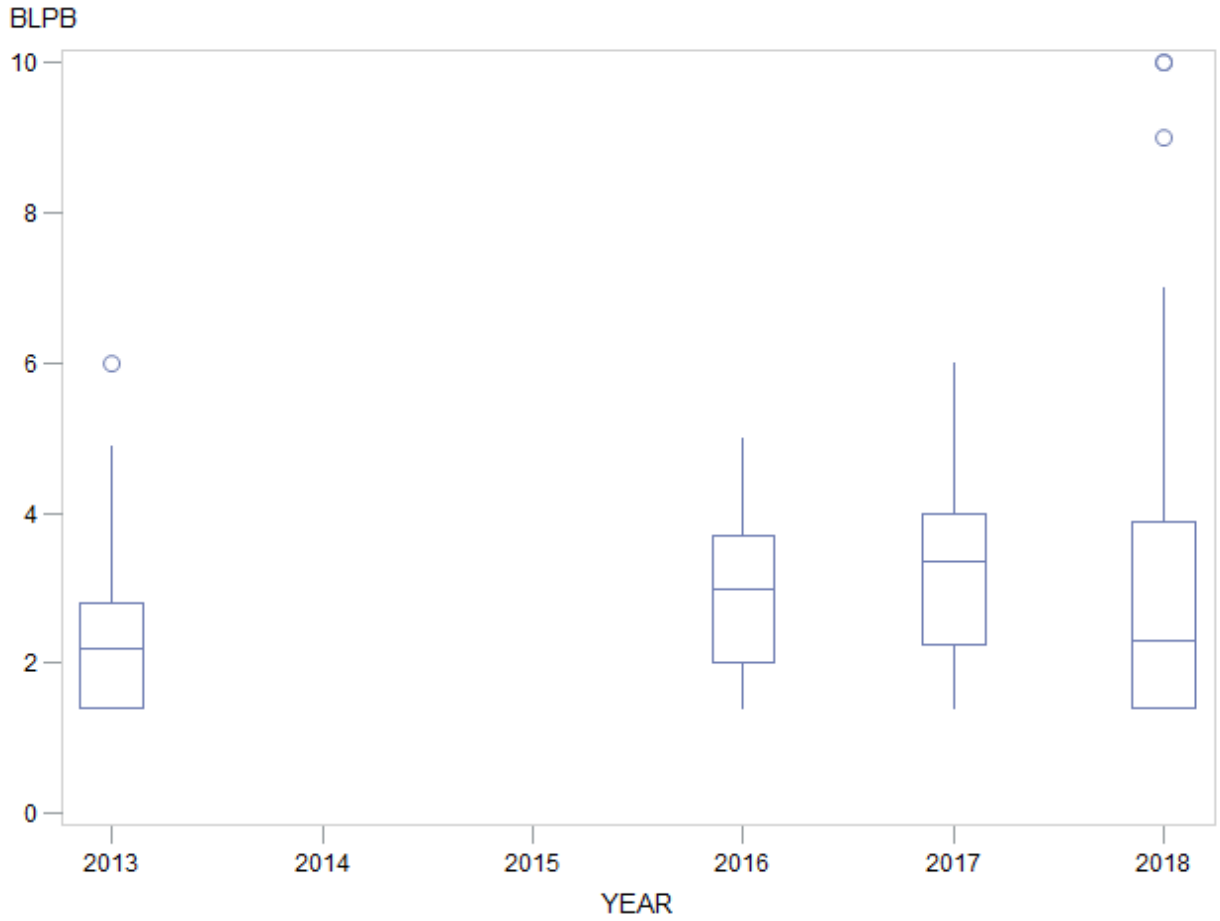
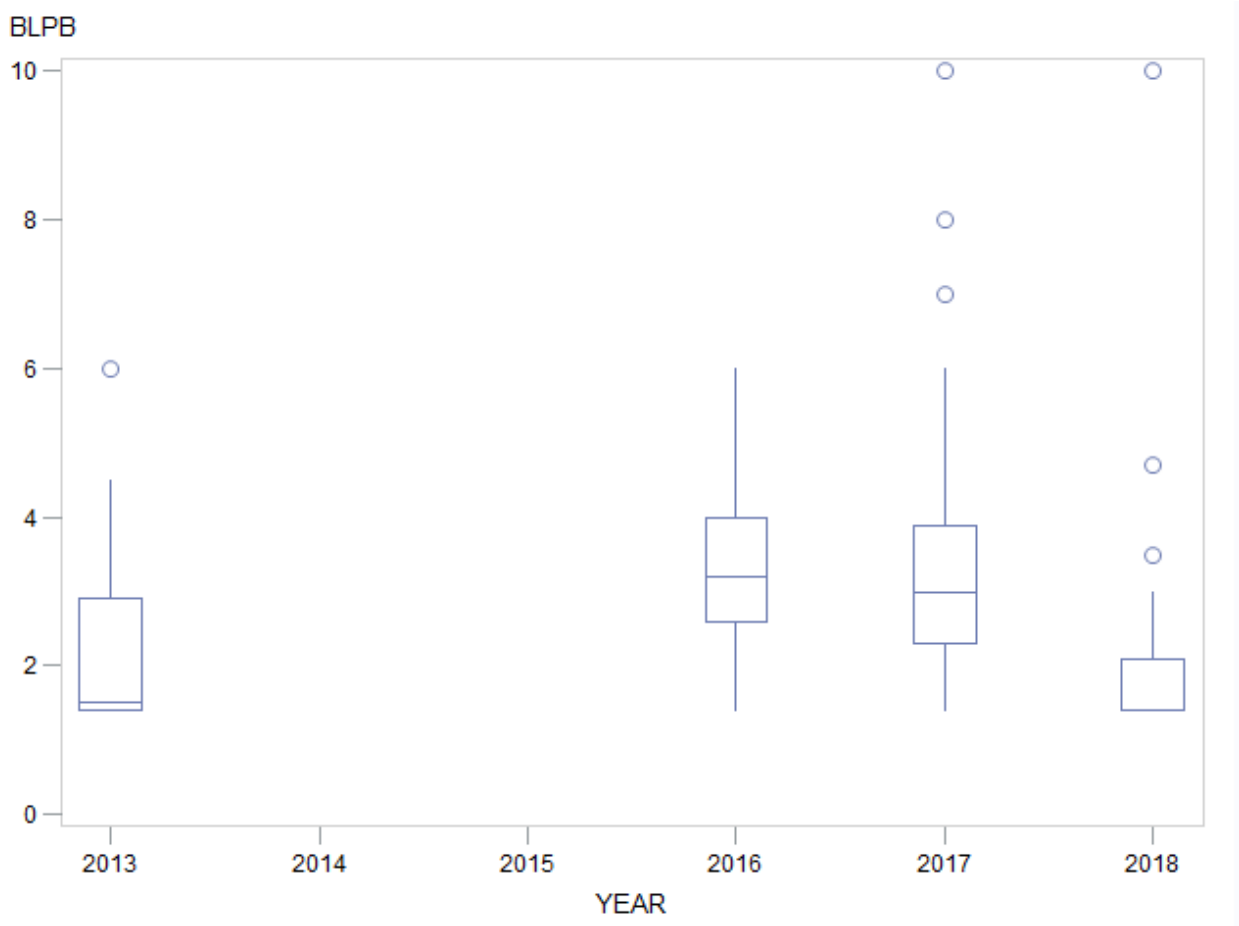


Figure 55. Box Plot of Blood Lead Data, 2013-2018 – Pinehurst



Method to identify new residents

For participants who lived at their home for less than 6 months, if a prior address was provided, the address was categorized in the same way as described in Section 2.2.2.1. 16 participants in 2017 and 11 participants in 2018 lived at their homes for less than 6 months. All of those participants provided their previous addresses in 2017, and 9 provided their previous addresses in 2018. Five children in 2017 and 1 child in 2018 were from a previous address that is considered Out of the Region.

Table 10. Box LHIP Participants New to the Area

Year	Total N of LHIP participants	N of participants that are new to the area*	% of participants that are new to the area
2013	276	10	4
2016	114	1	1
2017	124	5	4
2018	141	1	1

*New to area = resided at home for less than 6 months and had a prior address that is not in the region (in the BHSS, Coeur d'Alene/Spokane).

Appendix E

Habits, Housing, Hobbies, and Drinking Water Tables and Figures

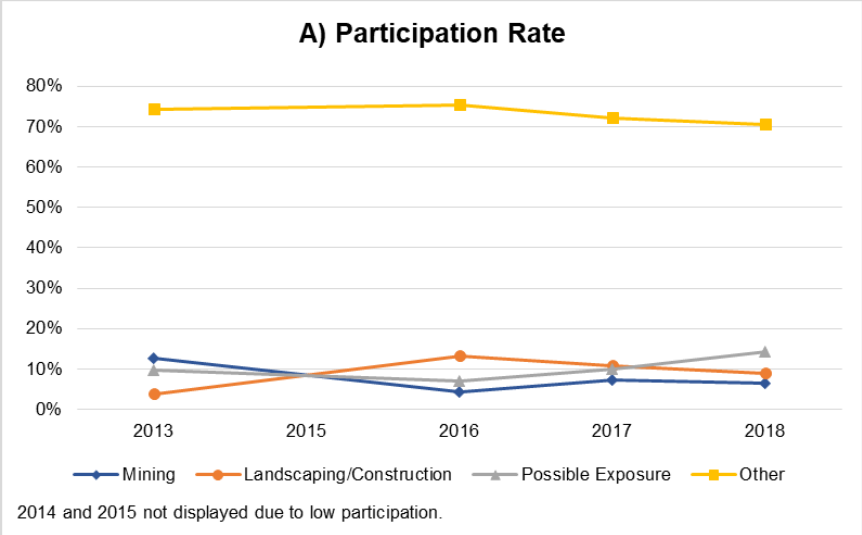
Table 11. Hobbies and LHIP Participation

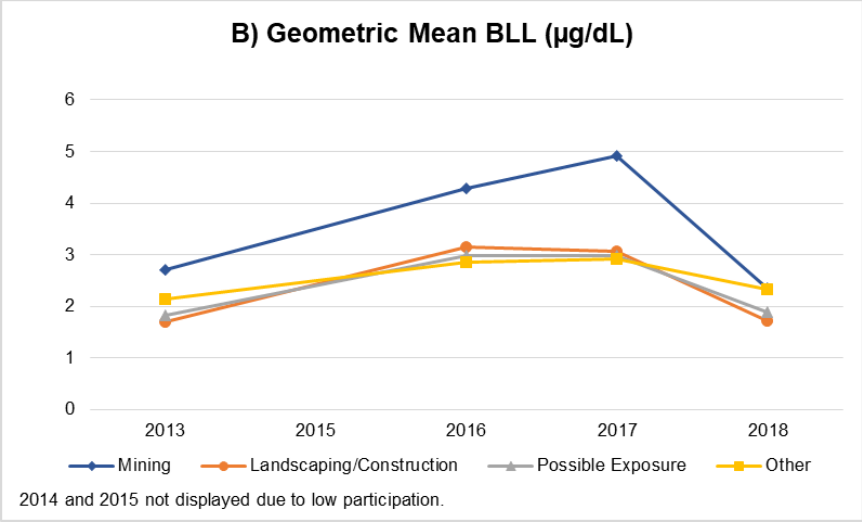
	2017												2018											
		No one in the household does the activity						Someone in the household does the activity							No one in the household does the activity						Someone in the household does the activity					
				BLL <5µg/dL		BLL ≥5µg/dL				BLL <5µg/dL		BLL ≥5µg/dL					BLL <5µg/dL		BLL ≥5µg/dL				BLL <5µg/dL		BLL ≥5µg/dL	
Activity	Total N Responding	N	%	N	%	N	%	N	%	N	%	N	%	Total N Responding	N	%	N	%	N	%	N	%	N	%	N	%
Pottery	123	122	99	105	86	17	14	1	1	1	100	0	0	141	139	99	126	91	13	9	2	1	2	100	0	0
Ceramics	123	123	100	106	86	17	14	0	0	--	--	--	--	141	140	99	127	91	13	9	1	1	1	100	0	0
Jewelry	123	115	93	98	85	17	15	8	7	8	100	0	0	141	136	96	123	90	13	10	5	4	5	100	0	0
Stained Glass	123	123	100	106	86	17	14	0	0	--	--	--	--	141	141	100	128	91	13	9	0	0	--	--	--	--
Target Shooting	105	94	90	73	78	21	22	11	10	9	82	2	18	88	76	86	72	95	4	5	12	14	10	83	2	17
Bullet Manufacture	123	121	98	105	87	16	13	2	2	1	50	1	50	141	141	100	128	91	13	9	0	0	--	--	--	--
Lead Soldering	123	120	98	103	86	17	14	3	2	3	100	0	0	141	140	99	127	91	13	9	1	1	1	100	0	0
Auto Repair	123	94	76	85	90	9	10	29	24	21	72	8	28	141	109	77	98	90	11	10	32	23	30	94	2	6
Pottery	105	105	100	82	78	23	22	0	0	--	--	--	--	88	88	100	82	93	6	7	0	0	--	--	--	--
Ceramics	105	105	100	82	78	23	22	0	0	--	--	--	--	88	88	100	82	93	6	7	0	0	--	--	--	--
Jewelry	105	105	100	82	78	23	22	0	0	--	--	--	--	88	88	100	82	93	6	7	0	0	--	--	--	--
Stained Glass	105	105	100	82	78	23	22	0	0	--	--	--	--	88	88	100	82	93	6	7	0	0	--	--	--	--
Target Shooting	123	103	84	92	89	11	11	20	16	14	70	6	30	141	129	91	118	91	11	9	12	9	10	83	2	17
Bullet Manufacture	105	95	90	75	79	20	21	10	10	7	70	3	30	88	84	95	78	93	6	7	4	5	4	100	0	0
Lead Soldering	105	105	100	82	78	23	22	0	0	--	--	--	--	88	88	100	82	93	6	7	0	0	--	--	--	--
Auto Repair	105	95	90	73	77	22	23	10	10	9	90	1	10	88	62	70	59	95	3	5	26	30	23	88	3	12
Pottery	228	227	100	187	82	40	18	1	0.004	1	100	0	0	229	227	99	208	92	19	8	2	1	2	100	0	0
Ceramics	228	228	100	188	82	40	18	0	0	--	--	--	--	229	228	100	209	92	19	8	1	0.004	1	100	0	0
Jewelry	228	220	96	180	82	40	18	8	4	8	100	0	0	229	224	98	205	92	19	8	5	2	5	100	0	0
Stained Glass	228	228	100	188	82	40	18	0	0	--	--	--	--	229	229	100	210	92	19	8	0	0	--	--		
Target Shooting	228	197	86	165	84	32	16	31	14	23	74	8	26	229	205	90	190	93	15	7	24	10	20	83	4	17
Bullet Manufacture	228	216	95	180	83	36	17	12	5	8	67	4	33	229	225	98	206	92	19	8	4	2	4	100	0	0
Lead Soldering	228	225	99	185	82	40	18	3	1	3	100	0	0	229	228	100	209	92	19	8	1	0.004	1	100	0	0
Auto Repair	228	189	83	158	84	31	16	39	17	30	77	9	23	229	171	75	157	92	14	8	58	25	53	91	5	9

Table 12. Housing Characteristics and LHIP Participation

	Year	2017													2018											
	Participant Answer		No						Yes							No						Yes					
					BLL <5µg/dL		BLL ≥5µg/dL				BLL <5µg/dL		BLL ≥5µg/dL					BLL <5µg/dL		BLL ≥5µg/dL				BLL <5µg/dL		BLL ≥5µg/dL	
OU	Variable	Total Responses	N	%	N	%	N	%	N	%	N	%	N	%	Total Responses	N	%	N	%	N	%	N	%	N	%	N	%
Box	Interior Paint Peeling	124	98	79	85	87	13	13	26	21	22	85	4	15	139	124	89	113	91	11	9	15	11	13	87	2	13
	Exterior Paint Peeling	124	82	66	70	85	12	15	42	34	37	88	5	12	139	116	83	106	91	10	9	23	17	20	87	3	13
	Flood	111	106	95	92	87	14	13	5	5	3	60	2	40	95	76	80	70	92	6	8	19	20	16	84	3	16
Basin	Interior Paint Peeling	105	95	90	72	76	23	24	10	10	10	100	0	0	87	79	91	76	96	3	4	8	9	6	75	2	25
	Exterior Paint Peeling	105	86	82	65	76	21	24	19	18	17	89	2	11	88	70	80	66	94	4	6	18	20	16	89	2	11
	Flood	95	84	88	68	81	16	19	11	12	8	73	3	27	55	46	84	43	93	3	7	9	16	9	100	0	0
Sitewide	Interior Paint Peeling	229	193	84	157	81	36	19	36	16	32	89	4	11	226	203	90	189	93	14	7	23	10	19	83	4	17
	Exterior Paint Peeling	229	168	73	135	80	33	20	61	27	54	89	7	11	227	186	82	172	92	14	8	41	18	36	88	5	12
	Flood	206	190	92	160	84	30	16	16	8	11	69	5	31	150	122	81	113	93	9	7	28	19	25	89	3	11

Figure 56. Participation Rate, Geometric Mean Blood Lead Level, and Percent ≥5 µg/dL for Occupations – Box





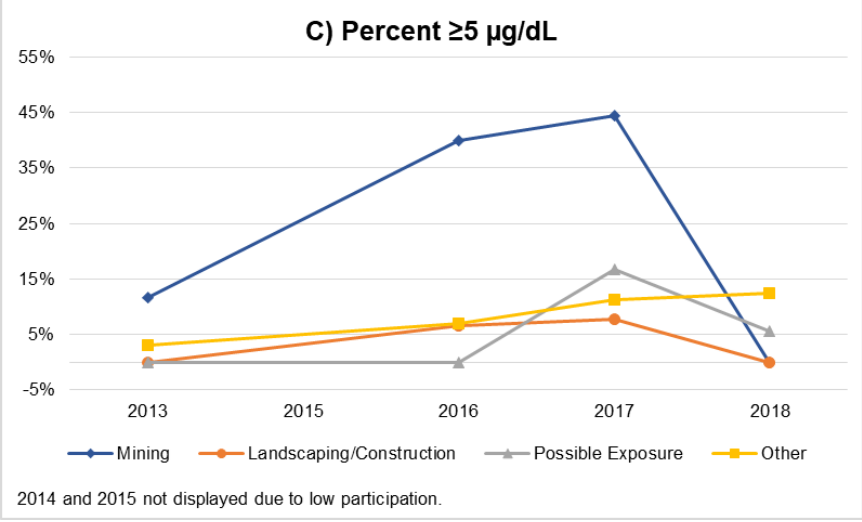


Figure 57. Participation Rate, Geometric Mean Blood Lead Level, and Percent ≥5 µg/dL for Occupations – Basin

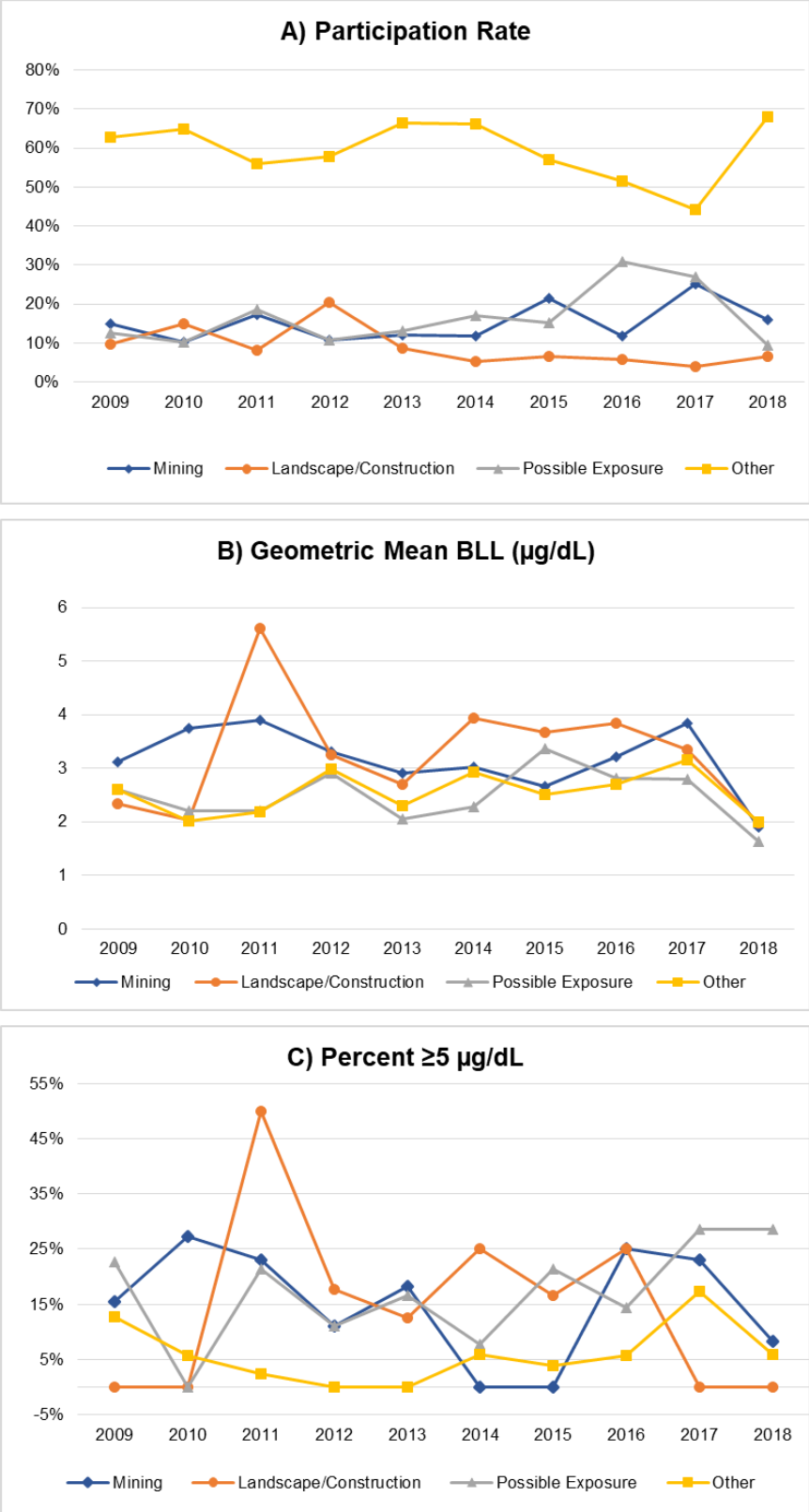
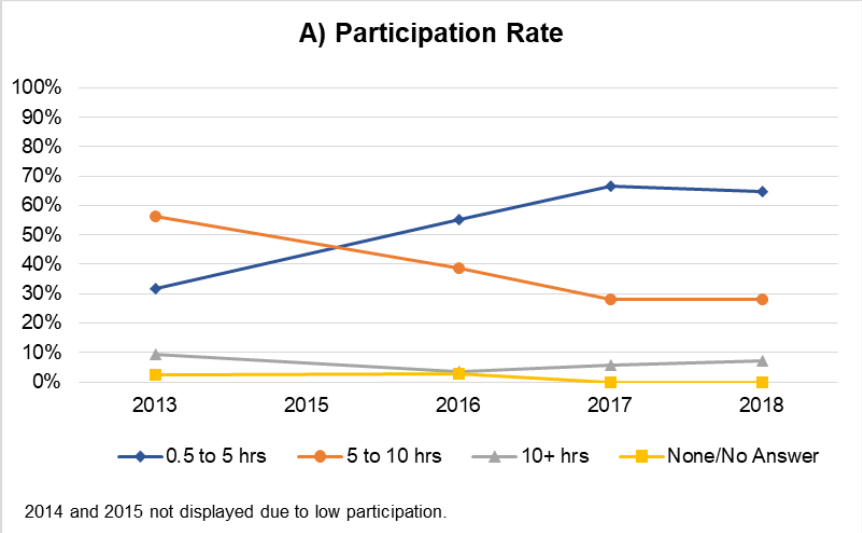
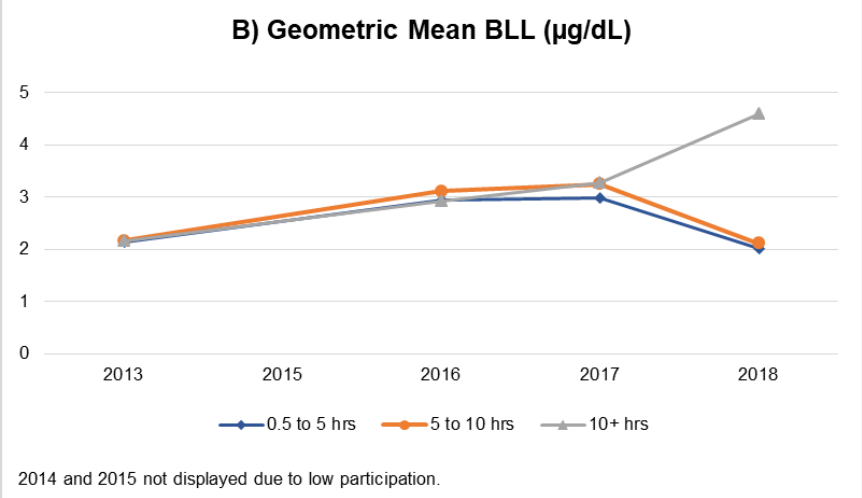


Figure 58. Participation Rate, Geometric Mean Blood Lead Level, and Percent ≥5 µg/dL for Amount of Time Spent Outdoors – Box





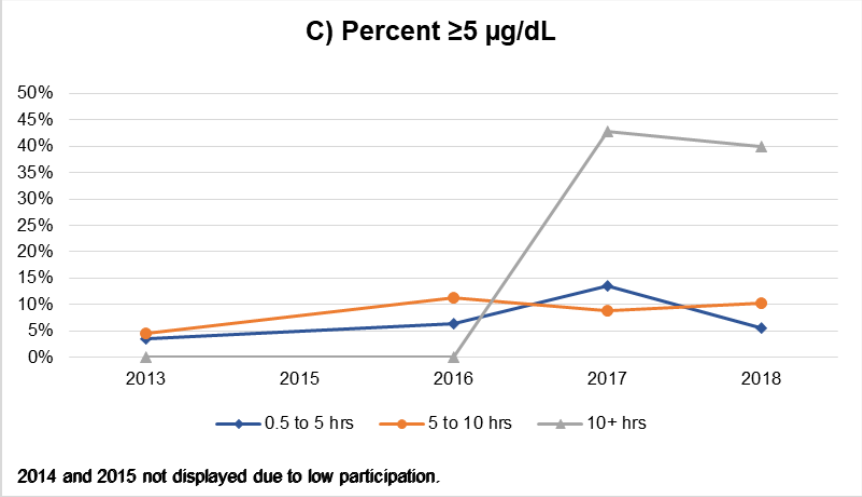


Figure 59. Participation Rate, Geometric Mean Blood Lead Level, and Percent ≥5 µg/dL for Amount of Time Spent Outdoors – Basin

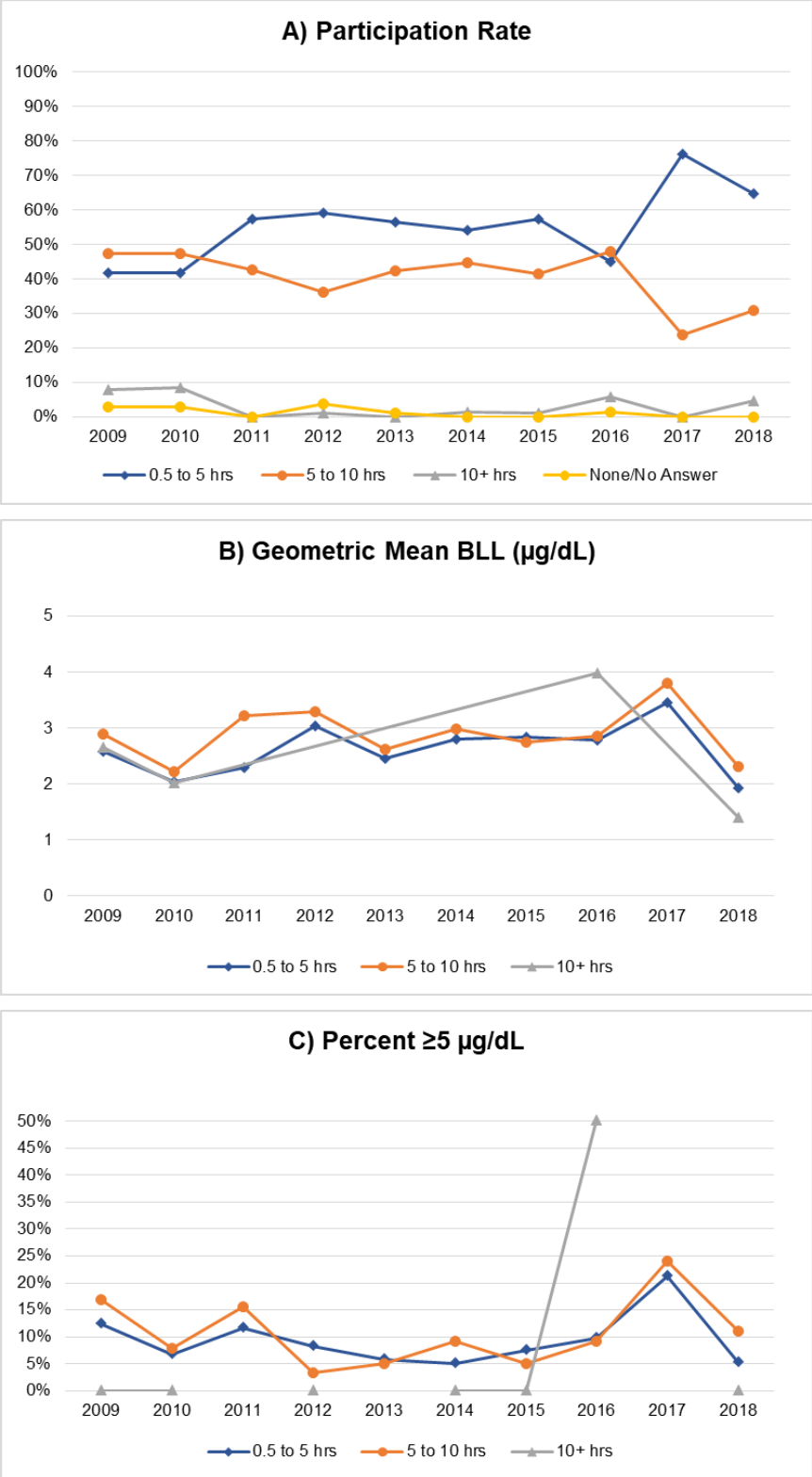
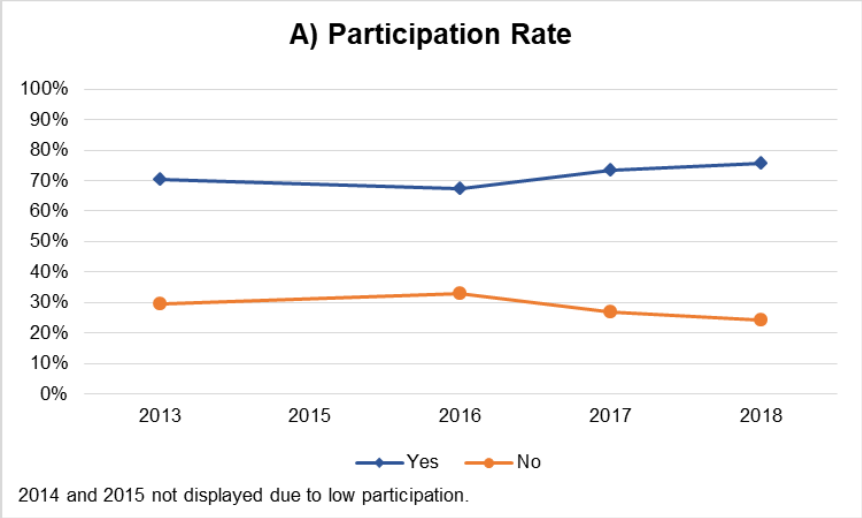
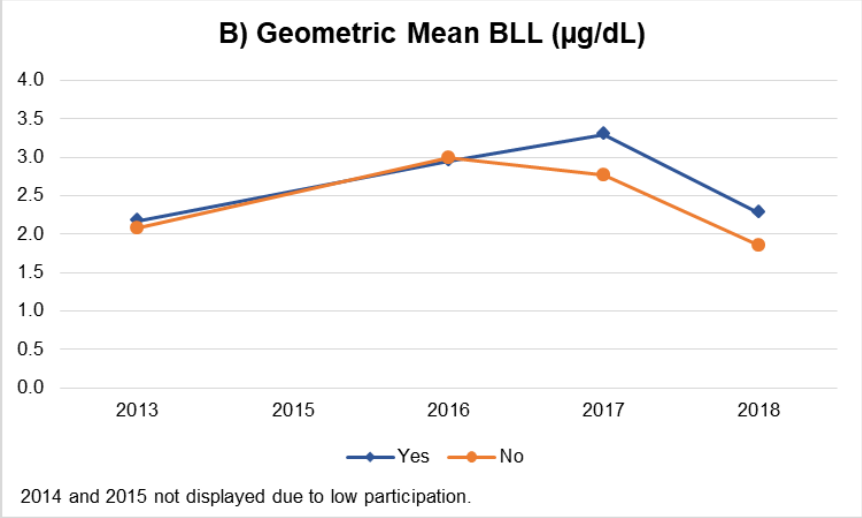


Figure 60. Participation Rate, Geometric Mean Blood Lead Level, and Percent ≥5 µg/dL for Having Pets – Box





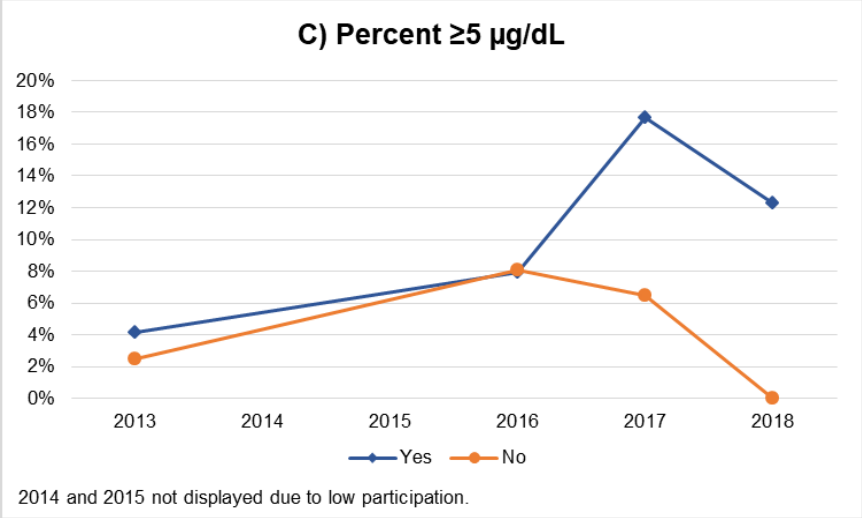


Figure 61. Participation Rate, Geometric Mean Blood Lead Level, and Percent ≥5 µg/dL for Having Pets – Basin

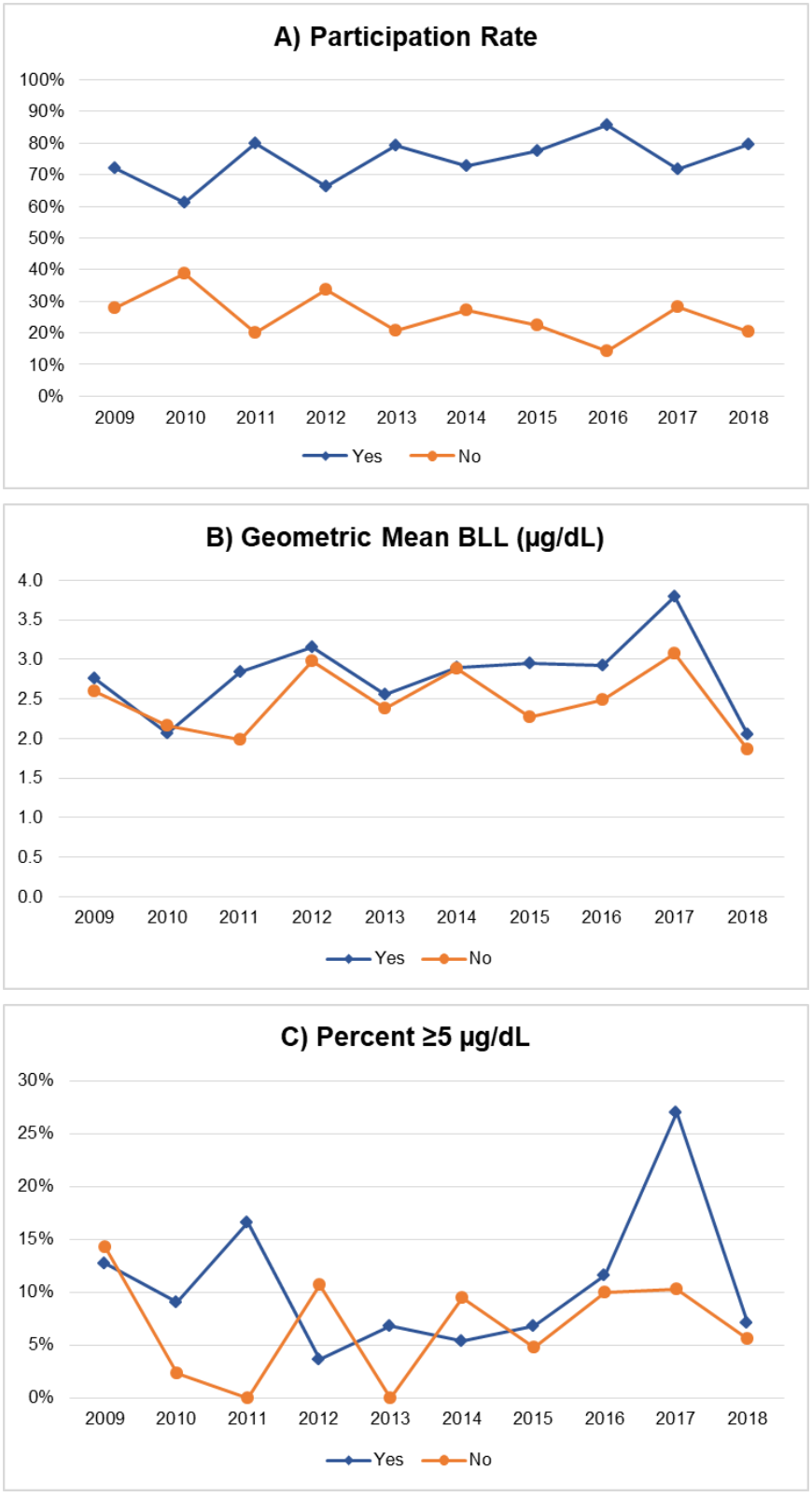
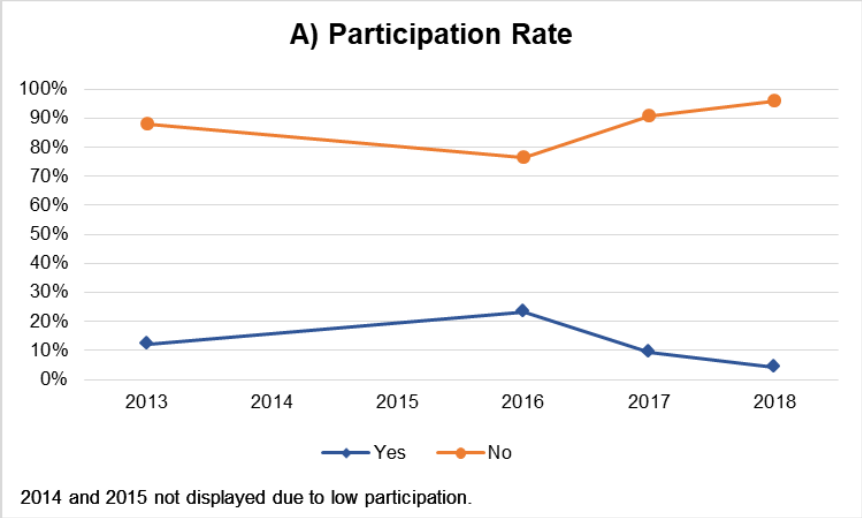
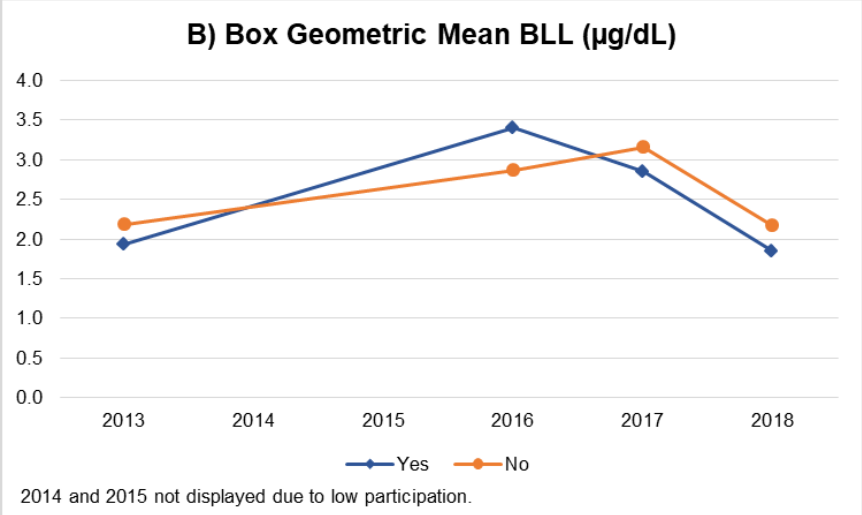


Figure 62. Participation Rate, Geometric Mean Blood Lead Level, and Percent ≥5 µg/dL for Smoking – Box





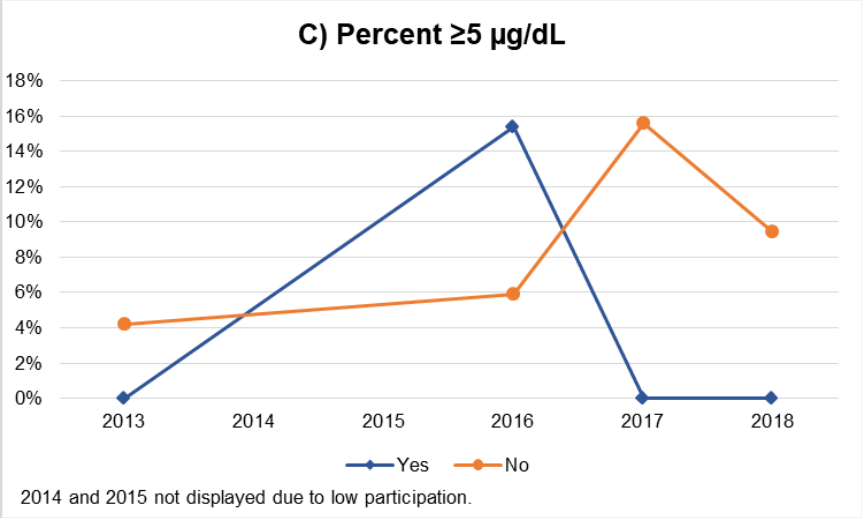


Figure 63. Participation Rate, Geometric Mean Blood Lead Level, and Percent ≥5 µg/dL for Smoking – Basin

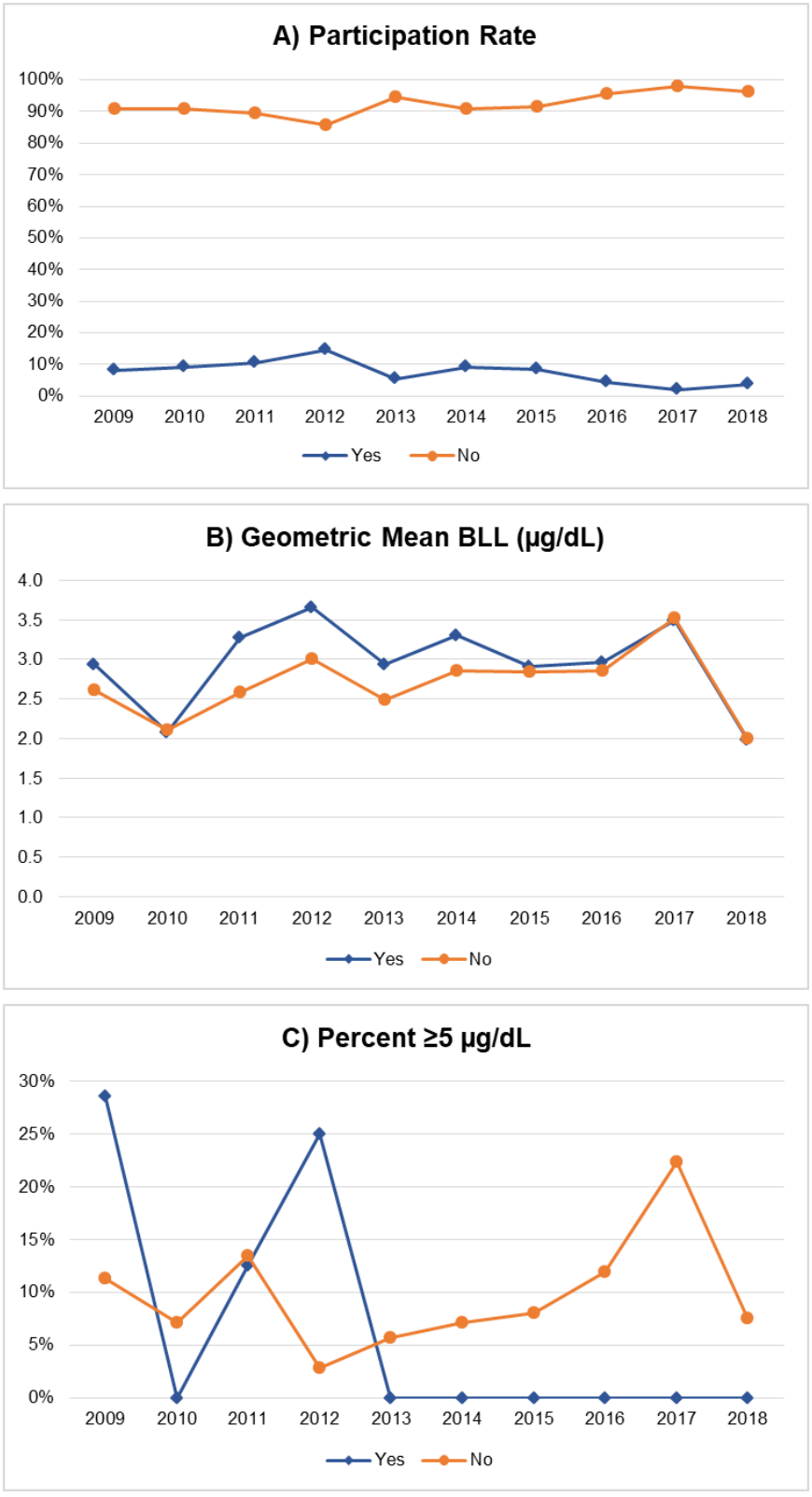
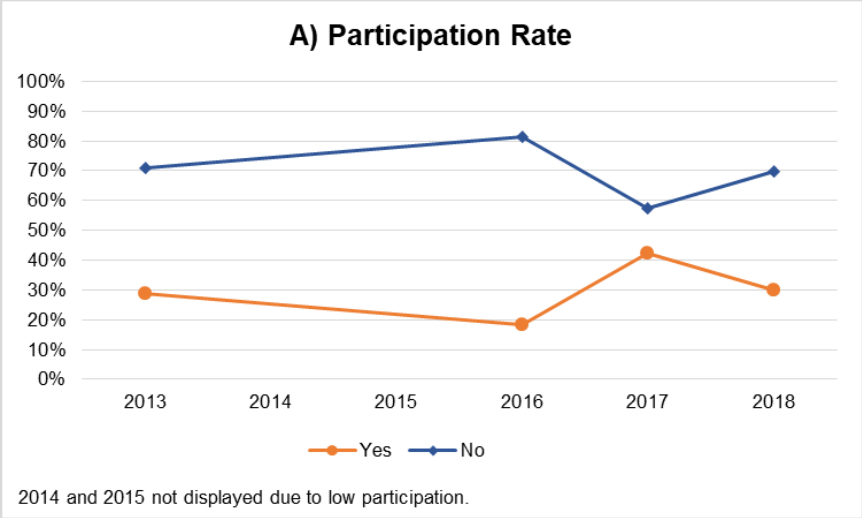
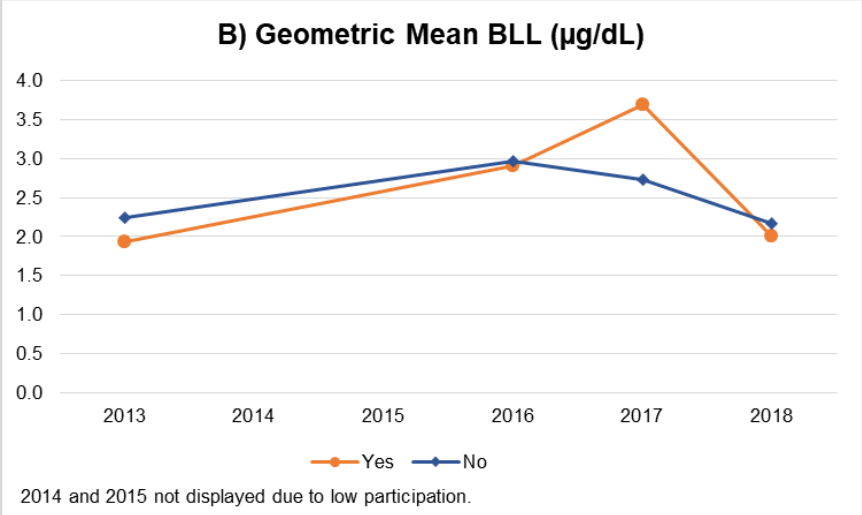


Figure 64. Participation Rate, Geometric Mean Blood Lead Level, and Percent ≥5 µg/dL for Local Vegetables – Box





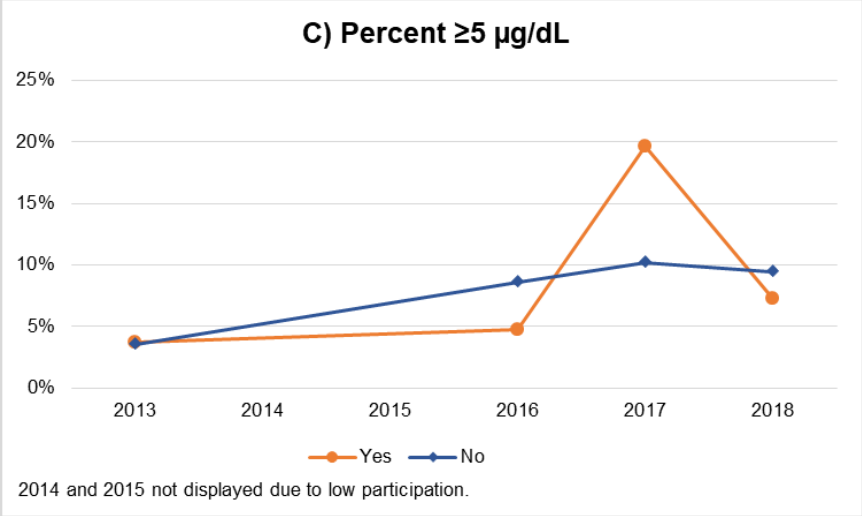


Figure 65. Participation Rate, Geometric Mean Blood Lead Level, and Percent ≥5 µg/dL for Local Vegetables – Basin

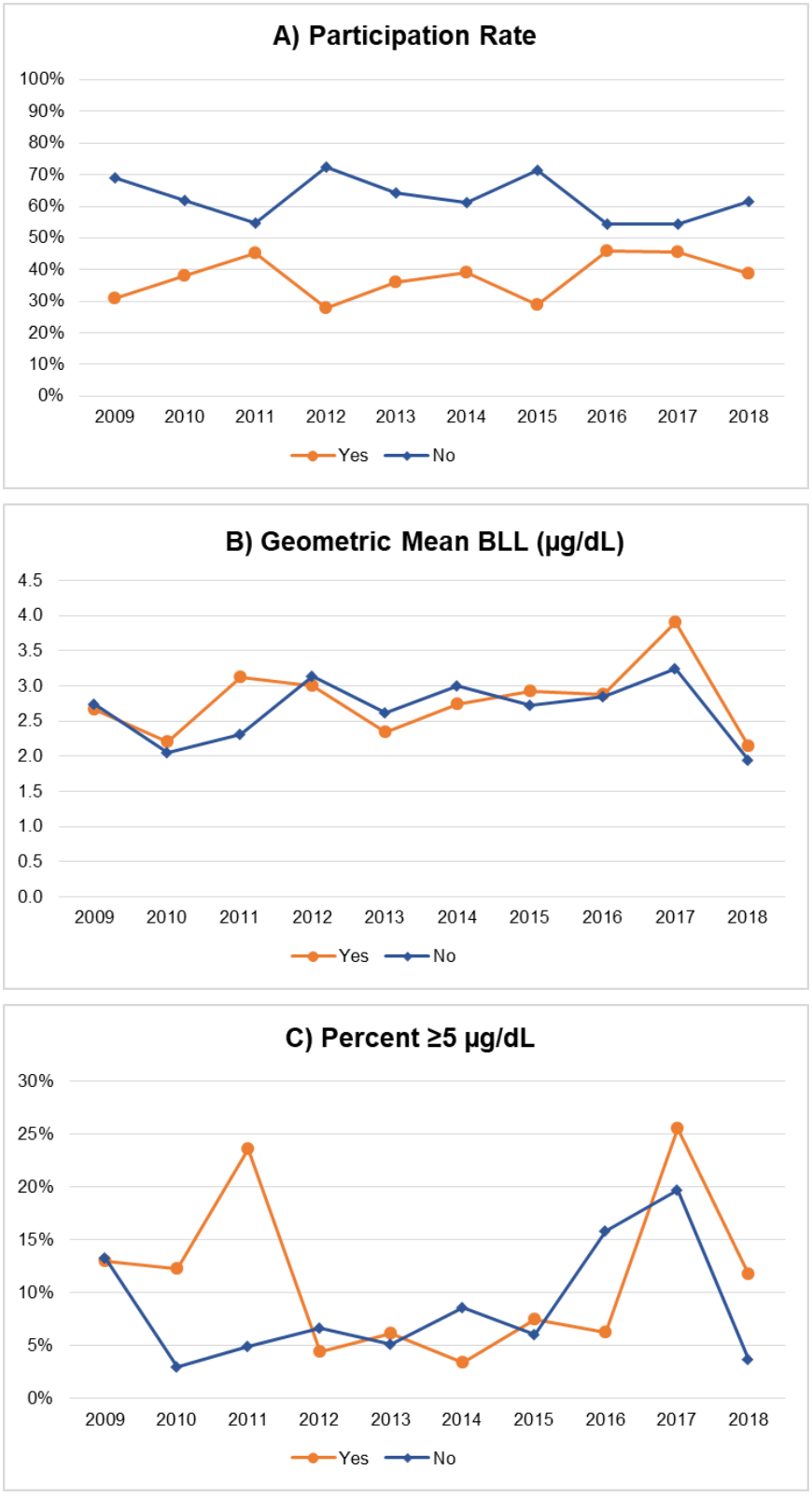
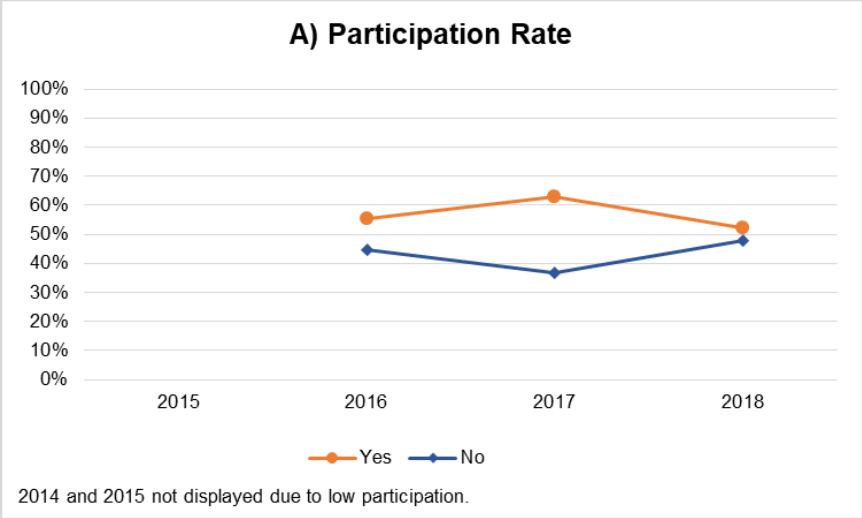
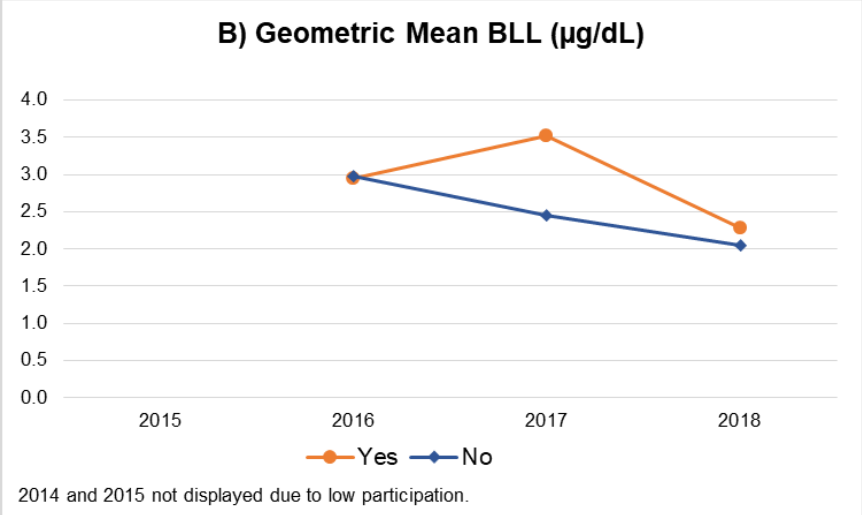


Figure 66. Participation Rate, Geometric Mean Blood Lead Level, and Percent ≥5 µg/dL for Eating Wild Game – Box





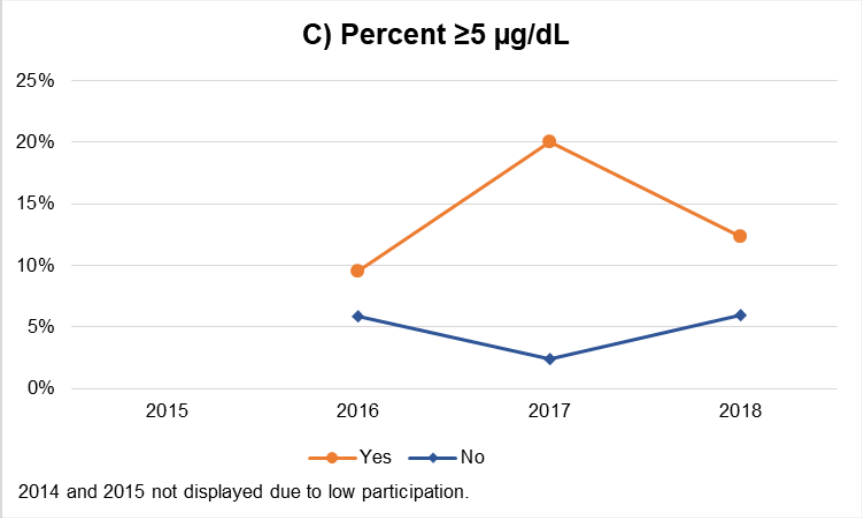


Figure 67. Participation Rate, Geometric Mean Blood Lead Level, and Percent ≥5 µg/dL for Eating Wild Game – Basin

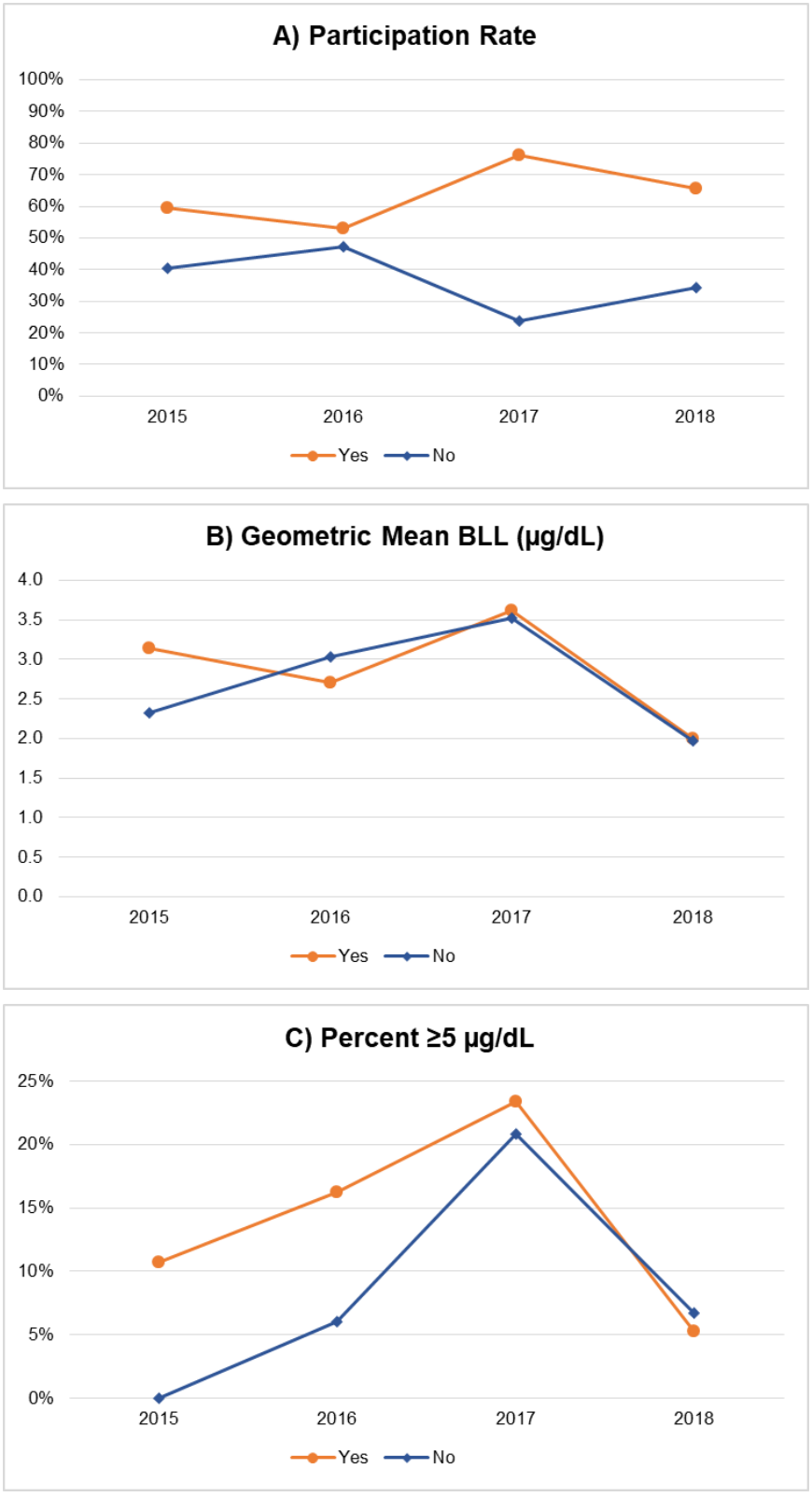
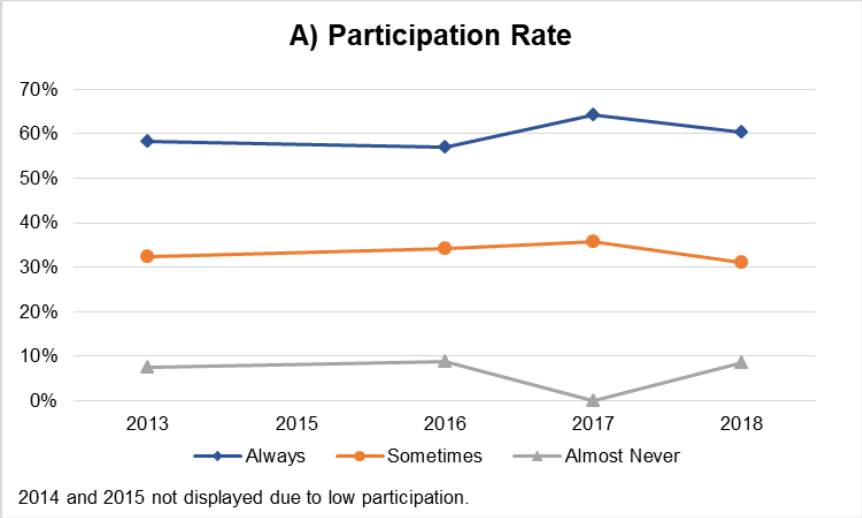
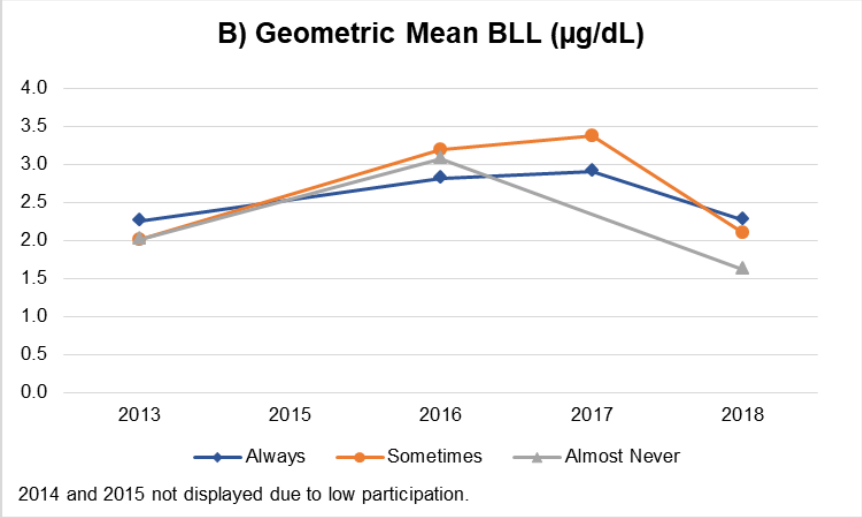


Figure 68. Participation Rate, Geometric Mean Blood Lead Level, and Percent ≥5 µg/dL for Handwashing Frequency – Box





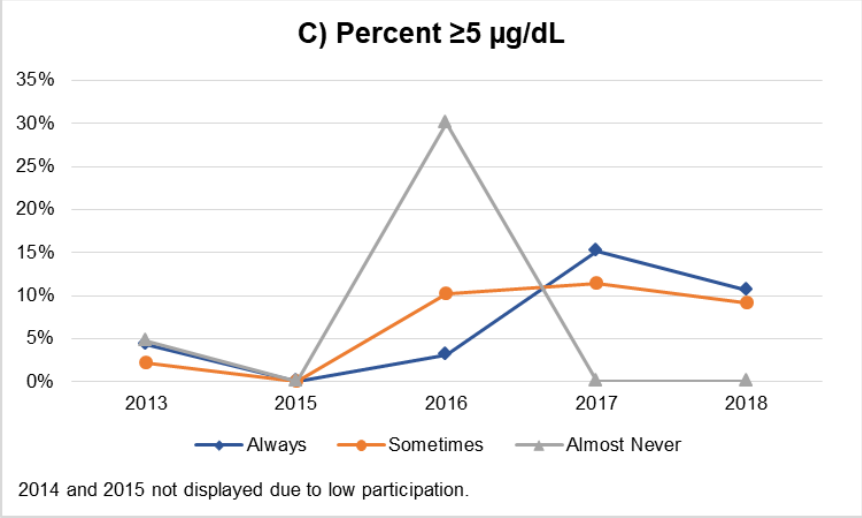


Figure 69. Participation Rate, Geometric Mean Blood Lead Level, and Percent ≥5 µg/dL for Handwashing Frequency – Basin

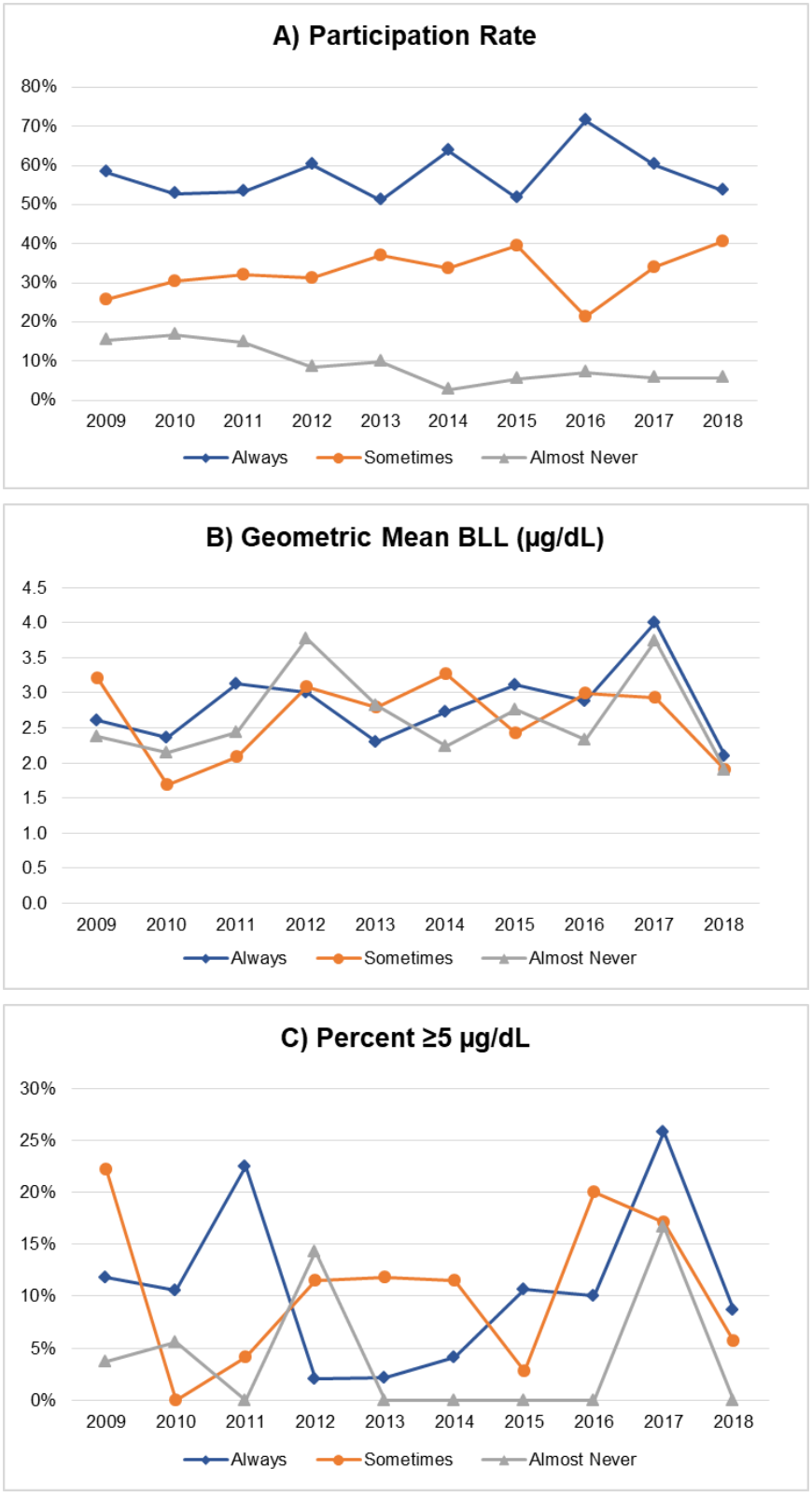
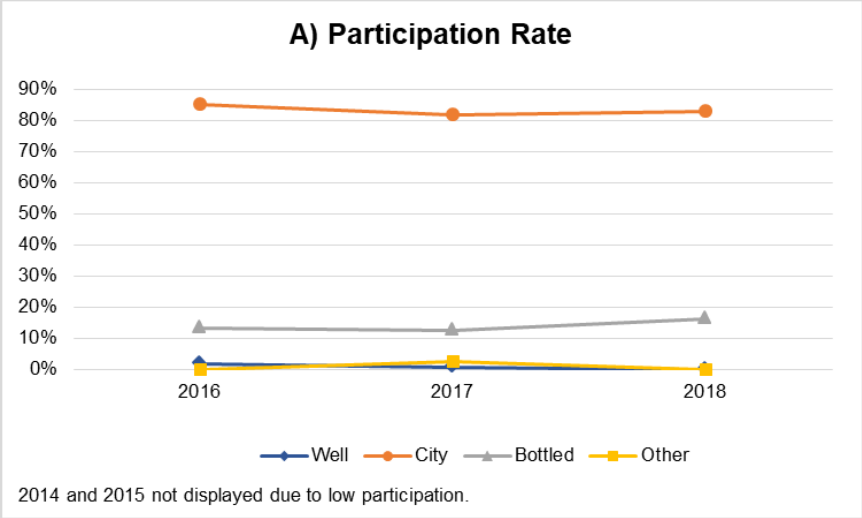
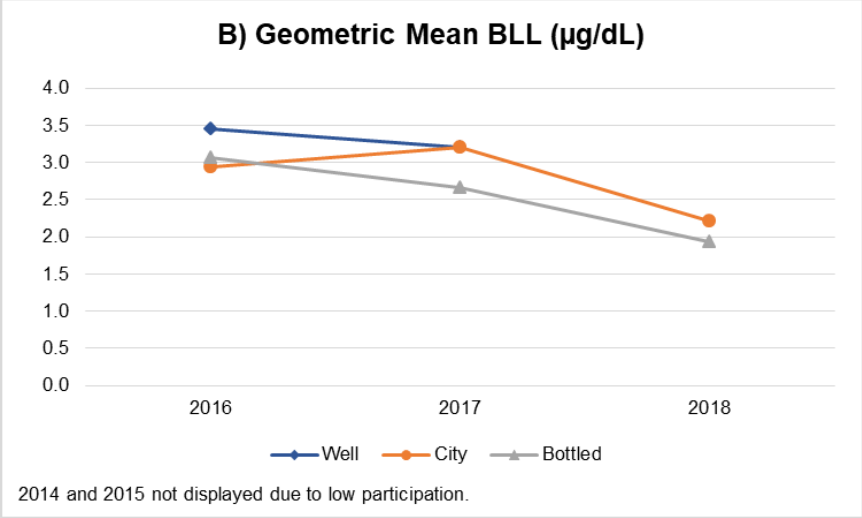


Figure 70. Participation Rate, Geometric Mean Blood Lead Level, and Percent ≥5 µg/dL for Drinking Water Source – Box





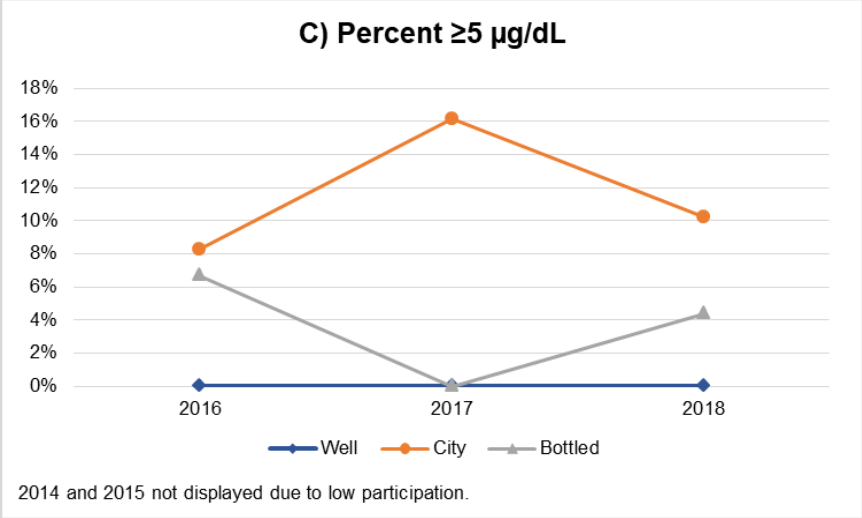
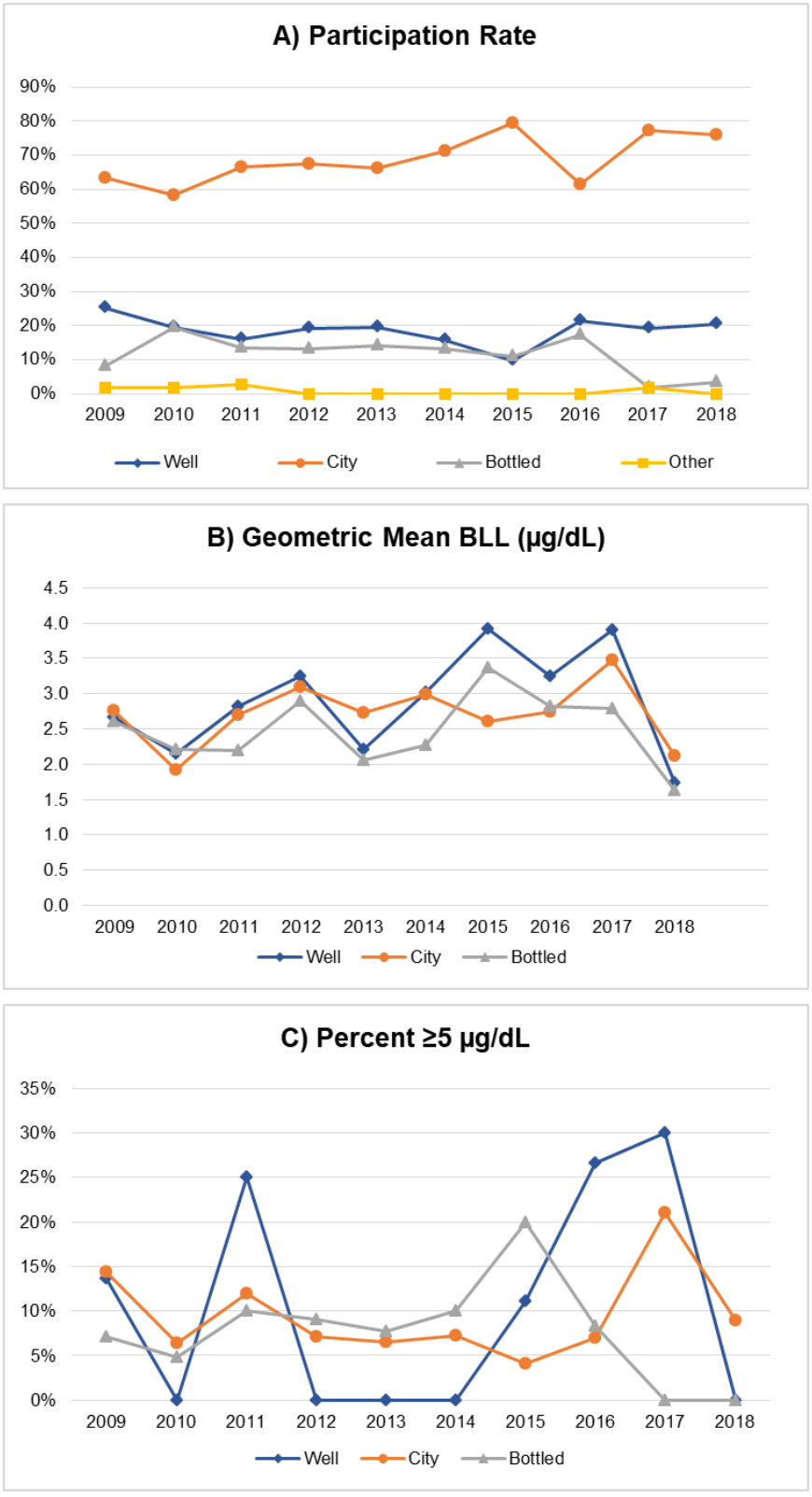


Figure 71. Participation Rate, Geometric Mean Blood Lead Level, and Percent ≥5 µg/dL for Drinking Water Source – Basin



Appendix F
National Weather Service Data

Local Climatological Data

PRELIMINARY LOCAL CLIMATOLOGICAL DATA (WS FORM: F-6)

STATION: SPOKANE WA AIRPORT
MONTH: APRIL
YEAR: 2015
LATITUDE: 47 37 N
LONGITUDE: 117 32 W

	TEMPERATURE IN F:						:PCPN:		SNOW:	WIND			:SUNSHINE:			SKY	:PK WND	
1	2	3	4	5	6A	6B	7	8	9	10	11	12	13	14	15	16	17	18
									12Z	AVG MX 2MIN								
DY	MAX	MIN	AVG	DEP	HDD	CDD	WTR	SNW	DPTH	SPD	SPD	DIR	MIN	PSBL	S-S	WX	SPD	DR
1	48	33	41	-3	24	0	0.02	T	0	11.3	26	230	M	M	6	134	33	300
2	51	29	40	-4	25	0	T	T	0	8.1	20	240	M	M	4	12	24	220
3	54	34	44	-1	21	0	0.00	0.0	0	9.8	17	230	M	M	6		20	190
4	51	34	43	-2	22	0	0.00	0.0	0	9.5	18	210	M	M	4	1	23	210
5	54	29	42	-3	23	0	T	0.0	0	6.5	17	70	M	M	7		22	50
6	42	33	38	-7	27	0	0.30	1.0	0	8.0	22	240	M	M	9	1	25	260
7	56	32	44	-1	21	0	0.00	0.0	0	10.4	18	40	M	M	8	12	24	40
8	58	37	48	2	17	0	0.00	0.0	0	7.7	16	250	M	M	6		20	270
9	57	37	47	1	18	0	0.03	0.0	0	4.4	12	160	M	M	5		16	160
10	62	36	49	3	16	0	T	0.0	0	9.2	26	220	M	M	8	1	35	220
11	53	35	44	-2	21	0	T	0.0	0	22.3	36	250	M	M	5		44	260
12	50	31	41	-5	24	0	0.00	0.0	0	14.1	24	240	M	M	7		29	230
13	62	36	49	3	16	0	0.08	0.0	0	9.2	22	250	M	M	9	1	32	250
14	51	31	41	-5	24	0	0.08	T	0	16.3	28	340	M	M	7	14	35	210
15	55	27	41	-6	24	0	0.00	0.0	0	7.6	17	210	M	M	1		24	200
16	62	34	48	1	17	0	0.00	0.0	0	5.0	12	270	M	M	2		15	270
17	69	37	53	6	12	0	0.00	0.0	0	6.8	17	260	M	M	2		22	260
18	68	45	57	10	8	0	0.00	0.0	0	9.8	20	330	M	M	2		24	340
19	70	43	57	9	8	0	0.00	0.0	0	6.3	15	330	M	M	4		19	320
20	72	44	58	10	7	0	0.00	0.0	0	5.2	14	250	M	M	5		18	260
21	74	48	61	13	4	0	0.00	0.0	0	8.0	22	200	M	M	5		30	200
22	59	41	50	2	15	0	0.00	0.0	0	15.7	26	220	M	M	5		33	210
23	53	35	44	-4	21	0	T	0.0	0	9.3	17	190	M	M	8		21	190
24	52	38	45	-4	20	0	T	0.0	0	12.1	22	220	M	M	7		29	220
25	51	35	43	-6	22	0	0.01	0.0	0	7.6	24	260	M	M	7	3	28	260
26	58	33	46	-3	19	0	0.00	0.0	0	3.7	13	260	M	M	6	128	19	270
27	68	37	53	3	12	0	0.00	0.0	0	4.3	10	70	M	M	6		15	80
28	78	46	62	12	3	0	0.00	0.0	0	9.8	20	240	M	M	7		25	230
29	61	42	52	2	13	0	0.01	M	0	16.3	28	220	M	M	6		35	230
30	63	36	50	0	15	0	0.00	0.0	0	12.0	23	220	M	M	2	8	27	230
SM	1762	1088		519		0	0.53		1.0	286.3			M		166			
AV	58.7	36.3								9.5	FASTST		M	M	6		MAX(MPH)	
								MISC ---->		# 36	250						# 44	260

NOTES:
LAST OF SEVERAL OCCURRENCES

COLUMN 17 PEAK WIND IN M.P.H.

PRELIMINARY LOCAL CLIMATOLOGICAL DATA (WS FORM: F-6) , PAGE 2

STATION: SPOKANE WA AIRPORT
MONTH: APRIL
YEAR: 2015
LATITUDE: 47 37 N
LONGITUDE: 117 32 W

[TEMPERATURE DATA] [PRECIPITATION DATA] SYMBOLS USED IN COLUMN 16

```
AVERAGE MONTHLY: 47.5   TOTAL FOR MONTH:   0.53    1 = FOG OR MIST
DPTR FM NORMAL:   0.5   DPTR FM NORMAL:   -0.75    2 = FOG REDUCING VISIBILITY
HIGHEST:    78 ON 28    GRTST 24HR  0.30 ON  6- 6      TO 1/4 MILE OR LESS
LOWEST:     27 ON 15                               3 = THUNDER
                        SNOW, ICE PELLETS, HAIL    4 = ICE PELLETS
                        TOTAL MONTH:   1.0 INCH    5 = HAIL
                        GRTST 24HR   1.0 ON  6- 6  6 = FREEZING RAIN OR DRIZZLE
                        GRTST DEPTH:   0           7 = DUSTSTORM OR SANDSTORM:
                                                       VSBY 1/2 MILE OR LESS
                                                   8 = SMOKE OR HAZE
[NO. OF DAYS WITH]      [WEATHER - DAYS WITH]      9 = BLOWING SNOW
                                                   X = TORNADO
MAX 32 OR BELOW:   0    0.01 INCH OR MORE:   7
MAX 90 OR ABOVE:   0    0.10 INCH OR MORE:   1
MIN 32 OR BELOW:   6    0.50 INCH OR MORE:   0
MIN  0 OR BELOW:   0    1.00 INCH OR MORE:   0

[HDD (BASE 65) ]
TOTAL THIS MO.   519    CLEAR  (SCALE 0-3)   5
DPTR FM NORMAL   -21    PTCLDY (SCALE 4-7)  23
TOTAL FM JUL 1  5238    CLOUDY (SCALE 8-10)  2
DPTR FM NORMAL  -898

[CDD (BASE 65) ]
TOTAL THIS MO.     0
DPTR FM NORMAL     0    [PRESSURE DATA]
TOTAL FM JAN 1     0    HIGHEST SLP M ON M
DPTR FM NORMAL     0    LOWEST  SLP  0.00 ON M

[REMARKS]
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Webmaster
US Dept of Commerce
National Oceanic and Atmospheric Administration
National Weather Service
Spokane Weather Forecast Office
2601 N. Rambo Rd.
Spokane, Washington 99224

Tel: (509) 244-0110

Local Climatological Data

PRELIMINARY LOCAL CLIMATOLOGICAL DATA (WS FORM: F-6)

STATION: SPOKANE WA AIRPORT
MONTH: MAY
YEAR: 2015
LATITUDE: 47 37 N
LONGITUDE: 117 32 W

TEMPERATURE IN F:							:PCPN:		SNOW:	WIND			:SUNSHINE:		SKY		:PK WND	
1	2	3	4	5	6A	6B	7	8	9	10	11	12	13	14	15	16	17	18
									12Z	AVG	MX	2MIN						
DY	MAX	MIN	AVG	DEP	HDD	CDD	WTR	SNW	DPTH	SPD	SPD	DIR	MIN	PSBL	S-S	WX	SPD	DR
1	73	45	59	8	6	0	T	0.0	0	11.2	25	250	M	M		9	31	250
2	66	41	54	3	11	0	0.00	0.0	0	7.2	18	250	M	M		3	23	250
3	70	42	56	5	9	0	0.00	0.0	0	5.6	13	40	M	M		2	16	30
4	75	42	59	7	6	0	0.00	0.0	0	8.1	18	220	M	M		1	23	220
5	60	42	51	-1	14	0	0.00	0.0	0	14.5	28	220	M	M		5	33	220
6	61	37	49	-3	16	0	0.00	0.0	0	4.9	13	210	M	M		3	16	230
7	69	40	55	3	10	0	0.00	0.0	0	6.3	15	30	M	M		2	8	18	350
8	70	46	58	5	7	0	0.00	0.0	0	10.0	20	40	M	M		1	8	27	30
9	72	45	59	6	6	0	0.00	0.0	0	6.9	17	20	M	M		2		24	20
10	74	45	60	6	5	0	0.00	0.0	0	5.6	15	40	M	M		5		19	40
11	73	51	62	8	3	0	0.00	0.0	0	9.0	21	70	M	M		6		25	70
12	65	52	59	5	6	0	0.02	0.0	0	8.9	21	50	M	M		8		25	40
13	57	45	51	-3	14	0	0.26	0.0	0	8.6	20	190	M	M		10	1	25	200
14	67	42	55	0	10	0	0.00	0.0	0	5.2	13	320	M	M		5		15	330
15	72	45	59	4	6	0	T	0.0	0	6.4	16	350	M	M		8		22	330
16	74	50	62	7	3	0	0.08	0.0	0	7.1	29	40	M	M		9	38	36	30
17	72	52	62	6	3	0	T	0.0	0	10.7	21	70	M	M		7		27	90
18	73	49	61	5	4	0	0.00	0.0	0	9.2	18	50	M	M		5		23	70
19	75	51	63	7	2	0	0.00	0.0	0	9.2	21	10	M	M		4		25	20
20	77	52	65	9	0	0	0.00	0.0	0	7.6	17	40	M	M		4		24	60
21	82	55	69	12	0	4	T	0.0	0	5.8	16	330	M	M		7		24	260
22	81	59	70	13	0	5	0.15	0.0	0	5.9	13	230	M	M		7	3	16	300
23	83	54	69	12	0	4	0.00	0.0	0	6.0	18	220	M	M		M		23	190
24	78	55	67	10	0	2	0.00	0.0	0	5.8	16	340	M	M		7		21	230
25	63	53	58	0	7	0	0.30	0.0	0	6.5	21	310	M	M		9	138	30	290
26	66	51	59	1	6	0	0.04	0.0	0	3.9	15	230	M	M		6	13	18	230
27	75	48	62	4	3	0	0.00	0.0	0	3.9	13	50	M	M		5	1	14	60
28	79	53	66	8	0	1	0.00	0.0	0	7.1	23	90	M	M		6	3	29	90
29	82	55	69	11	0	4	0.00	0.0	0	8.5	36	320	M	M		7	38	44	320
30	82	59	71	12	0	6	T	0.0	0	8.2	20	260	M	M		7	13	25	220
31	83	59	71	12	0	6	0.00	0.0	0	6.1	16	210	M	M		7		22	210
SM	2249	1515		157	32	0.85		0.0	229.9				M			167		
AV	72.5	48.9								7.4	FASTST		M	M		6	MAX(MPH)	
									MISC ---->	# 36	320						# 44	320

NOTES:
LAST OF SEVERAL OCCURRENCES

COLUMN 17 PEAK WIND IN M.P.H.

PRELIMINARY LOCAL CLIMATOLOGICAL DATA (WS FORM: F-6) , PAGE 2

STATION: SPOKANE WA AIRPORT
MONTH: MAY
YEAR: 2015
LATITUDE: 47 37 N
LONGITUDE: 117 32 W

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[TEMPERATURE DATA]      [PRECIPITATION DATA]       SYMBOLS USED IN COLUMN 16

AVERAGE MONTHLY: 60.7   TOTAL FOR MONTH:   0.85    1 = FOG OR MIST
DPTR FM NORMAL:   5.6   DPTR FM NORMAL:   -0.77    2 = FOG REDUCING VISIBILITY
HIGHEST:    83 ON 31,23 GRTST 24HR  0.30 ON 25-25     TO 1/4 MILE OR LESS
LOWEST:     37 ON  6                               3 = THUNDER
                        SNOW, ICE PELLETS, HAIL    4 = ICE PELLETS
                        TOTAL MONTH:   0.0 INCH    5 = HAIL
                        GRTST 24HR     0.0         6 = FREEZING RAIN OR DRIZZLE
                        GRTST DEPTH:   0           7 = DUSTSTORM OR SANDSTORM:
                                                       VSBY 1/2 MILE OR LESS
                                                   8 = SMOKE OR HAZE
[NO. OF DAYS WITH]      [WEATHER - DAYS WITH]      9 = BLOWING SNOW
                                                   X = TORNADO
MAX 32 OR BELOW:   0    0.01 INCH OR MORE:   6
MAX 90 OR ABOVE:   0    0.10 INCH OR MORE:   3
MIN 32 OR BELOW:   0    0.50 INCH OR MORE:   0
MIN  0 OR BELOW:   0    1.00 INCH OR MORE:   0

[HDD (BASE 65) ]
TOTAL THIS MO.   157    CLEAR  (SCALE 0-3)   6
DPTR FM NORMAL  -164    PTCLDY (SCALE 4-7)  19
TOTAL FM JUL 1  5395    CLOUDY (SCALE 8-10)  5
DPTR FM NORMAL -1062

[CDD (BASE 65) ]
TOTAL THIS MO.    32
DPTR FM NORMAL    18    [PRESSURE DATA]
TOTAL FM JAN 1    32    HIGHEST SLP  0.00 ON 23
DPTR FM NORMAL    18    LOWEST  SLP  0.00 ON M

[REMARKS]
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Webmaster
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National Oceanic and Atmospheric Administration
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Spokane Weather Forecast Office
2601 N. Rambo Rd.
Spokane, Washington 99224

Tel: (509) 244-0110

Local Climatological Data

PRELIMINARY LOCAL CLIMATOLOGICAL DATA (WS FORM: F-6)

STATION: SPOKANE WA AIRPORT
MONTH: JUNE
YEAR: 2015
LATITUDE: 47 37 N
LONGITUDE: 117 32 W

	TEMPERATURE IN F:							:PCPN:	SNOW:	WIND			:SUNSHINE:		SKY	:PK WND	
1	2	3	4	5	6A	6B	7	8	9	10	11	12	13	14	15	16	17	18
DY	MAX	MIN	AVG	DEP	HDD	CDD	WTR	SNW	12Z DPTH	AVG SPD	MX SPD	2MIN DIR	MIN	PSBL	S-S	WX	SPD	DR
1	80	57	69	10	0	4	0.06	0.0	0	8.7	28	210	M	M	8	3	33	220
2	68	53	61	2	4	0	0.00	0.0	0	12.6	24	210	M	M	8	8	29	210
3	66	50	58	-2	7	0	0.00	0.0	0	8.2	16	220	M	M	7	8	21	220
4	73	49	61	1	4	0	0.00	0.0	0	5.1	13	20	M	M	4		14	10
5	80	51	66	6	0	1	0.00	0.0	0	5.5	14	360	M	M	1		20	50
6	87	54	71	11	0	6	0.00	0.0	0	4.4	13	10	M	M	5		16	50
7	92	61	77	17	0	12	0.00	0.0	0	6.0	17	220	M	M	5		22	240
8	96	65	81	21	0	16	0.00	0.0	0	8.7	20	240	M	M	1	8	30	250
9	93	64	79	18	0	14	0.00	0.0	0	8.0	18	290	M	M	5		25	270
10	89	60	75	14	0	10	0.00	0.0	0	9.0	17	210	M	M	2		22	210
11	87	58	73	12	0	8	0.00	0.0	0	15.3	32	250	M	M	2	8	39	250
12	78	52	65	4	0	0	0.00	0.0	0	17.0	31	250	M	M	1	8	37	260
13	73	43	58	-3	7	0	0.00	0.0	0	5.0	15	310	M	M	2		25	340
14	79	47	63	1	2	0	0.00	0.0	0	4.6	14	30	M	M	2		26	340
15	81	58	70	8	0	5	0.00	0.0	0	8.0	18	20	M	M	5		24	40
16	86	54	70	8	0	5	0.00	0.0	0	4.8	10	170	0	0	0		M	M
17	83	62	73	11	0	8	0.00	0.0	0	9.4	20	210	M	M	5		25	220
18	87	62	75	13	0	10	0.00	0.0	0	10.4	25	240	M	M	6		37	230
19	78	57	68	5	0	3	0.00	0.0	0	14.9	24	240	M	M	3		33	230
20	77	51	64	1	1	0	0.00	0.0	0	9.6	18	210	M	M	4		23	210
21	79	53	66	3	0	1	0.00	0.0	0	7.0	17	260	M	M	8		21	270
22	82	55	69	6	0	4	0.00	0.0	0	8.1	17	230	M	M	5		26	220
23	83	55	69	5	0	4	0.00	0.0	0	9.2	18	250	M	M	4		30	230
24	86	60	73	9	0	8	0.00	0.0	0	5.4	20	250	M	M	7		26	240
25	89	61	75	11	0	10	0.00	0.0	0	6.9	15	200	M	M	2		20	200
26	98	66	82	18	0	17	0.00	0.0	0	4.6	13	260	M	M	3		16	260
27	102	68	85	20	0	20	0.00	0.0	0	4.1	13	60	M	M	5		17	350
28	105	73	89	24	0	24	0.00	0.0	0	6.8	22	190	M	M	6		30	190
29	94	74	84	19	0	19	0.01	0.0	0	8.6	22	260	M	M	7	8	26	270
30	94	68	81	15	0	16	0.00	0.0	0	5.4	17	300	M	M	2		23	240
SM	2545	1741				25	225	0.07	0.0	241.3			0		125			
AV	84.8	58.0								8.0	FASTST		0	0	4		MAX(MPH)	
									MISC ---->	# 32	250						# 39	250

NOTES:
LAST OF SEVERAL OCCURRENCES

COLUMN 17 PEAK WIND IN M.P.H.

PRELIMINARY LOCAL CLIMATOLOGICAL DATA (WS FORM: F-6) , PAGE 2

STATION: SPOKANE WA AIRPORT
MONTH: JUNE
YEAR: 2015
LATITUDE: 47 37 N
LONGITUDE: 117 32 W

[TEMPERATURE DATA] [PRECIPITATION DATA] SYMBOLS USED IN COLUMN 16

```
AVERAGE MONTHLY: 71.4   TOTAL FOR MONTH:   0.07    1 = FOG OR MIST
DPTR FM NORMAL:   9.3   DPTR FM NORMAL:   -1.18    2 = FOG REDUCING VISIBILITY
HIGHEST:   105 ON 28    GRTST 24HR  0.06 ON  1- 1      TO 1/4 MILE OR LESS
LOWEST:     43 ON 13                               3 = THUNDER
                        SNOW, ICE PELLETS, HAIL    4 = ICE PELLETS
                        TOTAL MONTH:   0.0 INCH    5 = HAIL
                        GRTST 24HR     0.0         6 = FREEZING RAIN OR DRIZZLE
                        GRTST DEPTH:   0           7 = DUSTSTORM OR SANDSTORM:
                                                       VSBY 1/2 MILE OR LESS
                                                   8 = SMOKE OR HAZE
[NO. OF DAYS WITH]      [WEATHER - DAYS WITH]      9 = BLOWING SNOW
                                                   X = TORNADO
MAX 32 OR BELOW:   0    0.01 INCH OR MORE:   2
MAX 90 OR ABOVE:   8    0.10 INCH OR MORE:   0
MIN 32 OR BELOW:   0    0.50 INCH OR MORE:   0
MIN  0 OR BELOW:   0    1.00 INCH OR MORE:   0

[HDD (BASE 65) ]
TOTAL THIS MO.    25    CLEAR  (SCALE 0-3)  11
DPTR FM NORMAL  -111    PTCLDY (SCALE 4-7)  17
TOTAL FM JUL 1  5420    CLOUDY (SCALE 8-10)  2
DPTR FM NORMAL -1173

[CDD (BASE 65) ]
TOTAL THIS MO.   225
DPTR FM NORMAL   176    [PRESSURE DATA]
TOTAL FM JAN 1   257    HIGHEST SLP  0.00 ON 16
DPTR FM NORMAL   194    LOWEST  SLP  0.00 ON M

[REMARKS]
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Webmaster
US Dept of Commerce
National Oceanic and Atmospheric Administration
National Weather Service
Spokane Weather Forecast Office
2601 N. Rambo Rd.
Spokane, Washington 99224

Tel: (509) 244-0110

Local Climatological Data

PRELIMINARY LOCAL CLIMATOLOGICAL DATA (WS FORM: F-6)

STATION: SPOKANE WA AIRPORT
MONTH: JULY
YEAR: 2015
LATITUDE: 47 37 N
LONGITUDE: 117 32 W

	TEMPERATURE IN F:							:PCPN:	SNOW:	WIND			:SUNSHINE:		SKY	:PK WND		
1	2	3	4	5	6A	6B	7	8	9	10	11	12	13	14	15	16	17	18
									12Z	AVG	MX	2MIN						
DY	MAX	MIN	AVG	DEP	HDD	CDD	WTR	SNW	DPTH	SPD	SPD	DIR	MIN	PSBL	S-S	WX	SPD	DR
1	95	66	81	15	0	16	0.00	0.0	0	5.4	18	300	M	M		1	22	280
2	98	66	82	16	0	17	0.00	0.0	0	5.3	14	280	M	M		2	20	280
3	99	65	82	15	0	17	0.00	0.0	0	7.3	17	210	M	M		4	28	210
4	97	66	82	15	0	17	0.00	0.0	0	8.0	17	200	M	M		2	23	230
5	88	71	80	13	0	15	0.00	0.0	0	12.9	20	50	M	M		5	27	40
6	92	63	78	10	0	13	0.00	0.0	0	8.2	17	70	M	M		6	23	80
7	91	66	79	11	0	14	0.00	0.0	0	8.3	18	30	M	M		6	23	20
8	94	66	80	12	0	15	0.00	0.0	0	6.5	15	20	M	M		4 8	19	40
9	97	66	82	14	0	17	0.00	0.0	0	4.6	13	100	M	M		3 8	15	350
10	92	69	81	12	0	16	T	0.0	0	9.9	25	200	M	M		8 38	29	200
11	74	63	69	0	0	4	0.18	0.0	0	8.5	21	200	M	M		8 1	25	210
12	83	60	72	3	0	7	0.00	0.0	0	11.1	18	220	M	M		7	23	220
13	80	61	71	1	0	6	0.01	0.0	0	10.6	24	220	M	M		7	28	220
14	84	61	73	3	0	8	0.00	0.0	0	7.6	17	240	M	M		5	23	230
15	85	59	72	2	0	7	0.00	0.0	0	11.2	24	240	M	M		6	30	240
16	79	58	69	-1	0	4	0.00	0.0	0	11.9	23	270	M	M		5	29	320
17	84	56	70	0	0	5	0.00	0.0	0	7.1	21	340	M	M		3	26	340
18	88	62	75	4	0	10	0.00	0.0	0	5.7	15	220	M	M		3	18	210
19	93	63	78	7	0	13	0.00	0.0	0	5.7	15	200	M	M		2	24	190
20	92	67	80	9	0	15	0.00	0.0	0	13.8	23	240	M	M		3	30	210
21	85	60	73	2	0	8	0.00	0.0	0	12.6	24	200	M	M		4	30	250
22	79	56	68	-3	0	3	0.00	0.0	0	10.3	22	220	M	M		3	27	210
23	82	55	69	-3	0	4	0.00	0.0	0	9.9	22	210	M	M		4	27	200
24	82	59	71	-1	0	6	0.00	0.0	0	11.2	23	230	M	M		3	30	230
25	78	61	70	-2	0	5	0.00	0.0	0	15.7	30	240	M	M		8	38	220
26	72	53	63	-9	2	0	0.00	0.0	0	10.8	21	230	M	M		7	27	220
27	73	51	62	-10	3	0	T	0.0	0	7.9	23	280	M	M		6 3	26	290
28	80	49	65	-7	0	0	0.00	0.0	0	7.7	16	240	M	M		3	20	230
29	88	57	73	1	0	8	0.00	0.0	0	7.0	18	240	M	M		3	23	250
30	95	61	78	6	0	13	0.00	0.0	0	5.0	15	240	M	M		0	18	250
31	100	63	82	10	0	17	0.00	0.0	0	8.2	21	240	M	M		3	25	240
SM	2699	1899			5	300	0.19		0.0	275.9			M			134		
AV	87.1	61.3								8.9	FASTST		M	M		4	MAX(MPH)	
									MISC ---->	# 30 240							# 38	220

NOTES:
LAST OF SEVERAL OCCURRENCES

COLUMN 17 PEAK WIND IN M.P.H.

PRELIMINARY LOCAL CLIMATOLOGICAL DATA (WS FORM: F-6) , PAGE 2

STATION: SPOKANE WA AIRPORT
MONTH: JULY
YEAR: 2015
LATITUDE: 47 37 N
LONGITUDE: 117 32 W

```
[TEMPERATURE DATA]      [PRECIPITATION DATA]       SYMBOLS USED IN COLUMN 16

AVERAGE MONTHLY: 74.2   TOTAL FOR MONTH:   0.19    1 = FOG OR MIST
DPTR FM NORMAL:   4.4   DPTR FM NORMAL:   -0.45    2 = FOG REDUCING VISIBILITY
HIGHEST:   100 ON 31    GRTST 24HR  0.18 ON 11-11     TO 1/4 MILE OR LESS
LOWEST:     49 ON 28                               3 = THUNDER
                        SNOW, ICE PELLETS, HAIL    4 = ICE PELLETS
                        TOTAL MONTH:   0.0 INCH    5 = HAIL
                        GRTST 24HR     0.0         6 = FREEZING RAIN OR DRIZZLE
                        GRTST DEPTH:   0           7 = DUSTSTORM OR SANDSTORM:
                                                       VSBY 1/2 MILE OR LESS
                                                   8 = SMOKE OR HAZE
[NO. OF DAYS WITH]      [WEATHER - DAYS WITH]      9 = BLOWING SNOW
                                                   X = TORNADO
MAX 32 OR BELOW:   0    0.01 INCH OR MORE:   2
MAX 90 OR ABOVE:  13    0.10 INCH OR MORE:   1
MIN 32 OR BELOW:   0    0.50 INCH OR MORE:   0
MIN  0 OR BELOW:   0    1.00 INCH OR MORE:   0

[HDD (BASE 65) ]
TOTAL THIS MO.     5    CLEAR  (SCALE 0-3)  11
DPTR FM NORMAL   -27    PTCLDY (SCALE 4-7)  19
TOTAL FM JUL 1     5    CLOUDY (SCALE 8-10)  1
DPTR FM NORMAL   -27

[CDD (BASE 65) ]
TOTAL THIS MO.   300
DPTR FM NORMAL   120    [PRESSURE DATA]
TOTAL FM JAN 1   557    HIGHEST SLP  0.00 ON  3
DPTR FM NORMAL   314    LOWEST  SLP  0.00 ON M

[REMARKS]
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Webmaster
US Dept of Commerce
National Oceanic and Atmospheric Administration
National Weather Service
Spokane Weather Forecast Office
2601 N. Rambo Rd.
Spokane, Washington 99224

Tel: (509) 244-0110

Local Climatological Data

PRELIMINARY LOCAL CLIMATOLOGICAL DATA (WS FORM: F-6)

STATION: SPOKANE WA AIRPORT
MONTH: AUGUST
YEAR: 2015
LATITUDE: 47 37 N
LONGITUDE: 117 32 W

	TEMPERATURE IN F:							:PCPN:	SNOW:	WIND			:SUNSHINE:		SKY	:PK WND		
1	2	3	4	5	6A	6B	7	8	9	10	11	12	13	14	15	16	17	18
									12Z	AVG	MX	2MIN						
DY	MAX	MIN	AVG	DEP	HDD	CDD	WTR	SNW	DPTH	SPD	SPD	DIR	MIN	PSBL	S-S	WX	SPD	DR
1	99	67	83	11	0	18	0.00	0.0	0	8.3	20	270	M	M	5	8	24	270
2	98	65	82	10	0	17	0.00	0.0	0	6.1	15	250	M	M	6	8	20	240
3	90	67	79	7	0	14	T	0.0	0	9.9	24	220	M	M	7	8	31	230
4	86	64	75	3	0	10	0.00	0.0	0	10.5	23	230	M	M	5		28	220
5	81	57	69	-3	0	4	0.00	0.0	0	14.0	28	240	M	M	6		32	250
6	77	53	65	-7	0	0	0.00	0.0	0	5.6	17	230	M	M	4		24	210
7	84	54	69	-2	0	4	0.00	0.0	0	3.8	10	80	M	M	1		14	290
8	86	57	72	1	0	7	0.00	0.0	0	6.9	17	250	M	M	2	8	21	180
9	82	58	70	-1	0	5	0.04	0.0	0	6.3	17	210	M	M	7	3	22	210
10	91	64	78	7	0	13	0.00	0.0	0	7.0	30	210	M	M	8		36	220
11	97	63	80	9	0	15	T	0.0	0	7.0	18	40	M	M	3		22	40
12	99	70	85	15	0	20	0.00	0.0	0	5.5	14	220	M	M	3		18	220
13	100	67	84	14	0	19	0.00	0.0	0	4.4	10	80	M	M	3	3	14	160
14	90	61	76	6	0	11	T	0.0	0	16.2	35	230	M	M	7	78	42	240
15	74	56	65	-5	0	0	0.00	0.0	0	10.5	22	200	M	M	5	78	28	220
16	80	51	66	-4	0	1	0.00	0.0	0	4.6	10	260	M	M	5	8	15	200
17	83	58	71	2	0	6	0.00	0.0	0	5.9	15	270	M	M	7	8	18	260
18	88	59	74	5	0	9	0.00	0.0	0	5.7	15	20	M	M	6	18	21	10
19	91	61	76	7	0	11	0.00	0.0	0	7.7	21	250	M	M	6	18	25	230
20	86	63	75	6	0	10	0.00	0.0	0	13.4	24	220	M	M	7	8	29	220
21	76	55	66	-2	0	1	0.00	0.0	0	15.5	24	260	M	M	9	8	32	210
22	78	49	64	-4	1	0	0.00	0.0	0	4.2	14	40	M	M	3	8	19	40
23	85	52	69	1	0	4	0.00	0.0	0	5.0	12	50	M	M	5	8	16	120
24	85	56	71	3	0	6	0.00	0.0	0	7.8	18	200	M	M	8	8	25	190
25	87	62	75	8	0	10	T	0.0	0	4.8	12	240	M	M	5	8	16	230
26	94	59	77	10	0	12	0.00	0.0	0	5.1	12	300	M	M	5	8	13	300
27	88	62	75	8	0	10	0.00	0.0	0	10.3	22	230	M	M	6	8	27	240
28	80	65	73	7	0	8	T	0.0	0	7.7	18	220	M	M	10	8	22	190
29	83	59	71	5	0	6	0.01	0.0	0	13.6	41	260	M	M	9	78	49	260
30	67	53	60	-6	5	0	0.13	0.0	0	13.8	26	230	M	M	7	1	33	210
31	70	50	60	-6	5	0	0.00	0.0	0	11.6	21	220	M	M	7		26	220
SM	2655	1837				11	251	0.18		0.0	258.7			M		177		
AV	85.6	59.3									8.3	FASTST	M	M	6	MAX(MPH)		
									MISC ---->	# 41	260					# 49	260	

NOTES:
LAST OF SEVERAL OCCURRENCES

COLUMN 17 PEAK WIND IN M.P.H.

PRELIMINARY LOCAL CLIMATOLOGICAL DATA (WS FORM: F-6) , PAGE 2

STATION: SPOKANE WA AIRPORT
MONTH: AUGUST
YEAR: 2015
LATITUDE: 47 37 N
LONGITUDE: 117 32 W

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[TEMPERATURE DATA]      [PRECIPITATION DATA]       SYMBOLS USED IN COLUMN 16

AVERAGE MONTHLY: 72.5   TOTAL FOR MONTH:   0.18    1 = FOG OR MIST
DPTR FM NORMAL:   3.2   DPTR FM NORMAL:   -0.41    2 = FOG REDUCING VISIBILITY
HIGHEST:   100 ON 13    GRTST 24HR  0.14 ON 29-30      TO 1/4 MILE OR LESS
LOWEST:     49 ON 22                               3 = THUNDER
                        SNOW, ICE PELLETS, HAIL    4 = ICE PELLETS
                        TOTAL MONTH:   0.0 INCH    5 = HAIL
                        GRTST 24HR     0.0         6 = FREEZING RAIN OR DRIZZLE
                        GRTST DEPTH:   0           7 = DUSTSTORM OR SANDSTORM:
                                                       VSBY 1/2 MILE OR LESS
                                                   8 = SMOKE OR HAZE
[NO. OF DAYS WITH]      [WEATHER - DAYS WITH]      9 = BLOWING SNOW
                                                   X = TORNADO
MAX 32 OR BELOW:   0    0.01 INCH OR MORE:   3
MAX 90 OR ABOVE:  10    0.10 INCH OR MORE:   1
MIN 32 OR BELOW:   0    0.50 INCH OR MORE:   0
MIN  0 OR BELOW:   0    1.00 INCH OR MORE:   0

[HDD (BASE 65) ]
TOTAL THIS MO.    11    CLEAR  (SCALE 0-3)   5
DPTR FM NORMAL   -22    PTCLDY (SCALE 4-7)  23
TOTAL FM JUL 1    16    CLOUDY (SCALE 8-10)  3
DPTR FM NORMAL   -49

[CDD (BASE 65) ]
TOTAL THIS MO.   251
DPTR FM NORMAL    83    [PRESSURE DATA]
TOTAL FM JAN 1   808    HIGHEST SLP  0.00 ON 29
DPTR FM NORMAL   397    LOWEST  SLP  0.00 ON M

[REMARKS]
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National Weather Service
Spokane Weather Forecast Office
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Spokane, Washington 99224

Tel: (509) 244-0110

Local Climatological Data

PRELIMINARY LOCAL CLIMATOLOGICAL DATA (WS FORM: F-6)

STATION: SPOKANE WA AIRPORT
MONTH: APRIL
YEAR: 2016
LATITUDE: 47 37 N
LONGITUDE: 117 32 W

	TEMPERATURE IN F:						:PCPN:		SNOW:	WIND			:SUNSHINE:		SKY		:PK WND	
1	2	3	4	5	6A	6B	7	8	9	10	11	12	13	14	15	16	17	18
									12Z	AVG	MX	2MIN						
DY	MAX	MIN	AVG	DEP	HDD	CDD	WTR	SNW	DPTH	SPD	SPD	DIR	MIN	PSBL	S-S	WX	SPD	DR
1	68	42	55	11	10	0	0.00	0.0	0	6.1	13	250	M	M	M	1	17	240
2	68	45	57	13	8	0	0.00	0.0	0	11.9	26	230	M	M	M	3	30	230
3	64	41	53	8	12	0	0.00	0.0	0	6.6	16	220	M	M	M	6	20	220
4	54	38	46	1	19	0	0.13	0.0	0	17.7	35	250	M	M	M	7 15	42	250
5	54	33	44	-1	21	0	0.00	0.0	0	12.5	23	230	M	M	M	6	31	230
6	63	37	50	5	15	0	0.00	0.0	0	8.1	16	220	M	M	M	6	20	200
7	74	40	57	12	8	0	0.00	0.0	0	7.4	14	40	M	M	M	2	17	50
8	78	48	63	17	2	0	0.00	0.0	0	7.1	15	220	M	M	M	3	17	220
9	74	48	61	15	4	0	0.00	0.0	0	8.1	18	260	M	M	M	2	23	260
10	70	44	57	11	8	0	0.00	0.0	0	5.4	10	260	M	M	M	1	14	40
11	67	44	56	10	9	0	0.00	0.0	0	10.4	22	210	M	M	M	2	26	240
12	61	46	54	8	11	0	T	0.0	0	12.3	23	240	M	M	M	8	29	200
13	55	42	49	3	16	0	T	M	0	11.8	23	210	M	M	M	9 1	30	200
14	51	41	46	0	19	0	0.05	M	0	9.1	20	200	M	M	M	9 1	24	200
15	56	33	45	-2	20	0	0.00	0.0	0	3.0	12	230	M	M	M	6 12	17	230
16	63	37	50	3	15	0	0.00	0.0	0	4.7	12	140	M	M	M	5	14	200
17	72	41	57	10	8	0	0.00	0.0	0	5.2	12	50	M	M	M	2	14	50
18	78	48	63	16	2	0	0.00	0.0	0	5.9	14	60	M	M	M	1	18	70
19	80	46	63	15	2	0	0.00	0.0	0	4.8	10	330	M	M	M	3	13	70
20	85	50	68	20	0	3	0.00	0.0	0	5.1	14	70	M	M	M	2	16	60
21	80	56	68	20	0	3	0.00	0.0	0	5.9	13	150	M	M	M	7	18	160
22	74	54	64	16	1	0	T	0.0	0	8.5	31	220	M	M	M	9	37	230
23	64	48	56	8	9	0	0.06	0.0	0	10.2	21	200	M	M	M	9	26	200
24	60	42	51	2	14	0	0.00	0.0	0	11.7	21	220	M	M	M	7	27	220
25	62	33	48	-1	17	0	T	0.0	0	5.5	13	340	M	M	M	6	16	340
26	63	38	51	2	14	0	0.00	0.0	0	6.2	13	160	M	M	M	4	18	170
27	65	44	55	5	10	0	T	0.0	0	4.5	18	80	M	M	M	7 3	24	80
28	66	45	56	6	9	0	0.01	0.0	0	7.2	15	90	M	M	M	8	18	90
29	52	47	50	0	15	0	0.07	0.0	0	4.0	10	90	M	M	M	9 1	15	110
30	64	46	55	5	10	0	T	0.0	0	4.7	15	100	M	M	M	6 1	18	120
SM	1985	1297		308	6	0.32		0.0	231.6				M		156			
AV	66.2	43.2								7.7	FASTST		M	M	M	5	MAX(MPH)	
									MISC ---->	# 35	250						# 42	250

NOTES:
LAST OF SEVERAL OCCURRENCES

COLUMN 17 PEAK WIND IN M.P.H.

PRELIMINARY LOCAL CLIMATOLOGICAL DATA (WS FORM: F-6) , PAGE 2

STATION: SPOKANE WA AIRPORT
MONTH: APRIL
YEAR: 2016
LATITUDE: 47 37 N
LONGITUDE: 117 32 W

[TEMPERATURE DATA] [PRECIPITATION DATA] SYMBOLS USED IN COLUMN 16

```
AVERAGE MONTHLY: 54.7   TOTAL FOR MONTH:   0.32    1 = FOG OR MIST
DPTR FM NORMAL:   7.7   DPTR FM NORMAL:   -0.96    2 = FOG REDUCING VISIBILITY
HIGHEST:    85 ON 20    GRTST 24HR  0.13 ON  4- 4      TO 1/4 MILE OR LESS
LOWEST:     33 ON 25,15                            3 = THUNDER
                        SNOW, ICE PELLETS, HAIL    4 = ICE PELLETS
                        TOTAL MONTH:   0.0 INCH    5 = HAIL
                        GRTST 24HR     0.0         6 = FREEZING RAIN OR DRIZZLE
                        GRTST DEPTH:   0           7 = DUSTSTORM OR SANDSTORM:
                                                       VSBY 1/2 MILE OR LESS
                                                   8 = SMOKE OR HAZE
[NO. OF DAYS WITH]      [WEATHER - DAYS WITH]      9 = BLOWING SNOW
                                                   X = TORNADO
MAX 32 OR BELOW:   0    0.01 INCH OR MORE:   5
MAX 90 OR ABOVE:   0    0.10 INCH OR MORE:   1
MIN 32 OR BELOW:   0    0.50 INCH OR MORE:   0
MIN  0 OR BELOW:   0    1.00 INCH OR MORE:   0

[HDD (BASE 65) ]
TOTAL THIS MO.   308    CLEAR  (SCALE 0-3)  11
DPTR FM NORMAL  -232    PTCLDY (SCALE 4-7)  13
TOTAL FM JUL 1  5280    CLOUDY (SCALE 8-10)  6
DPTR FM NORMAL  -856

[CDD (BASE 65) ]
TOTAL THIS MO.     6
DPTR FM NORMAL     6    [PRESSURE DATA]
TOTAL FM JAN 1     6    HIGHEST SLP  0.00 ON 19
DPTR FM NORMAL     6    LOWEST  SLP  0.00 ON M

[REMARKS]
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Webmaster
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Spokane, Washington 99224

Tel: (509) 244-0110

Local Climatological Data

PRELIMINARY LOCAL CLIMATOLOGICAL DATA (WS FORM: F-6)

STATION: SPOKANE WA AIRPORT
MONTH: MAY
YEAR: 2016
LATITUDE: 47 37 N
LONGITUDE: 117 32 W

TEMPERATURE IN F:							:PCPN:		SNOW:	WIND			:SUNSHINE:		SKY		:PK WND	
1	2	3	4	5	6A	6B	7	8	9	10	11	12	13	14	15	16	17	18
									12Z	AVG	MX	2MIN						
DY	MAX	MIN	AVG	DEP	HDD	CDD	WTR	SNW	DPTH	SPD	SPD	DIR	MIN	PSBL	S-S	WX	SPD	DR
1	73	43	58	7	7	0	0.00	0.0	0	6.9	20	50	M	M		1	25	40
2	79	50	65	14	0	0	0.00	0.0	0	4.0	12	40	M	M		2	15	30
3	82	51	67	16	0	2	0.00	0.0	0	5.9	17	200	M	M		3	23	200
4	77	52	65	13	0	0	0.09	0.0	0	8.6	35	240	M	M		7	1378	41 230
5	73	53	63	11	2	0	0.00	0.0	0	6.8	17	350	M	M		8	1	27 340
6	77	53	65	13	0	0	0.00	0.0	0	12.7	24	40	M	M		6	8	31 60
7	80	55	68	16	0	3	0.00	0.0	0	7.2	16	210	M	M		0		20 220
8	76	53	65	12	0	0	0.00	0.0	0	14.0	30	260	M	M		4		39 270
9	56	43	50	-3	15	0	0.18	0.0	0	7.6	21	360	M	M		8	1	26 360
10	65	43	54	0	11	0	T	0.0	0	5.8	21	290	M	M		5		23 290
11	71	45	58	4	7	0	0.00	0.0	0	9.8	18	200	M	M		3		23 200
12	76	48	62	8	3	0	0.00	0.0	0	9.0	23	10	M	M		5		27 20
13	73	47	60	6	5	0	0.00	0.0	0	13.5	23	40	M	M		5		31 40
14	69	51	60	5	5	0	T	0.0	0	11.0	25	50	M	M		8		32 60
15	56	50	53	-2	12	0	0.07	0.0	0	5.0	15	190	M	M		10	1	20 190
16	67	49	58	3	7	0	0.00	0.0	0	4.2	12	260	M	M		6		14 270
17	74	48	61	5	4	0	0.00	0.0	0	7.2	16	240	M	M		5		20 250
18	77	54	66	10	0	1	0.03	0.0	0	11.0	35	230	M	M		8	3	42 230
19	59	45	52	-4	13	0	0.00	0.0	0	12.3	23	240	M	M		5		30 220
20	68	38	53	-3	12	0	0.01	0.0	0	9.2	20	70	M	M		7		26 40
21	63	47	55	-2	10	0	0.09	0.0	0	8.9	23	220	M	M		7	13	31 220
22	62	45	54	-3	11	0	0.21	0.0	0	20.4	36	230	M	M		9	1	44 230
23	56	45	51	-6	14	0	0.05	0.0	0	11.7	21	210	M	M		10		26 210
24	64	49	57	0	8	0	0.05	0.0	0	4.7	10	150	M	M		8		12 150
25	72	47	60	2	5	0	0.00	0.0	0	10.5	21	250	M	M		7		27 240
26	66	48	57	-1	8	0	0.00	0.0	0	12.5	22	200	M	M		7		27 200
27	62	44	53	-5	12	0	T	0.0	0	13.9	26	240	M	M		7		39 240
28	64	41	53	-5	12	0	0.00	0.0	0	9.3	16	210	M	M		7		23 180
29	71	49	60	2	5	0	0.00	0.0	0	11.6	25	240	M	M		6		33 260
30	71	42	57	-2	8	0	0.00	0.0	0	5.7	13	310	M	M		3		19 290
31	77	48	63	4	2	0	0.00	0.0	0	4.5	13	60	M	M		4		14 50
SM	2156	1476		198	6	0.78		0.0	285.4				M			181		
AV	69.5	47.6								9.2	FASTST		M	M		6	MAX(MPH)	
									MISC ---->	# 36 230							# 44 230	

NOTES:
LAST OF SEVERAL OCCURRENCES

COLUMN 17 PEAK WIND IN M.P.H.

PRELIMINARY LOCAL CLIMATOLOGICAL DATA (WS FORM: F-6) , PAGE 2

STATION: SPOKANE WA AIRPORT
MONTH: MAY
YEAR: 2016
LATITUDE: 47 37 N
LONGITUDE: 117 32 W

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[TEMPERATURE DATA]      [PRECIPITATION DATA]       SYMBOLS USED IN COLUMN 16

AVERAGE MONTHLY: 58.6   TOTAL FOR MONTH:   0.78    1 = FOG OR MIST
DPTR FM NORMAL:   3.5   DPTR FM NORMAL:   -0.84    2 = FOG REDUCING VISIBILITY
HIGHEST:    82 ON  3    GRTST 24HR  0.28 ON 21-22      TO 1/4 MILE OR LESS
LOWEST:     38 ON 20                               3 = THUNDER
                        SNOW, ICE PELLETS, HAIL    4 = ICE PELLETS
                        TOTAL MONTH:   0.0 INCH    5 = HAIL
                        GRTST 24HR     0.0         6 = FREEZING RAIN OR DRIZZLE
                        GRTST DEPTH:   0           7 = DUSTSTORM OR SANDSTORM:
                                                       VSBY 1/2 MILE OR LESS
                                                   8 = SMOKE OR HAZE
[NO. OF DAYS WITH]      [WEATHER - DAYS WITH]      9 = BLOWING SNOW
                                                   X = TORNADO
MAX 32 OR BELOW:   0    0.01 INCH OR MORE:   9
MAX 90 OR ABOVE:   0    0.10 INCH OR MORE:   2
MIN 32 OR BELOW:   0    0.50 INCH OR MORE:   0
MIN  0 OR BELOW:   0    1.00 INCH OR MORE:   0

[HDD (BASE 65) ]
TOTAL THIS MO.   198    CLEAR  (SCALE 0-3)   4
DPTR FM NORMAL  -123    PTCLDY (SCALE 4-7)  24
TOTAL FM JUL 1  5478    CLOUDY (SCALE 8-10)  3
DPTR FM NORMAL  -979

[CDD (BASE 65) ]
TOTAL THIS MO.     6
DPTR FM NORMAL    -8    [PRESSURE DATA]
TOTAL FM JAN 1    12    HIGHEST SLP 30.26 ON  1
DPTR FM NORMAL    -2    LOWEST  SLP 29.56 ON  8

[REMARKS]
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Spokane, Washington 99224

Tel: (509) 244-0110

Local Climatological Data

PRELIMINARY LOCAL CLIMATOLOGICAL DATA (WS FORM: F-6)

STATION: SPOKANE WA AIRPORT
MONTH: JUNE
YEAR: 2016
LATITUDE: 47 37 N
LONGITUDE: 117 32 W

	TEMPERATURE IN F:							:PCPN:	SNOW:	WIND			:SUNSHINE:		SKY	:PK WND	
1	2	3	4	5	6A	6B	7	8	9	10	11	12	13	14	15	16	17	18
									12Z	AVG	MX	2MIN						
DY	MAX	MIN	AVG	DEP	HDD	CDD	WTR	SNW	DPTH	SPD	SPD	DIR	MIN	PSBL	S-S	WX	SPD	DR
1	81	54	68	9	0	3	0.00	0.0	0	8.1	20	240	M	M	8		26	240
2	71	59	65	6	0	0	0.00	0.0	0	15.9	26	230	M	M	8		33	210
3	78	53	66	6	0	1	0.00	0.0	0	7.4	14	220	M	M	4		17	250
4	90	56	73	13	0	8	0.00	0.0	0	4.7	14	70	M	M	3		17	70
5	95	61	78	18	0	13	0.00	0.0	0	4.9	12	20	M	M	4		15	30
6	96	64	80	20	0	15	0.00	0.0	0	4.5	16	250	M	M	2		20	250
7	93	64	79	19	0	14	0.00	0.0	0	9.1	18	230	M	M	5		24	220
8	84	57	71	11	0	6	0.05	0.0	0	11.5	26	310	M	M	7	3	33	220
9	73	50	62	1	3	0	T	0.0	0	10.1	21	230	M	M	4		26	220
10	59	50	55	-6	10	0	0.24	0.0	0	10.2	20	220	M	M	7	1	24	290
11	64	46	55	-6	10	0	0.00	0.0	0	13.3	24	220	M	M	6		33	250
12	70	44	57	-4	8	0	0.00	0.0	0	7.8	18	230	M	M	4		23	220
13	71	54	63	2	2	0	0.00	0.0	0	12.8	28	220	M	M	8		35	220
14	62	47	55	-7	10	0	0.01	0.0	0	16.3	29	250	M	M	7	38	35	230
15	64	40	52	-10	13	0	T	0.0	0	6.8	23	270	M	M	5		28	270
16	63	46	55	-7	10	0	T	0.0	0	13.9	28	230	M	M	7	3	33	230
17	72	42	57	-5	8	0	0.00	0.0	0	8.0	16	30	M	M	7		22	60
18	61	48	55	-7	10	0	0.03	0.0	0	13.0	33	230	M	M	7	1	40	240
19	68	42	55	-8	10	0	0.00	0.0	0	7.4	15	200	M	M	5	8	19	210
20	82	49	66	3	0	1	0.00	0.0	0	9.4	18	230	M	M	3		24	240
21	73	54	64	1	1	0	0.01	0.0	0	12.7	29	220	M	M	6		35	230
22	81	52	67	4	0	2	0.00	0.0	0	4.3	10	20	M	M	6		16	30
23	74	59	67	3	0	2	T	0.0	0	11.4	22	230	M	M	6		26	220
24	60	50	55	-9	10	0	0.17	0.0	0	11.9	29	250	M	M	5	15	35	250
25	73	47	60	-4	5	0	0.00	0.0	0	6.2	15	210	M	M	4		19	220
26	82	53	68	4	0	3	0.00	0.0	0	5.2	12	60	M	M	2		16	30
27	90	59	75	10	0	10	0.00	0.0	0	5.6	13	360	M	M	2		15	10
28	92	61	77	12	0	12	0.00	0.0	0	3.4	14	320	M	M	2		19	300
29	94	63	79	14	0	14	0.00	0.0	0	3.7	13	250	M	M	2		15	220
30	88	62	75	9	0	10	0.00	0.0	0	10.8	18	260	M	M	2		23	250
SM	2304	1586		110	114	0.51		0.0		270.3			M		148			
AV	76.8	52.9								9.0	FASTST		M	M	5	MAX(MPH)		
								MISC ---->		# 33	230					# 40	240	

NOTES:
LAST OF SEVERAL OCCURRENCES

COLUMN 17 PEAK WIND IN M.P.H.

PRELIMINARY LOCAL CLIMATOLOGICAL DATA (WS FORM: F-6) , PAGE 2

STATION: SPOKANE WA AIRPORT
MONTH: JUNE
YEAR: 2016
LATITUDE: 47 37 N
LONGITUDE: 117 32 W

[TEMPERATURE DATA] [PRECIPITATION DATA] SYMBOLS USED IN COLUMN 16

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AVERAGE MONTHLY: 64.8   TOTAL FOR MONTH:   0.51    1 = FOG OR MIST
DPTR FM NORMAL:   2.7   DPTR FM NORMAL:   -0.74    2 = FOG REDUCING VISIBILITY
HIGHEST:    96 ON  6    GRTST 24HR  0.24 ON  9-10      TO 1/4 MILE OR LESS
LOWEST:     40 ON 15                               3 = THUNDER
                        SNOW, ICE PELLETS, HAIL    4 = ICE PELLETS
                        TOTAL MONTH:   0.0 INCH    5 = HAIL
                        GRTST 24HR     0.0         6 = FREEZING RAIN OR DRIZZLE
                        GRTST DEPTH:   0           7 = DUSTSTORM OR SANDSTORM:
                                                       VSBY 1/2 MILE OR LESS
                                                   8 = SMOKE OR HAZE
[NO. OF DAYS WITH]      [WEATHER - DAYS WITH]      9 = BLOWING SNOW
                                                   X = TORNADO
MAX 32 OR BELOW:   0    0.01 INCH OR MORE:   6
MAX 90 OR ABOVE:   7    0.10 INCH OR MORE:   2
MIN 32 OR BELOW:   0    0.50 INCH OR MORE:   0
MIN  0 OR BELOW:   0    1.00 INCH OR MORE:   0

[HDD (BASE 65) ]
TOTAL THIS MO.   110    CLEAR  (SCALE 0-3)   7
DPTR FM NORMAL   -26    PTCLDY (SCALE 4-7)  22
TOTAL FM JUL 1  5588    CLOUDY (SCALE 8-10)  1
DPTR FM NORMAL -1005

[CDD (BASE 65) ]
TOTAL THIS MO.   114
DPTR FM NORMAL    65    [PRESSURE DATA]
TOTAL FM JAN 1   126    HIGHEST SLP  0.00 ON 23
DPTR FM NORMAL    63    LOWEST  SLP  0.00 ON M

[REMARKS]
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Webmaster
US Dept of Commerce
National Oceanic and Atmospheric Administration
National Weather Service
Spokane Weather Forecast Office
2601 N. Rambo Rd.
Spokane, Washington 99224

Tel: (509) 244-0110

Local Climatological Data

PRELIMINARY LOCAL CLIMATOLOGICAL DATA (WS FORM: F-6)

STATION: SPOKANE WA AIRPORT
MONTH: JULY
YEAR: 2016
LATITUDE: 47 37 N
LONGITUDE: 117 32 W

TEMPERATURE IN F:							:PCPN:		SNOW:	WIND			:SUNSHINE:		SKY		:PK WND	
1	2	3	4	5	6A	6B	7	8	9	10	11	12	13	14	15	16	17	18
									12Z	AVG	MX	2MIN						
DY	MAX	MIN	AVG	DEP	HDD	CDD	WTR	SNW	DPTH	SPD	SPD	DIR	MIN	PSBL	S-S	WX	SPD	DR
1	85	57	71	5	0	6	0.00	0.0	0	8.1	16	260	M	M	5		20	230
2	83	59	71	5	0	6	0.00	0.0	0	10.0	17	220	M	M	6		26	220
3	81	59	70	3	0	5	0.00	0.0	0	18.1	30	220	M	M	4		39	240
4	74	52	63	-4	2	0	0.00	0.0	0	12.8	25	240	M	M	5		32	260
5	70	47	59	-8	6	0	0.01	0.0	0	8.5	26	280	M	M	6		38	280
6	73	52	63	-5	2	0	0.00	0.0	0	5.4	14	250	M	M	6		19	260
7	76	53	65	-3	0	0	T	0.0	0	9.6	22	220	M	M	7		25	210
8	70	57	64	-4	1	0	0.03	0.0	0	7.2	16	210	M	M	9	1	20	200
9	72	55	64	-4	1	0	0.14	0.0	0	8.1	21	220	M	M	7	1	26	210
10	67	53	60	-9	5	0	0.00	0.0	0	12.1	23	230	M	M	7		28	220
11	73	51	62	-7	3	0	0.00	0.0	0	12.7	21	210	M	M	5		30	200
12	75	54	65	-4	0	0	0.02	0.0	0	5.9	21	220	M	M	6	3	25	260
13	78	53	66	-4	0	1	0.00	0.0	0	7.4	20	220	M	M	4		24	210
14	85	56	71	1	0	6	0.00	0.0	0	6.4	15	210	M	M	2		20	250
15	78	54	66	-4	0	1	0.00	0.0	0	12.2	25	230	M	M	3		36	230
16	74	55	65	-5	0	0	T	0.0	0	5.4	18	330	M	M	7		27	310
17	82	58	70	0	0	5	0.00	0.0	0	6.8	15	20	M	M	7		19	360
18	83	61	72	1	0	7	T	0.0	0	9.2	30	260	M	M	5		35	260
19	78	55	67	-4	0	2	0.00	0.0	0	6.9	21	290	M	M	6		24	280
20	83	52	68	-3	0	3	0.00	0.0	0	7.1	17	230	M	M	3		22	220
21	90	57	74	3	0	9	0.00	0.0	0	5.4	15	40	M	M	2		20	40
22	73	58	66	-5	0	1	0.07	0.0	0	9.2	30	320	M	M	5	13	36	320
23	79	51	65	-7	0	0	0.00	0.0	0	6.1	14	230	M	M	3		21	220
24	86	57	72	0	0	7	0.00	0.0	0	4.6	12	20	M	M	1		16	30
25	93	62	78	6	0	13	0.00	0.0	0	4.4	13	50	M	M	1		17	50
26	91	66	79	7	0	14	T	0.0	0	8.1	29	10	M	M	5	3	34	360
27	93	63	78	6	0	13	0.00	0.0	0	5.5	13	290	M	M	3		17	290
28	95	67	81	9	0	16	0.00	0.0	0	4.9	14	320	M	M	2		20	20
29	97	68	83	11	0	18	0.00	0.0	0	6.7	16	250	M	M	2		20	250
30	92	65	79	7	0	14	0.00	0.0	0	14.5	28	250	M	M	3		34	250
31	83	56	70	-2	0	5	0.00	0.0	0	10.5	25	250	M	M	3		30	260
SM	2512	1763		20	152		0.27		0.0	259.8			M		140			
AV	81.0	56.9								8.4	FASTST		M	M	5		MAX(MPH)	
									MISC ---->	# 30	220						# 39	240

NOTES:
LAST OF SEVERAL OCCURRENCES

COLUMN 17 PEAK WIND IN M.P.H.

PRELIMINARY LOCAL CLIMATOLOGICAL DATA (WS FORM: F-6) , PAGE 2

STATION: SPOKANE WA AIRPORT
MONTH: JULY
YEAR: 2016
LATITUDE: 47 37 N
LONGITUDE: 117 32 W

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[TEMPERATURE DATA]      [PRECIPITATION DATA]       SYMBOLS USED IN COLUMN 16

AVERAGE MONTHLY: 69.0   TOTAL FOR MONTH:   0.27    1 = FOG OR MIST
DPTR FM NORMAL:  -0.8   DPTR FM NORMAL:   -0.37    2 = FOG REDUCING VISIBILITY
HIGHEST:    97 ON 29    GRTST 24HR  0.14 ON  9- 9      TO 1/4 MILE OR LESS
LOWEST:     47 ON  5                               3 = THUNDER
                        SNOW, ICE PELLETS, HAIL    4 = ICE PELLETS
                        TOTAL MONTH:   0.0 INCH    5 = HAIL
                        GRTST 24HR     0.0         6 = FREEZING RAIN OR DRIZZLE
                        GRTST DEPTH:   0           7 = DUSTSTORM OR SANDSTORM:
                                                       VSBY 1/2 MILE OR LESS
                                                   8 = SMOKE OR HAZE
[NO. OF DAYS WITH]      [WEATHER - DAYS WITH]      9 = BLOWING SNOW
                                                   X = TORNADO
MAX 32 OR BELOW:   0    0.01 INCH OR MORE:   5
MAX 90 OR ABOVE:   7    0.10 INCH OR MORE:   1
MIN 32 OR BELOW:   0    0.50 INCH OR MORE:   0
MIN  0 OR BELOW:   0    1.00 INCH OR MORE:   0

[HDD (BASE 65) ]
TOTAL THIS MO.    20    CLEAR  (SCALE 0-3)  11
DPTR FM NORMAL   -12    PTCLDY (SCALE 4-7)  19
TOTAL FM JUL 1    20    CLOUDY (SCALE 8-10)  1
DPTR FM NORMAL   -12

[CDD (BASE 65) ]
TOTAL THIS MO.   152
DPTR FM NORMAL   -28    [PRESSURE DATA]
TOTAL FM JAN 1   278    HIGHEST SLP M ON M
DPTR FM NORMAL    35    LOWEST  SLP  0.00 ON M

[REMARKS]
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Webmaster
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National Oceanic and Atmospheric Administration
National Weather Service
Spokane Weather Forecast Office
2601 N. Rambo Rd.
Spokane, Washington 99224

Tel: (509) 244-0110

Local Climatological Data

PRELIMINARY LOCAL CLIMATOLOGICAL DATA (WS FORM: F-6)

STATION: SPOKANE WA AIRPORT
MONTH: AUGUST
YEAR: 2016
LATITUDE: 47 37 N
LONGITUDE: 117 32 W

TEMPERATURE IN F:							:PCPN:	SNOW:	WIND			:SUNSHINE:		SKY	:PK WND		
1	2	3	4	5	6A	6B	7	8	9	10	11	12	13	14	15	16	17	18
									12Z	AVG	MX	2MIN						
DY	MAX	MIN	AVG	DEP	HDD	CDD	WTR	SNW	DPTH	SPD	SPD	DIR	MIN	PSBL	S-S	WX	SPD	DR
1	85	58	72	0	0	7	0.00	0.0	0	4.7	14	250	M	M	2		19	240
2	79	56	68	-4	0	3	0.00	0.0	0	14.8	33	250	M	M	3	78	41	250
3	78	50	64	-8	1	0	0.00	0.0	0	9.3	20	220	M	M	5		24	220
4	85	57	71	-1	0	6	0.00	0.0	0	5.3	10	70	M	M	0		M	M
5	92	60	76	4	0	11	0.00	0.0	0	5.5	14	70	M	M	3		17	70
6	87	64	76	4	0	11	T	0.0	0	7.1	15	230	M	M	5		19	220
7	78	55	67	-4	0	2	0.01	0.0	0	8.9	22	210	M	M	5	38	27	220
8	73	53	63	-8	2	0	0.00	0.0	0	8.1	16	230	M	M	7		21	190
9	65	53	59	-12	6	0	0.15	0.0	0	6.1	18	200	M	M	9	13	23	210
10	76	53	65	-6	0	0	0.00	0.0	0	6.0	14	200	M	M	7		18	200
11	85	57	71	0	0	6	0.00	0.0	0	4.6	14	270	M	M	4		17	280
12	89	59	74	4	0	9	0.00	0.0	0	4.2	14	280	M	M	3		22	280
13	91	62	77	7	0	12	0.00	0.0	0	4.7	13	210	M	M	6		17	220
14	93	66	80	10	0	15	0.00	0.0	0	8.1	20	250	M	M	5		24	230
15	92	62	77	7	0	12	0.00	0.0	0	5.8	12	220	M	M	2		16	260
16	93	59	76	6	0	11	0.00	0.0	0	5.5	14	240	M	M	2		20	250
17	93	63	78	9	0	13	0.00	0.0	0	5.6	12	280	M	M	2		15	250
18	93	67	80	11	0	15	0.00	0.0	0	10.5	29	60	M	M	4		38	60
19	85	61	73	4	0	8	0.00	0.0	0	11.1	24	40	M	M	5		29	40
20	91	56	74	5	0	9	0.00	0.0	0	4.6	14	240	M	M	3		18	260
21	90	60	75	7	0	10	0.00	0.0	0	17.2	30	230	M	M	3		37	230
22	75	52	64	-4	1	0	0.00	0.0	0	10.9	21	260	M	M	6		27	230
23	79	50	65	-3	0	0	0.00	0.0	0	4.6	12	350	M	M	5	8	17	240
24	82	57	70	2	0	5	0.00	0.0	0	7.2	16	40	M	M	4		23	40
25	83	55	69	2	0	4	0.00	0.0	0	5.8	15	20	M	M	4		21	40
26	85	60	73	6	0	8	0.00	0.0	0	7.3	16	260	M	M	7		19	260
27	86	61	74	7	0	9	0.00	0.0	0	16.9	33	240	M	M	7		40	250
28	80	53	67	1	0	2	0.00	0.0	0	7.7	20	210	M	M	6		23	210
29	91	57	74	8	0	9	0.00	0.0	0	6.6	14	40	M	M	4		17	260
30	87	60	74	8	0	9	0.00	0.0	0	7.1	23	230	M	M	6		27	230
31	81	55	68	2	0	3	0.00	0.0	0	7.3	15	240	M	M	3		20	250
SM	2622	1791				10	209	0.16		0.0	239.1			M		137		
AV	84.6	57.8									7.7	FASTST	M	M	4		MAX(MPH)	
									MISC ---->		# 33	250					# 41	250

NOTES:
LAST OF SEVERAL OCCURRENCES

COLUMN 17 PEAK WIND IN M.P.H.

PRELIMINARY LOCAL CLIMATOLOGICAL DATA (WS FORM: F-6) , PAGE 2

STATION: SPOKANE WA AIRPORT
MONTH: AUGUST
YEAR: 2016
LATITUDE: 47 37 N
LONGITUDE: 117 32 W

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[TEMPERATURE DATA]      [PRECIPITATION DATA]       SYMBOLS USED IN COLUMN 16

AVERAGE MONTHLY: 71.2   TOTAL FOR MONTH:   0.16    1 = FOG OR MIST
DPTR FM NORMAL:   1.9   DPTR FM NORMAL:   -0.43    2 = FOG REDUCING VISIBILITY
HIGHEST:    93 ON 18,17 GRTST 24HR  0.15 ON  9- 9      TO 1/4 MILE OR LESS
LOWEST:     50 ON 23, 3                            3 = THUNDER
                        SNOW, ICE PELLETS, HAIL    4 = ICE PELLETS
                        TOTAL MONTH:   0.0 INCH    5 = HAIL
                        GRTST 24HR     0.0         6 = FREEZING RAIN OR DRIZZLE
                        GRTST DEPTH:   0           7 = DUSTSTORM OR SANDSTORM:
                                                       VSBY 1/2 MILE OR LESS
                                                   8 = SMOKE OR HAZE
[NO. OF DAYS WITH]      [WEATHER - DAYS WITH]      9 = BLOWING SNOW
                                                   X = TORNADO
MAX 32 OR BELOW:   0    0.01 INCH OR MORE:   2
MAX 90 OR ABOVE:  10    0.10 INCH OR MORE:   1
MIN 32 OR BELOW:   0    0.50 INCH OR MORE:   0
MIN  0 OR BELOW:   0    1.00 INCH OR MORE:   0

[HDD (BASE 65) ]
TOTAL THIS MO.    10    CLEAR  (SCALE 0-3)  10
DPTR FM NORMAL   -23    PTCLDY (SCALE 4-7)  20
TOTAL FM JUL 1    30    CLOUDY (SCALE 8-10)  1
DPTR FM NORMAL   -35

[CDD (BASE 65) ]
TOTAL THIS MO.   209
DPTR FM NORMAL    41    [PRESSURE DATA]
TOTAL FM JAN 1   487    HIGHEST SLP  0.00 ON  4
DPTR FM NORMAL    76    LOWEST  SLP  0.00 ON M

[REMARKS]
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Webmaster
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National Oceanic and Atmospheric Administration
National Weather Service
Spokane Weather Forecast Office
2601 N. Rambo Rd.
Spokane, Washington 99224

Tel: (509) 244-0110

Local Climatological Data

PRELIMINARY LOCAL CLIMATOLOGICAL DATA (WS FORM: F-6)

STATION: SPOKANE WA AIRPORT
MONTH: APRIL
YEAR: 2017
LATITUDE: 47 37 N
LONGITUDE: 117 32 W

	TEMPERATURE IN F:							:PCPN:	SNOW:	WIND			:SUNSHINE:		SKY	:PK WND		
1	2	3	4	5	6A	6B	7	8	9	10	11	12	13	14	15	16	17	18
									12Z	AVG	MX	2MIN						
DY	MAX	MIN	AVG	DEP	HDD	CDD	WTR	SNW	DPTH	SPD	SPD	DIR	MIN	PSBL	S-S	WX	SPD	DR
1	55	37	46	2	19	0	0.00	0.0	0	11.6	18	240	M	M	8		25	210
2	53	36	45	1	20	0	T	0.0	0	14.8	29	260	M	M	5	5	43	290
3	51	29	40	-5	25	0	0.00	0.0	0	5.5	13	260	M	M	3		17	250
4	54	31	43	-2	22	0	0.00	0.0	0	6.3	15	140	M	M	6		19	160
5	62	40	51	6	14	0	0.08	0.0	0	6.8	15	130	M	M	9		22	140
6	57	45	51	6	14	0	0.05	0.0	0	7.1	16	230	M	M	7	1	19	220
7	60	41	51	6	14	0	0.16	0.0	0	16.8	41	220	M	M	8	1	55	220
8	44	36	40	-6	25	0	0.02	T	0	10.6	24	230	M	M	8	1	28	220
9	47	31	39	-7	26	0	0.00	0.0	0	9.4	21	210	M	M	6		25	230
10	49	33	41	-5	24	0	0.16	0.5	0	12.2	35	240	M	M	8	1	41	240
11	56	29	43	-3	22	0	0.00	0.0	0	7.5	16	40	M	M	6	12	21	40
12	54	44	49	3	16	0	0.29	0.0	0	9.0	16	60	M	M	10	1	19	60
13	53	38	46	0	19	0	0.03	0.0	0	12.3	24	210	M	M	7	1	32	210
14	50	35	43	-3	22	0	0.00	0.0	0	16.1	25	240	M	M	7		31	240
15	50	32	41	-6	24	0	0.00	0.0	0	8.8	18	230	M	M	4		23	190
16	60	30	45	-2	20	0	T	0.0	0	9.1	17	60	M	M	7		22	70
17	55	43	49	2	16	0	0.51	0.0	0	10.0	24	230	M	M	9	1	28	240
18	57	41	49	2	16	0	0.09	0.0	0	7.8	35	260	M	M	7	135	41	260
19	61	37	49	1	16	0	T	0.0	0	5.9	15	180	M	M	6	5	19	190
20	56	43	50	2	15	0	0.02	0.0	0	10.7	23	230	M	M	8	18	28	230
21	57	36	47	-1	18	0	0.00	0.0	0	5.2	12	170	M	M	5	1	14	170
22	64	38	51	3	14	0	T	0.0	0	9.3	25	240	M	M	7		31	250
23	57	44	51	3	14	0	0.01	0.0	0	12.4	24	220	M	M	9		31	220
24	52	42	47	-2	18	0	0.03	0.0	0	8.6	18	260	M	M	9		22	200
25	55	41	48	-1	17	0	0.09	0.0	0	12.5	22	220	M	M	9	1	26	220
26	55	41	48	-1	17	0	0.06	0.0	0	13.6	28	230	M	M	8	135	35	220
27	51	36	44	-6	21	0	T	0.0	0	12.7	22	250	M	M	7	5	28	220
28	57	36	47	-3	18	0	T	0.0	0	6.7	25	270	M	M	6	3	30	280
29	58	38	48	-2	17	0	T	0.0	0	11.2	21	210	M	M	7		27	230
30	61	42	52	2	13	0	T	0.0	0	16.9	28	260	M	M	8		34	250
SM	1651	1125		556		0	1.60		0.5	307.4			M		214			
AV	55.0	37.5								10.2	FASTST		M	M	7		MAX(MPH)	
									MISC ---->	# 41	220						# 55	220

NOTES:
LAST OF SEVERAL OCCURRENCES

COLUMN 17 PEAK WIND IN M.P.H.

PRELIMINARY LOCAL CLIMATOLOGICAL DATA (WS FORM: F-6) , PAGE 2

STATION: SPOKANE WA AIRPORT
MONTH: APRIL
YEAR: 2017
LATITUDE: 47 37 N
LONGITUDE: 117 32 W

[TEMPERATURE DATA] [PRECIPITATION DATA] SYMBOLS USED IN COLUMN 16

```
AVERAGE MONTHLY: 46.3   TOTAL FOR MONTH:   1.60    1 = FOG OR MIST
DPTR FM NORMAL:  -0.7   DPTR FM NORMAL:    0.32    2 = FOG REDUCING VISIBILITY
HIGHEST:    64 ON 22    GRTST 24HR  0.51 ON 17-17      TO 1/4 MILE OR LESS
LOWEST:     29 ON 11, 3                             3 = THUNDER
                        SNOW, ICE PELLETS, HAIL     4 = ICE PELLETS
                        TOTAL MONTH:   0.5 INCH     5 = HAIL
                        GRTST 24HR   0.5 ON 10-10   6 = FREEZING RAIN OR DRIZZLE
                        GRTST DEPTH:   0            7 = DUSTSTORM OR SANDSTORM:
                                                        VSBY 1/2 MILE OR LESS
                                                    8 = SMOKE OR HAZE
[NO. OF DAYS WITH]      [WEATHER - DAYS WITH]       9 = BLOWING SNOW
                                                    X = TORNADO
MAX 32 OR BELOW:   0    0.01 INCH OR MORE:  14
MAX 90 OR ABOVE:   0    0.10 INCH OR MORE:   4
MIN 32 OR BELOW:   6    0.50 INCH OR MORE:   1
MIN  0 OR BELOW:   0    1.00 INCH OR MORE:   0

[HDD (BASE 65) ]
TOTAL THIS MO.   556    CLEAR  (SCALE 0-3)   0
DPTR FM NORMAL    16    PTCLDY (SCALE 4-7)  22
TOTAL FM JUL 1  6290    CLOUDY (SCALE 8-10)  8
DPTR FM NORMAL   154

[CDD (BASE 65) ]
TOTAL THIS MO.     0
DPTR FM NORMAL     0    [PRESSURE DATA]
TOTAL FM JAN 1     0    HIGHEST SLP M ON M
DPTR FM NORMAL     0    LOWEST  SLP 29.32 ON  7

[REMARKS]
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Webmaster
US Dept of Commerce
National Oceanic and Atmospheric Administration
National Weather Service
Spokane Weather Forecast Office
2601 N. Rambo Rd.
Spokane, Washington 99224

Tel: (509) 244-0110

Local Climatological Data

PRELIMINARY LOCAL CLIMATOLOGICAL DATA (WS FORM: F-6)

STATION: SPOKANE WA AIRPORT
MONTH: MAY
YEAR: 2017
LATITUDE: 47 37 N
LONGITUDE: 117 32 W

TEMPERATURE IN F:							:PCPN:	SNOW:	WIND			:SUNSHINE:		SKY	:PK WND	
1	2	3	4	5	6A	6B	7	8	9	10	11	12	13	14	15	16	17	18
									12Z	AVG	MX	2MIN						
DY	MAX	MIN	AVG	DEP	HDD	CDD	WTR	SNW	DPTH	SPD	SPD	DIR	MIN	PSBL	S-S	WX	SPD	DR
1	50	35	43	-8	22	0	0.03	0.0	0	8.4	22	250	M	M	8	1	25	240
2	58	36	47	-4	18	0	0.00	0.0	0	3.5	9	170	M	M	7		11	230
3	69	44	57	6	8	0	0.00	0.0	0	5.8	12	220	M	M	7		14	220
4	83	50	67	15	0	2	0.00	0.0	0	7.9	21	240	M	M	4		29	240
5	69	50	60	8	5	0	0.13	0.0	0	9.2	22	240	M	M	8	3	26	220
6	53	41	47	-5	18	0	0.04	0.0	0	9.5	18	220	M	M	9	1	24	200
7	60	43	52	0	13	0	T	0.0	0	8.7	20	240	M	M	5		25	240
8	65	39	52	-1	13	0	0.00	0.0	0	6.0	13	260	M	M	6		17	260
9	70	45	58	5	7	0	0.00	0.0	0	3.6	10	220	M	M	5		14	260
10	77	47	62	8	3	0	T	0.0	0	3.9	12	260	M	M	4		14	270
11	71	47	59	5	6	0	0.19	0.0	0	10.0	26	260	M	M	8	1	33	260
12	52	38	45	-9	20	0	T	0.0	0	11.0	23	220	M	M	7		28	220
13	54	35	45	-9	20	0	0.19	0.0	0	10.1	23	210	M	M	6	135	28	190
14	53	38	46	-9	19	0	0.04	0.0	0	7.2	21	290	M	M	7	5	25	280
15	58	37	48	-7	17	0	T	0.0	0	5.7	16	220	M	M	7	1	21	220
16	54	41	48	-7	17	0	0.39	0.0	0	11.1	23	230	M	M	10	15	26	220
17	59	40	50	-6	15	0	T	0.0	0	4.8	13	280	M	M	8		16	280
18	63	45	54	-2	11	0	T	0.0	0	4.3	10	290	M	M	8		14	290
19	69	46	58	2	7	0	0.00	0.0	0	4.3	15	250	M	M	7		18	250
20	65	51	58	2	7	0	0.30	0.0	0	5.2	15	50	M	M	7	1	20	60
21	78	49	64	7	1	0	0.00	0.0	0	5.1	14	270	M	M	4	1	16	280
22	82	54	68	11	0	3	0.00	0.0	0	4.8	10	20	M	M	4		15	20
23	82	57	70	13	0	5	0.00	0.0	0	11.5	28	250	M	M	2		35	240
24	64	46	55	-2	10	0	0.00	0.0	0	15.5	32	250	M	M	4		40	260
25	63	46	55	-3	10	0	T	0.0	0	5.3	14	280	M	M	7		18	280
26	74	45	60	2	5	0	0.00	0.0	0	5.8	15	240	M	M	2		18	240
27	80	51	66	8	0	1	0.00	0.0	0	6.8	14	230	M	M	2		19	250
28	85	56	71	13	0	6	0.00	0.0	0	3.8	10	140	M	M	1		15	170
29	87	59	73	15	0	8	0.00	0.0	0	4.6	16	60	M	M	1		20	60
30	90	59	75	16	0	10	0.00	0.0	0	7.6	30	260	M	M	6	7	35	250
31	72	58	65	6	0	0	T	0.0	0	8.0	17	210	M	M	8		22	210
SM	2109	1428		272	35	1.31		0.0	219.0				M		179			
AV	68.0	46.1								7.1	FASTST		M	M	6		MAX(MPH)	
									MISC ---->	# 32	250						# 40	260

NOTES:
LAST OF SEVERAL OCCURRENCES

COLUMN 17 PEAK WIND IN M.P.H.

PRELIMINARY LOCAL CLIMATOLOGICAL DATA (WS FORM: F-6) , PAGE 2

STATION: SPOKANE WA AIRPORT
MONTH: MAY
YEAR: 2017
LATITUDE: 47 37 N
LONGITUDE: 117 32 W

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[TEMPERATURE DATA]      [PRECIPITATION DATA]       SYMBOLS USED IN COLUMN 16

AVERAGE MONTHLY: 57.1   TOTAL FOR MONTH:   1.31    1 = FOG OR MIST
DPTR FM NORMAL:   1.9   DPTR FM NORMAL:   -0.31    2 = FOG REDUCING VISIBILITY
HIGHEST:    90 ON 30    GRTST 24HR  0.39 ON 16-16      TO 1/4 MILE OR LESS
LOWEST:     35 ON 13, 1                            3 = THUNDER
                        SNOW, ICE PELLETS, HAIL    4 = ICE PELLETS
                        TOTAL MONTH:   0.0 INCH    5 = HAIL
                        GRTST 24HR     0.0         6 = FREEZING RAIN OR DRIZZLE
                        GRTST DEPTH:   0           7 = DUSTSTORM OR SANDSTORM:
                                                       VSBY 1/2 MILE OR LESS
                                                   8 = SMOKE OR HAZE
[NO. OF DAYS WITH]      [WEATHER - DAYS WITH]      9 = BLOWING SNOW
                                                   X = TORNADO
MAX 32 OR BELOW:   0    0.01 INCH OR MORE:   8
MAX 90 OR ABOVE:   1    0.10 INCH OR MORE:   5
MIN 32 OR BELOW:   0    0.50 INCH OR MORE:   0
MIN  0 OR BELOW:   0    1.00 INCH OR MORE:   0

[HDD (BASE 65) ]
TOTAL THIS MO.   272    CLEAR  (SCALE 0-3)   5
DPTR FM NORMAL   -49    PTCLDY (SCALE 4-7)  19
TOTAL FM JUL 1  6562    CLOUDY (SCALE 8-10)  7
DPTR FM NORMAL   105

[CDD (BASE 65) ]
TOTAL THIS MO.    35
DPTR FM NORMAL    21    [PRESSURE DATA]
TOTAL FM JAN 1    35    HIGHEST SLP M ON M
DPTR FM NORMAL    21    LOWEST  SLP 29.52 ON 16

[REMARKS]
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Webmaster
US Dept of Commerce
National Oceanic and Atmospheric Administration
National Weather Service
Spokane Weather Forecast Office
2601 N. Rambo Rd.
Spokane, Washington 99224

Tel: (509) 244-0110

Local Climatological Data

PRELIMINARY LOCAL CLIMATOLOGICAL DATA (WS FORM: F-6)

STATION: SPOKANE WA AIRPORT
MONTH: JUNE
YEAR: 2017
LATITUDE: 47 37 N
LONGITUDE: 117 32 W

	TEMPERATURE IN F:							:PCPN:	SNOW:	WIND			:SUNSHINE:		SKY	:PK WND		
1	2	3	4	5	6A	6B	7	8	9	10	11	12	13	14	15	16	17	18
									12Z	AVG MX 2MIN								
DY	MAX	MIN	AVG	DEP	HDD	CDD	WTR	SNW	DPTH	SPD	SPD	DIR	MIN	PSBL	S-S	WX	SPD	DR
1	73	55	64	5	1	0	0.03	0.0	0	10.2	28	240	M	M	7	3	34	230
2	75	52	64	5	1	0	0.00	0.0	0	7.8	18	230	M	M	6		22	220
3	83	56	70	10	0	5	T	0.0	0	8.2	16	150	M	M	7		19	150
4	66	48	57	-3	8	0	T	0.0	0	8.5	15	200	M	M	9		19	190
5	74	45	60	0	5	0	0.00	0.0	0	5.1	12	50	M	M	2		29	210
6	83	52	68	8	0	3	0.00	0.0	0	4.8	9	60	M	M	6		13	350
7	94	58	76	16	0	11	0.00	0.0	0	6.9	15	40	M	M	6		20	40
8	74	54	64	4	1	0	0.06	0.0	0	11.3	32	240	M	M	9	378	37	240
9	67	47	57	-4	8	0	0.00	0.0	0	12.1	22	210	M	M	6		30	210
10	64	47	56	-5	9	0	0.00	0.0	0	13.0	24	220	M	M	7	3	29	230
11	71	44	58	-3	7	0	0.00	0.0	0	6.5	15	20	M	M	4		22	360
12	79	46	63	2	2	0	0.00	0.0	0	9.4	22	210	M	M	3		28	200
13	72	49	61	0	4	0	0.00	0.0	0	17.8	28	230	M	M	5		33	230
14	69	46	58	-4	7	0	0.00	0.0	0	9.4	18	220	M	M	7		25	180
15	66	56	61	-1	4	0	0.38	0.0	0	10.5	21	230	M	M	9	1	24	220
16	70	53	62	0	3	0	0.03	0.0	0	17.2	31	240	M	M	7	3	36	240
17	70	47	59	-3	6	0	T	0.0	0	8.6	16	230	M	M	7		22	220
18	79	57	68	6	0	3	T	0.0	0	9.8	20	220	M	M	7		24	230
19	88	61	75	12	0	10	0.00	0.0	0	5.5	13	10	M	M	6		16	40
20	87	61	74	11	0	9	0.00	0.0	0	13.2	28	240	M	M	4		35	230
21	79	52	66	3	0	1	0.00	0.0	0	12.3	28	260	M	M	1		33	260
22	77	55	66	3	0	1	0.00	0.0	0	7.9	22	350	M	M	1		26	360
23	81	51	66	2	0	1	0.00	0.0	0	4.9	17	330	M	M	1		23	360
24	86	55	71	7	0	6	0.00	0.0	0	4.6	10	30	M	M	1		14	50
25	93	61	77	13	0	12	0.00	0.0	0	5.8	13	50	M	M	3		16	60
26	89	63	76	12	0	11	0.14	0.0	0	8.6	36	230	M	M	7	3	45	230
27	82	59	71	6	0	6	0.00	0.0	0	9.0	21	210	M	M	7		28	210
28	80	52	66	1	0	1	0.07	0.0	0	9.9	23	10	M	M	5		27	350
29	79	51	65	0	0	0	0.00	0.0	0	4.1	14	40	M	M	4	12	16	20
30	85	56	71	5	0	6	0.00	0.0	0	3.6	12	210	M	M	5		14	230
SM	2335	1589		66	86	0.71		0.0	266.5				M		159			
AV	77.8	53.0								8.9	FASTST		M	M	5		MAX(MPH)	
									MISC ---->	# 36	230						# 45	230

NOTES:
LAST OF SEVERAL OCCURRENCES

COLUMN 17 PEAK WIND IN M.P.H.

PRELIMINARY LOCAL CLIMATOLOGICAL DATA (WS FORM: F-6) , PAGE 2

STATION: SPOKANE WA AIRPORT
MONTH: JUNE
YEAR: 2017
LATITUDE: 47 37 N
LONGITUDE: 117 32 W

[TEMPERATURE DATA] [PRECIPITATION DATA] SYMBOLS USED IN COLUMN 16

```
AVERAGE MONTHLY: 65.4   TOTAL FOR MONTH:   0.71    1 = FOG OR MIST
DPTR FM NORMAL:   3.3   DPTR FM NORMAL:   -0.54    2 = FOG REDUCING VISIBILITY
HIGHEST:    94 ON  7    GRTST 24HR  0.38 ON 15-15      TO 1/4 MILE OR LESS
LOWEST:     44 ON 11                               3 = THUNDER
                        SNOW, ICE PELLETS, HAIL    4 = ICE PELLETS
                        TOTAL MONTH:   0.0 INCH    5 = HAIL
                        GRTST 24HR     0.0         6 = FREEZING RAIN OR DRIZZLE
                        GRTST DEPTH:   0           7 = DUSTSTORM OR SANDSTORM:
                                                       VSBY 1/2 MILE OR LESS
                                                   8 = SMOKE OR HAZE
[NO. OF DAYS WITH]      [WEATHER - DAYS WITH]      9 = BLOWING SNOW
                                                   X = TORNADO
MAX 32 OR BELOW:   0    0.01 INCH OR MORE:   6
MAX 90 OR ABOVE:   2    0.10 INCH OR MORE:   2
MIN 32 OR BELOW:   0    0.50 INCH OR MORE:   0
MIN  0 OR BELOW:   0    1.00 INCH OR MORE:   0

[HDD (BASE 65) ]
TOTAL THIS MO.    66    CLEAR  (SCALE 0-3)   6
DPTR FM NORMAL   -70    PTCLDY (SCALE 4-7)  21
TOTAL FM JUL 1  6628    CLOUDY (SCALE 8-10)  3
DPTR FM NORMAL    35

[CDD (BASE 65) ]
TOTAL THIS MO.    86
DPTR FM NORMAL    37    [PRESSURE DATA]
TOTAL FM JAN 1   121    HIGHEST SLP M ON M
DPTR FM NORMAL    58    LOWEST  SLP 29.52 ON  8

[REMARKS]
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Webmaster
US Dept of Commerce
National Oceanic and Atmospheric Administration
National Weather Service
Spokane Weather Forecast Office
2601 N. Rambo Rd.
Spokane, Washington 99224

Tel: (509) 244-0110

Local Climatological Data

PRELIMINARY LOCAL CLIMATOLOGICAL DATA (WS FORM: F-6)

STATION: SPOKANE WA AIRPORT
MONTH: JULY
YEAR: 2017
LATITUDE: 47 37 N
LONGITUDE: 117 32 W

TEMPERATURE IN F:							:PCPN:	SNOW:	WIND			:SUNSHINE:		SKY	:PK WND		
1	2	3	4	5	6A	6B	7	8	9	10	11	12	13	14	15	16	17	18
									12Z	AVG	MX	2MIN						
DY	MAX	MIN	AVG	DEP	HDD	CDD	WTR	SNW	DPTH	SPD	SPD	DIR	MIN	PSBL	S-S	WX	SPD	DR
1	88	62	75	9	0	10	0.00	0.0	0	5.6	14	240	M	M	5		19	280
2	88	60	74	8	0	9	0.00	0.0	0	7.8	15	240	M	M	2		20	280
3	85	61	73	6	0	8	0.00	0.0	0	11.2	21	220	M	M	2		29	210
4	89	60	75	8	0	10	0.00	0.0	0	5.7	14	190	M	M	4		19	210
5	94	59	77	10	0	12	0.00	0.0	0	4.1	12	220	M	M	2		15	210
6	98	65	82	14	0	17	0.00	0.0	0	5.8	14	240	M	M	2		20	240
7	99	66	83	15	0	18	0.00	0.0	0	6.7	23	250	M	M	5		27	250
8	93	62	78	10	0	13	0.00	0.0	0	6.7	13	250	M	M	2		17	220
9	91	62	77	9	0	12	0.00	0.0	0	10.0	17	250	M	M	2		23	230
10	83	62	73	4	0	8	0.00	0.0	0	11.7	23	220	M	M	5		29	230
11	81	57	69	0	0	4	0.00	0.0	0	8.5	15	250	M	M	3		25	230
12	86	59	73	4	0	8	0.00	0.0	0	5.9	16	240	M	M	1		21	220
13	88	62	75	5	0	10	0.00	0.0	0	8.7	24	220	M	M	1		30	230
14	93	60	77	7	0	12	0.00	0.0	0	5.1	13	250	M	M	1		15	250
15	90	67	79	9	0	14	T	0.0	0	8.5	17	260	M	M	6	3	22	250
16	77	56	67	-3	0	2	0.00	0.0	0	13.7	24	220	M	M	2		30	240
17	81	52	67	-3	0	2	0.00	0.0	0	4.9	13	220	M	M	2		16	230
18	86	56	71	0	0	6	0.00	0.0	0	4.8	12	270	M	M	3		14	270
19	88	58	73	2	0	8	0.00	0.0	0	6.9	15	210	M	M	2		19	240
20	79	62	71	0	0	6	T	0.0	0	14.8	28	240	M	M	6	3	34	250
21	80	52	66	-5	0	1	0.00	0.0	0	7.5	16	200	M	M	5		20	220
22	88	58	73	2	0	8	0.00	0.0	0	7.2	15	250	M	M	3		21	240
23	93	65	79	7	0	14	0.00	0.0	0	10.6	23	240	M	M	1		31	230
24	87	61	74	2	0	9	0.00	0.0	0	6.2	20	340	M	M	2		23	340
25	90	60	75	3	0	10	0.00	0.0	0	4.7	15	260	M	M	2		20	270
26	92	62	77	5	0	12	0.00	0.0	0	5.3	15	220	M	M	5		21	230
27	89	64	77	5	0	12	0.00	0.0	0	10.2	22	230	M	M	2		27	210
28	91	61	76	4	0	11	0.00	0.0	0	7.7	17	220	M	M	1		24	220
29	92	62	77	5	0	12	0.00	0.0	0	8.4	16	220	M	M	1		22	240
30	92	61	77	5	0	12	0.00	0.0	0	9.8	18	230	M	M	1		23	230
31	92	63	78	6	0	13	0.00	0.0	0	8.1	15	230	M	M	1		21	210
SM	2743	1877			0	303	T		0.0	242.8			M		82			
AV	88.5	60.6								7.8	FASTST		M	M	3		MAX(MPH)	
									MISC ---->	# 28	240						# 34	250

NOTES:
LAST OF SEVERAL OCCURRENCES

COLUMN 17 PEAK WIND IN M.P.H.

PRELIMINARY LOCAL CLIMATOLOGICAL DATA (WS FORM: F-6) , PAGE 2

STATION: SPOKANE WA AIRPORT
MONTH: JULY
YEAR: 2017
LATITUDE: 47 37 N
LONGITUDE: 117 32 W

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[TEMPERATURE DATA]      [PRECIPITATION DATA]       SYMBOLS USED IN COLUMN 16

AVERAGE MONTHLY: 74.5   TOTAL FOR MONTH:      T    1 = FOG OR MIST
DPTR FM NORMAL:   4.7   DPTR FM NORMAL:   -0.64    2 = FOG REDUCING VISIBILITY
HIGHEST:    99 ON  7    GRTST 24HR    T  ON 20-20      TO 1/4 MILE OR LESS
LOWEST:     52 ON 21,17                            3 = THUNDER
                        SNOW, ICE PELLETS, HAIL    4 = ICE PELLETS
                        TOTAL MONTH:   0.0 INCH    5 = HAIL
                        GRTST 24HR     0.0         6 = FREEZING RAIN OR DRIZZLE
                        GRTST DEPTH:   0           7 = DUSTSTORM OR SANDSTORM:
                                                       VSBY 1/2 MILE OR LESS
                                                   8 = SMOKE OR HAZE
[NO. OF DAYS WITH]      [WEATHER - DAYS WITH]      9 = BLOWING SNOW
                                                   X = TORNADO
MAX 32 OR BELOW:   0    0.01 INCH OR MORE:   0
MAX 90 OR ABOVE:  14    0.10 INCH OR MORE:   0
MIN 32 OR BELOW:   0    0.50 INCH OR MORE:   0
MIN  0 OR BELOW:   0    1.00 INCH OR MORE:   0

[HDD (BASE 65) ]
TOTAL THIS MO.     0    CLEAR  (SCALE 0-3)  23
DPTR FM NORMAL   -32    PTCLDY (SCALE 4-7)   8
TOTAL FM JUL 1     0    CLOUDY (SCALE 8-10)  0
DPTR FM NORMAL   -32

[CDD (BASE 65) ]
TOTAL THIS MO.   303
DPTR FM NORMAL   123    [PRESSURE DATA]
TOTAL FM JAN 1   424    HIGHEST SLP M ON M
DPTR FM NORMAL   181    LOWEST  SLP 29.73 ON 23

[REMARKS]
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Webmaster
US Dept of Commerce
National Oceanic and Atmospheric Administration
National Weather Service
Spokane Weather Forecast Office
2601 N. Rambo Rd.
Spokane, Washington 99224

Tel: (509) 244-0110

Local Climatological Data

PRELIMINARY LOCAL CLIMATOLOGICAL DATA (WS FORM: F-6)

STATION: SPOKANE WA AIRPORT
MONTH: AUGUST
YEAR: 2017
LATITUDE: 47 37 N
LONGITUDE: 117 32 W

TEMPERATURE IN F:							:PCPN:		SNOW:	WIND			:SUNSHINE:		SKY	:PK WND	
1	2	3	4	5	6A	6B	7	8	9	10	11	12	13	14	15	16	17	18
									12Z	AVG	MX	2MIN						
DY	MAX	MIN	AVG	DEP	HDD	CDD	WTR	SNW	DPTH	SPD	SPD	DIR	MIN	PSBL	S-S	WX	SPD	DR
1	95	62	79	7	0	14	0.00	0.0	0	5.0	14	320	M	M	1		17	310
2	93	65	79	7	0	14	0.00	0.0	0	6.2	16	60	M	M	3	8	21	50
3	95	68	82	10	0	17	0.00	0.0	0	5.5	12	270	M	M	2	8	15	270
4	95	66	81	9	0	16	0.00	0.0	0	7.6	16	340	M	M	6	8	21	330
5	90	63	77	5	0	12	0.00	0.0	0	5.0	13	40	M	M	4	8	17	70
6	92	64	78	6	0	13	0.00	0.0	0	4.3	13	40	M	M	6	8	16	40
7	95	64	80	9	0	15	0.00	0.0	0	5.3	10	330	M	M	7	8	14	40
8	94	65	80	9	0	15	0.00	0.0	0	3.9	9	70	M	M	4	8	11	50
9	92	67	80	9	0	15	0.00	0.0	0	4.1	10	50	M	M	8	8	13	80
10	94	63	79	8	0	14	0.00	0.0	0	2.9	10	70	M	M	7	8	12	70
11	97	67	82	11	0	17	0.00	0.0	0	4.0	10	30	M	M	8	8	14	90
12	85	66	76	6	0	11	T	0.0	0	5.3	15	200	M	M	8	8	19	210
13	75	58	67	-3	0	2	T	0.0	0	13.1	25	210	M	M	7		31	220
14	75	51	63	-7	2	0	0.00	0.0	0	7.8	16	240	M	M	5		20	260
15	80	54	67	-3	0	2	0.00	0.0	0	6.0	13	230	M	M	4		17	240
16	84	54	69	-1	0	4	0.00	0.0	0	9.6	17	230	M	M	3		22	230
17	84	56	70	1	0	5	0.00	0.0	0	8.1	18	240	M	M	2		22	230
18	86	56	71	2	0	6	0.00	0.0	0	12.0	23	250	M	M	4		29	240
19	80	54	67	-2	0	2	0.00	0.0	0	8.1	17	220	M	M	4		20	220
20	80	54	67	-2	0	2	0.00	0.0	0	7.9	18	230	M	M	6		22	210
21	86	56	71	3	0	6	0.00	0.0	0	3.6	12	60	M	M	5		14	60
22	90	60	75	7	0	10	0.00	0.0	0	5.8	13	230	M	M	4		16	220
23	84	60	72	4	0	7	T	0.0	0	8.6	15	210	M	M	6		21	330
24	81	58	70	2	0	5	T	0.0	0	14.0	29	240	M	M	7		33	230
25	79	48	64	-3	1	0	0.00	0.0	0	5.6	13	220	M	M	3		16	230
26	85	52	69	2	0	4	0.00	0.0	0	3.5	10	250	M	M	1		17	270
27	92	56	74	7	0	9	0.00	0.0	0	3.5	12	50	M	M	3		14	40
28	91	59	75	9	0	10	0.00	0.0	0	3.8	10	40	M	M	5		15	60
29	98	62	80	14	0	15	0.00	0.0	0	5.8	16	60	M	M	3	8	20	60
30	91	65	78	12	0	13	0.00	0.0	0	8.4	17	230	M	M	6	8	23	230
31	84	58	71	5	0	6	0.00	0.0	0	11.5	21	260	M	M	3		25	230
SM	2722	1851			3	281	T		0.0	205.8			M		145			
AV	87.8	59.7								6.6	FASTST		M	M	5	MAX(MPH)		
								MISC ---->		# 29	240					# 33	230	

NOTES:
LAST OF SEVERAL OCCURRENCES

COLUMN 17 PEAK WIND IN M.P.H.

PRELIMINARY LOCAL CLIMATOLOGICAL DATA (WS FORM: F-6) , PAGE 2

STATION: SPOKANE WA AIRPORT
MONTH: AUGUST
YEAR: 2017
LATITUDE: 47 37 N
LONGITUDE: 117 32 W

```
[TEMPERATURE DATA]      [PRECIPITATION DATA]       SYMBOLS USED IN COLUMN 16

AVERAGE MONTHLY: 73.8   TOTAL FOR MONTH:      T    1 = FOG OR MIST
DPTR FM NORMAL:   4.5   DPTR FM NORMAL:   -0.59    2 = FOG REDUCING VISIBILITY
HIGHEST:    98 ON 29    GRTST 24HR    T  ON 24-24      TO 1/4 MILE OR LESS
LOWEST:     48 ON 25                                3 = THUNDER
                        SNOW, ICE PELLETS, HAIL     4 = ICE PELLETS
                        TOTAL MONTH:   0.0 INCH     5 = HAIL
                        GRTST 24HR     0.0          6 = FREEZING RAIN OR DRIZZLE
                        GRTST DEPTH:   0            7 = DUSTSTORM OR SANDSTORM:
                                                       VSBY 1/2 MILE OR LESS
                                                    8 = SMOKE OR HAZE
[NO. OF DAYS WITH]      [WEATHER - DAYS WITH]       9 = BLOWING SNOW
                                                    X = TORNADO
MAX 32 OR BELOW:   0    0.01 INCH OR MORE:   0
MAX 90 OR ABOVE:  16    0.10 INCH OR MORE:   0
MIN 32 OR BELOW:   0    0.50 INCH OR MORE:   0
MIN  0 OR BELOW:   0    1.00 INCH OR MORE:   0

[HDD (BASE 65) ]
TOTAL THIS MO.     3    CLEAR  (SCALE 0-3)   9
DPTR FM NORMAL   -30    PTCLDY (SCALE 4-7)  21
TOTAL FM JUL 1     3    CLOUDY (SCALE 8-10)  1
DPTR FM NORMAL   -62

[CDD (BASE 65) ]
TOTAL THIS MO.   281
DPTR FM NORMAL   113    [PRESSURE DATA]
TOTAL FM JAN 1   705    HIGHEST SLP M ON M
DPTR FM NORMAL   294    LOWEST  SLP 29.68 ON  4

[REMARKS]
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Spokane, Washington 99224

Tel: (509) 244-0110

Local Climatological Data

PRELIMINARY LOCAL CLIMATOLOGICAL DATA (WS FORM: F-6)

STATION: SPOKANE WA AIRPORT
MONTH: APRIL
YEAR: 2018
LATITUDE: 47 37 N
LONGITUDE: 117 32 W

	TEMPERATURE IN F:							:PCPN:	SNOW:	WIND			:SUNSHINE:		SKY	:PK WND		
1	2	3	4	5	6A	6B	7	8	9	10	11	12	13	14	15	16	17	18
									12Z	AVG MX 2MIN								
DY	MAX	MIN	AVG	DEP	HDD	CDD	WTR	SNW	DPTH	SPD	SPD	DIR	MIN	PSBL	S-S	WX	SPD	DR
1	48	32	40	-4	25	0	T	T	0	15.6	30	220	M	M	8	1	37	230
2	44	27	36	-8	29	0	T	0.0	0	11.5	21	290	M	M	6		26	220
3	46	29	38	-7	27	0	0.00	0.0	0	8.2	18	200	M	M	9		25	210
4	45	35	40	-5	25	0	0.08	0.0	0	7.5	15	220	M	M	10	1	19	230
5	46	39	43	-2	22	0	0.45	0.0	0	7.7	13	60	M	M	10	12	14	60
6	47	34	41	-4	24	0	T	0.0	0	11.8	18	70	M	M	8	1	23	70
7	53	36	45	0	20	0	0.38	0.0	0	12.5	23	200	M	M	10	13	29	210
8	51	41	46	0	19	0	T	0.0	0	17.9	28	230	M	M	9	1	34	230
9	56	38	47	1	18	0	0.00	0.0	0	8.6	18	200	M	M	8		23	190
10	54	40	47	1	18	0	0.13	0.0	0	9.1	20	230	M	M	8	1	23	260
11	55	39	47	1	18	0	0.08	0.0	0	9.7	21	220	M	M	8	1	25	220
12	51	35	43	-3	22	0	0.31	T	0	19.9	33	240	M	M	8	15	43	240
13	45	32	39	-7	26	0	0.07	0.0	0	12.8	22	200	M	M	8	1	27	210
14	52	41	47	1	18	0	T	0.0	0	12.5	21	200	M	M	8		27	210
15	56	42	49	2	16	0	0.39	0.0	0	9.1	17	280	M	M	9	1	20	270
16	48	36	42	-5	23	0	0.07	0.0	0	17.7	32	220	M	M	8	1	37	230
17	52	36	44	-3	21	0	T	T	0	18.3	32	250	M	M	7	1	39	250
18	55	32	44	-3	21	0	0.00	0.0	0	6.9	14	20	M	M	6		17	30
19	62	33	48	0	17	0	0.00	0.0	0	7.4	16	260	M	M	2		19	260
20	61	38	50	2	15	0	T	0.0	0	9.7	17	230	M	M	5		21	230
21	58	38	48	0	17	0	T	0.0	0	18.3	35	240	M	M	6		42	230
22	56	32	44	-4	21	0	0.00	0.0	0	4.1	13	20	M	M	4		15	20
23	64	34	49	1	16	0	0.00	0.0	0	6.2	16	40	M	M	1		22	40
24	71	41	56	7	9	0	0.00	0.0	0	5.4	14	140	M	M	4		18	90
25	73	45	59	10	6	0	0.00	0.0	0	3.8	14	250	M	M	4		17	270
26	76	44	60	11	5	0	0.00	0.0	0	4.3	13	60	M	M	1		15	60
27	83	48	66	16	0	1	0.00	0.0	0	9.7	28	210	M	M	2	78	35	200
28	57	43	50	0	15	0	0.06	0.0	0	8.8	22	190	M	M	9	1	28	200
29	60	40	50	0	15	0	T	0.0	0	8.9	18	250	M	M	7		23	250
30	59	41	50	0	15	0	0.01	0.0	0	7.4	20	280	M	M	8		22	280
SM	1684	1121		543		1	2.03	T		311.3			M		201			
AV	56.1	37.4								10.4	FASTST		M	M	7		MAX(MPH)	
									MISC ---->	# 35	240						# 43	240

NOTES:
LAST OF SEVERAL OCCURRENCES

COLUMN 17 PEAK WIND IN M.P.H.

PRELIMINARY LOCAL CLIMATOLOGICAL DATA (WS FORM: F-6) , PAGE 2

STATION: SPOKANE WA AIRPORT
MONTH: APRIL
YEAR: 2018
LATITUDE: 47 37 N
LONGITUDE: 117 32 W

[TEMPERATURE DATA] [PRECIPITATION DATA] SYMBOLS USED IN COLUMN 16

```
AVERAGE MONTHLY: 46.8   TOTAL FOR MONTH:   2.03    1 = FOG OR MIST
DPTR FM NORMAL:  -0.2   DPTR FM NORMAL:    0.75    2 = FOG REDUCING VISIBILITY
HIGHEST:    83 ON 27    GRTST 24HR  0.45 ON  5- 5      TO 1/4 MILE OR LESS
LOWEST:     27 ON  2                                3 = THUNDER
                        SNOW, ICE PELLETS, HAIL     4 = ICE PELLETS
                        TOTAL MONTH:    T           5 = HAIL
                        GRTST 24HR    T  ON 17-17   6 = FREEZING RAIN OR DRIZZLE
                        GRTST DEPTH:   0            7 = DUSTSTORM OR SANDSTORM:
                                                        VSBY 1/2 MILE OR LESS
                                                    8 = SMOKE OR HAZE
[NO. OF DAYS WITH]      [WEATHER - DAYS WITH]       9 = BLOWING SNOW
                                                    X = TORNADO
MAX 32 OR BELOW:   0    0.01 INCH OR MORE:  11
MAX 90 OR ABOVE:   0    0.10 INCH OR MORE:   5
MIN 32 OR BELOW:   6    0.50 INCH OR MORE:   0
MIN  0 OR BELOW:   0    1.00 INCH OR MORE:   0

[HDD (BASE 65) ]
TOTAL THIS MO.   543    CLEAR  (SCALE 0-3)   4
DPTR FM NORMAL     3    PTCLDY (SCALE 4-7)  14
TOTAL FM JUL 1  5973    CLOUDY (SCALE 8-10) 12
DPTR FM NORMAL  -163

[CDD (BASE 65) ]
TOTAL THIS MO.     1
DPTR FM NORMAL     1    [PRESSURE DATA]
TOTAL FM JAN 1     1    HIGHEST SLP M ON M
DPTR FM NORMAL     1    LOWEST  SLP 29.36 ON  7

[REMARKS]
```

Webmaster
US Dept of Commerce
National Oceanic and Atmospheric Administration
National Weather Service
Spokane Weather Forecast Office
2601 N. Rambo Rd.
Spokane, Washington 99224

Tel: (509) 244-0110

[Explanation of the Preliminary Monthly Climate Data (F6) Product]

These data are preliminary and have not undergone final quality control by the National Climatic Data Center (NCDC). Therefore, these data are subject to revision. Final and certified climate data can be accessed at the NCDC - http://www.ncdc.noaa.gov.

WFO Monthly/Daily Climate Data

```
000
CXUS56 KOTX 010900
CF6GEG
PRELIMINARY LOCAL CLIMATOLOGICAL DATA (WS FORM: F-6)

                                        STATION:   SPOKANE WA AIRPORT
                                        MONTH:     MAY
                                        YEAR:      2018
                                        LATITUDE:   47 37 N
                                        LONGITUDE: 117 32 W

  TEMPERATURE IN F:        :PCPN:    SNOW:  WIND      :SUNSHINE: SKY     :PK WND
=================================================================================
1   2   3   4   5  6A  6B    7    8   9    10  11  12  13   14  15   16   17  18
                                    12Z  AVG MX 2MIN
DY MAX MIN AVG DEP HDD CDD  WTR  SNW DPTH SPD SPD DIR MIN PSBL S-S WX    SPD DR
=================================================================================

 1  58  42  50  -1  15   0 0.04  0.0    0  6.9 17 230   M    M   7        19 230
 2  70  40  55   4  10   0 0.00  0.0    0  9.2 18 250   M    M   3        26 230
 3  73  46  60   9   5   0 0.00  0.0    0  8.3 18 230   M    M   5        25 230
 4  75  51  63  11   2   0 0.00  0.0    0  9.4 21 240   M    M   6        26 240
 5  73  54  64  12   1   0    T  0.0    0  6.7 14 210   M    M   9        16 210
 6  79  52  66  14   0   1 0.17  0.0    0  8.9 38 220   M    M   6 1      42 230
 7  67  54  61   9   4   0 0.21  0.0    0  6.5 12 240   M    M   8 1      13 150
 8  76  51  64  11   1   0 0.00  0.0    0  4.9 22 240   M    M   5        27 240
 9  64  49  57   4   8   0    T  0.0    0 11.5 24 230   M    M   8        30 240
10  61  45  53  -1  12   0    T  0.0    0 10.8 24 270   M    M   8        30 190
11  64  42  53  -1  12   0 0.02  0.0    0  3.8 21  80   M    M   5 1      29  90
12  77  43  60   6   5   0 0.00  0.0    0  6.7 21  20   M    M   1 1      28  30
13  83  51  67  13   0   2 0.00  0.0    0  5.3 17  20   M    M   1        21  50
14  84  54  69  14   0   4 0.00  0.0    0  3.6 10 330   M    M   2 8      12 310
15  85  55  70  15   0   5 0.00  0.0    0  3.5 12 230   M    M   1        13 290
16  72  59  66  11   0   1    T  0.0    0 10.4 22 230   M    M   6        26 240
17  63  54  59   3   6   0 0.64  0.0    0  6.9 13  20   M    M   9 1      17 340
18  58  50  54  -2  11   0 0.32  0.0    0  6.8 13  70   M    M   9 1      17  30
19  71  51  61   5   4   0    T  0.0    0  5.4 13  70   M    M   6        15  70
20  75  51  63   7   2   0 0.00  0.0    0  5.3 12 280   M    M   6        14 280
21  77  57  67  10   0   2 0.00  0.0    0  6.1 14 240   M    M   4        17 240
22  84  55  70  13   0   5 0.00  0.0    0  5.9 15 330   M    M   2        24 340
23  84  58  71  14   0   6 0.05  0.0    0  6.6 21  80   M    M   5 3      25  90
24  79  57  68  11   0   3 0.00  0.0    0  8.9 18 220   M    M   5        23 250
25  80  59  70  12   0   5 0.00  0.0    0  7.9 15 200   M    M   5        19 200
26  76  54  65   7   0   0    T  0.0    0 13.7 21 240   M    M   6        30 210
27  76  47  62   4   3   0 0.00  0.0    0  6.9 13 270   M    M   3        17 280
28  81  54  68  10   0   3 0.00  0.0    0 10.5 20 250   M    M   2        24 240
29  71  49  60   2   5   0 0.00  0.0    0 11.7 20 260   M    M   5        24 250
30  66  43  55  -4  10   0 0.00  0.0    0  6.4 17 200   M    M   5        23 220
31  64  47  56  -3   9   0    T  0.0    0  9.3 23 240   M    M   8        27 220
=================================================================================
SM 2266 1574       125  37  1.45     0.0 234.7          M      161
=================================================================================
AV 73.1 50.8                                7.6 FASTST   M    M   5    MAX(MPH)
```

MISC ----> # 38 220 # 42 230

NOTES:
LAST OF SEVERAL OCCURRENCES

COLUMN 17 PEAK WIND IN M.P.H.

PRELIMINARY LOCAL CLIMATOLOGICAL DATA (WS FORM: F-6) , PAGE 2

STATION: SPOKANE WA AIRPORT
MONTH: MAY
YEAR: 2018
LATITUDE: 47 37 N
LONGITUDE: 117 32 W

[TEMPERATURE DATA]

AVERAGE MONTHLY: 61.9
DPTR FM NORMAL: 6.8
HIGHEST: 85 ON 15
LOWEST: 40 ON 2

[PRECIPITATION DATA]

TOTAL FOR MONTH: 1.45
DPTR FM NORMAL: -0.17
GRTST 24HR 0.64 ON 17-17

SNOW, ICE PELLETS, HAIL
TOTAL MONTH: 0.0 INCH
GRTST 24HR 0.0
GRTST DEPTH: 0

SYMBOLS USED IN COLUMN 16

1 = FOG OR MIST
2 = FOG REDUCING VISIBILITY TO 1/4 MILE OR LESS
3 = THUNDER
4 = ICE PELLETS
5 = HAIL
6 = FREEZING RAIN OR DRIZZLE
7 = DUSTSTORM OR SANDSTORM: VSBY 1/2 MILE OR LESS
8 = SMOKE OR HAZE
9 = BLOWING SNOW
X = TORNADO

[NO. OF DAYS WITH]

MAX 32 OR BELOW: 0
MAX 90 OR ABOVE: 0
MIN 32 OR BELOW: 0
MIN 0 OR BELOW: 0

[WEATHER - DAYS WITH]

0.01 INCH OR MORE: 7
0.10 INCH OR MORE: 4
0.50 INCH OR MORE: 1
1.00 INCH OR MORE: 0

[HDD (BASE 65)]

TOTAL THIS MO. 125
DPTR FM NORMAL -196
TOTAL FM JUL 1 6098
DPTR FM NORMAL -359

CLEAR (SCALE 0-3) 6
PTCLDY (SCALE 4-7) 21
CLOUDY (SCALE 8-10) 4

[CDD (BASE 65)]

TOTAL THIS MO. 37
DPTR FM NORMAL 23
TOTAL FM JAN 1 38
DPTR FM NORMAL 24

[PRESSURE DATA]

HIGHEST SLP 0.00 ON M
LOWEST SLP 29.68 ON 25

[REMARKS]
#FINAL-05-18#

[Explanation of the Preliminary Monthly Climate Data (F6) Product]

These data are preliminary and have not undergone final quality control by the National Climatic Data Center (NCDC). Therefore, these data are subject to revision. Final and certified climate data can be accessed at the NCDC - http://www.ncdc.noaa.gov.

WFO Monthly/Daily Climate Data

```
000
CXUS56 KOTX 010900
CF6GEG
PRELIMINARY LOCAL CLIMATOLOGICAL DATA (WS FORM: F-6)

                                        STATION:   SPOKANE WA AIRPORT
                                        MONTH:     JUNE
                                        YEAR:      2018
                                        LATITUDE:   47 37 N
                                        LONGITUDE: 117 32 W

  TEMPERATURE IN F:       :PCPN:    SNOW:  WIND      :SUNSHINE: SKY     :PK WND
=================================================================================
1   2   3   4   5  6A  6B    7    8   9   10  11  12  13   14  15   16   17  18
                                    12Z  AVG MX 2MIN
DY MAX MIN AVG DEP HDD CDD  WTR  SNW DPTH SPD SPD DIR MIN PSBL S-S WX    SPD DR
=================================================================================

 1  65  45  55  -4  10   0    T  0.0    0 11.9 20 210   M    M   5        26 220
 2  76  47  62   3   3   0 0.00  0.0    0  4.7 14 220   M    M   4        18 220
 3  84  54  69   9   0   4    T  0.0    0  9.6 26 250   M    M   5        33 260
 4  69  53  61   1   4   0 0.00  0.0    0 13.8 25 260   M    M   7        30 240
 5  69  46  58  -2   7   0 0.00  0.0    0  9.9 21 220   M    M   3        26 220
 6  76  49  63   3   2   0 0.00  0.0    0  4.6 10  70   M    M   7        14  70
 7  81  54  68   8   0   3 0.00  0.0    0  6.4 17 270   M    M   6        20 280
 8  78  51  65   5   0   0 0.05  0.0    0  8.2 20 200   M    M   6 3      25 190
 9  59  47  53  -8  12   0 0.22  0.0    0 12.1 25 210   M    M   9 13     30 210
10  61  42  52  -9  13   0    T  0.0    0 17.0 31 220   M    M   7 3      40 230
11  66  39  53  -8  12   0 0.00  0.0    0 12.1 25 230   M    M   3        33 250
12  69  41  55  -6  10   0 0.00  0.0    0  4.8 14 260   M    M   6        18 180
13  76  51  64   3   1   0    T  0.0    0 13.9 31 230   M    M   6        39 230
14  69  46  58  -4   7   0 0.00  0.0    0 10.1 20 210   M    M   5        27 190
15  74  48  61  -1   4   0 0.01  0.0    0  4.8 17 330   M    M   3        23 330
16  71  49  60  -2   5   0 0.01  0.0    0  7.1 18  40   M    M   7 3      26  50
17  76  57  67   5   0   2 0.00  0.0    0 14.6 25  70   M    M   6        32  50
18  72  58  65   3   0   0 0.01  0.0    0  6.8 18  70   M    M   8        22  80
19  80  56  68   5   0   3 0.00  0.0    0  5.4 13  60   M    M   7        23  80
20  84  58  71   8   0   6    T  0.0    0  5.5 13 240   M    M   3        16 170
21  80  60  70   7   0   5 0.25  0.0    0 11.4 28 330   M    M   8 13     34 330
22  80  57  69   6   0   4 0.00  0.0    0 10.2 26 360   M    M   6 13     32 330
23  75  51  63  -1   2   0 0.00  0.0    0  7.0 17 240   M    M   5        24 250
24  82  55  69   5   0   4 0.00  0.0    0  5.0 13 150   M    M   2        17 150
25  76  52  64   0   1   0 0.00  0.0    0 16.7 28 220   M    M   6        35 230
26  72  46  59  -5   6   0 0.00  0.0    0 10.0 20 220   M    M   2        29 240
27  79  50  65   0   0   0 0.00  0.0    0  8.0 17 240   M    M   5        22 230
28  72  57  65   0   0   0 0.00  0.0    0  9.9 22 220   M    M   9        28 240
29  74  52  63  -2   2   0    T  0.0    0  9.4 20 220   M    M   6        24 220
30  72  53  63  -3   2   0    T  0.0    0 10.3 22 250   0    0   0        31 220
=================================================================================
SM 2217 1524       103  31  0.55     0.0 281.2            0    162
=================================================================================
AV 73.9 50.8                                9.4 FASTST    0   0   5    MAX(MPH)
                                  MISC ---->  # 31 220              # 40  230
```

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NOTES:
LAST OF SEVERAL OCCURRENCES

COLUMN 17 PEAK WIND IN M.P.H.

PRELIMINARY LOCAL CLIMATOLOGICAL DATA (WS FORM: F-6) , PAGE 2

STATION: SPOKANE WA AIRPORT
MONTH: JUNE
YEAR: 2018
LATITUDE: 47 37 N
LONGITUDE: 117 32 W

[TEMPERATURE DATA]

AVERAGE MONTHLY: 62.4
DPTR FM NORMAL: 0.2
HIGHEST: 84 ON 20, 3
LOWEST: 39 ON 11

[PRECIPITATION DATA]

TOTAL FOR MONTH: 0.55
DPTR FM NORMAL: -0.70
GRTST 24HR 0.25 ON 21-21

SNOW, ICE PELLETS, HAIL
TOTAL MONTH: 0.0 INCH
GRTST 24HR 0.0
GRTST DEPTH: 0

SYMBOLS USED IN COLUMN 16

1 = FOG OR MIST
2 = FOG REDUCING VISIBILITY TO 1/4 MILE OR LESS
3 = THUNDER
4 = ICE PELLETS
5 = HAIL
6 = FREEZING RAIN OR DRIZZLE
7 = DUSTSTORM OR SANDSTORM: VSBY 1/2 MILE OR LESS
8 = SMOKE OR HAZE
9 = BLOWING SNOW
X = TORNADO

[NO. OF DAYS WITH]

MAX 32 OR BELOW: 0
MAX 90 OR ABOVE: 0
MIN 32 OR BELOW: 0
MIN 0 OR BELOW: 0

[WEATHER - DAYS WITH]

0.01 INCH OR MORE: 6
0.10 INCH OR MORE: 2
0.50 INCH OR MORE: 0
1.00 INCH OR MORE: 0

[HDD (BASE 65)]

TOTAL THIS MO. 103
DPTR FM NORMAL -33
TOTAL FM JUL 1 6201
DPTR FM NORMAL -392

CLEAR (SCALE 0-3) 6
PTCLDY (SCALE 4-7) 22
CLOUDY (SCALE 8-10) 2

[CDD (BASE 65)]

TOTAL THIS MO. 31
DPTR FM NORMAL -18
TOTAL FM JAN 1 69
DPTR FM NORMAL 6

[PRESSURE DATA]

HIGHEST SLP 0.00 ON 30
LOWEST SLP 29.68 ON M

[REMARKS]
#FINAL-06-18#

[Explanation of the Preliminary Monthly Climate Data (F6) Product]

These data are preliminary and have not undergone final quality control by the National Climatic Data Center (NCDC). Therefore, these data are subject to revision. Final and certified climate data can be accessed at the NCDC - http://www.ncdc.noaa.gov.

WFO Monthly/Daily Climate Data

```
000
CXUS56 KOTX 010900
CF6GEG
PRELIMINARY LOCAL CLIMATOLOGICAL DATA (WS FORM: F-6)

                                        STATION:   SPOKANE WA AIRPORT
                                        MONTH:     JULY
                                        YEAR:      2018
                                        LATITUDE:   47 37 N
                                        LONGITUDE: 117 32 W
```

TEMPERATURE IN F:							:PCPN:	SNOW:	WIND			:SUNSHINE:		SKY		:PK WND	
1	2	3	4	5	6A	6B	7	8	9	10	11	12	13	14	15	16	17	18
									12Z	AVG	MX	2MIN						
DY	MAX	MIN	AVG	DEP	HDD	CDD	WTR	SNW	DPTH	SPD	SPD	DIR	MIN	PSBL	S-S	WX	SPD	DR
1	75	50	63	-3	2	0	0.00	0.0	0	13.8	25	220	M	M	7		31	220
2	68	50	59	-7	6	0	T	0.0	0	12.9	28	230	M	M	6		34	250
3	68	48	58	-9	7	0	0.00	0.0	0	6.5	17	220	M	M	7		21	220
4	81	49	65	-2	0	0	0.00	0.0	0	8.5	16	40	M	M	6		23	50
5	89	62	76	9	0	11	T	0.0	0	7.7	21	50	M	M	3		23	40
6	86	62	74	6	0	9	0.03	0.0	0	11.5	26	300	M	M	5	3	34	300
7	79	58	69	1	0	4	0.00	0.0	0	10.4	20	250	M	M	3		26	250
8	85	53	69	1	0	4	0.00	0.0	0	5.4	13	20	M	M	1		16	30
9	91	59	75	7	0	10	0.00	0.0	0	6.1	16	230	M	M	2		18	220
10	78	57	68	-1	0	3	0.01	0.0	0	12.9	23	210	M	M	7	3	31	210
11	84	55	70	1	0	5	0.00	0.0	0	3.2	13	300	M	M	3		17	310
12	89	59	74	5	0	9	0.00	0.0	0	3.9	12	270	M	M	1		16	30
13	95	63	79	9	0	14	0.00	0.0	0	10.8	24	230	M	M	3		30	230
14	88	63	76	6	0	11	0.00	0.0	0	7.3	18	350	M	M	3		22	340
15	92	55	74	4	0	9	0.00	0.0	0	4.3	12	320	M	M	3		18	330
16	96	61	79	9	0	14	0.00	0.0	0	5.3	14	170	M	M	3		18	160
17	96	65	81	11	0	16	0.00	0.0	0	8.5	18	220	M	M	3		23	210
18	89	66	78	7	0	13	0.00	0.0	0	11.2	21	220	M	M	1		27	210
19	86	58	72	1	0	7	0.00	0.0	0	10.9	23	220	M	M	2		29	220
20	81	56	69	-2	0	4	0.00	0.0	0	11.1	20	230	M	M	2	8	25	220
21	81	53	67	-4	0	2	0.00	0.0	0	9.2	21	230	M	M	2	8	27	230
22	85	56	71	0	0	6	0.00	0.0	0	4.0	12	250	M	M	2		16	220
23	90	59	75	3	0	10	0.00	0.0	0	3.2	12	220	M	M	1		15	220
24	93	61	77	5	0	12	0.00	0.0	0	6.5	20	240	M	M	2		24	240
25	94	63	79	7	0	14	0.00	0.0	0	5.1	14	280	M	M	2		20	280
26	94	64	79	7	0	14	0.00	0.0	0	5.3	13	20	M	M	4		15	310
27	90	67	79	7	0	14	0.02	0.0	0	5.8	20	360	M	M	6		21	360
28	93	68	81	9	0	16	T	0.0	0	5.4	20	90	M	M	4	3	25	80
29	94	65	80	8	0	15	0.00	0.0	0	5.6	15	20	M	M	2		20	40
30	97	65	81	9	0	16	0.00	0.0	0	5.0	15	70	M	M	2		20	90
31	97	69	83	11	0	18	0.00	0.0	0	7.0	14	220	M	M	6		16	30
SM	2704	1839			15	280	0.06		0.0	234.3			M		104			
AV	87.2	59.3								7.6	FASTST		M	M	3		MAX(MPH)	

MISC ----> # 28 230 # 34 250

NOTES:
LAST OF SEVERAL OCCURRENCES

COLUMN 17 PEAK WIND IN M.P.H.

PRELIMINARY LOCAL CLIMATOLOGICAL DATA (WS FORM: F-6) , PAGE 2

STATION: SPOKANE WA AIRPORT
MONTH: JULY
YEAR: 2018
LATITUDE: 47 37 N
LONGITUDE: 117 32 W

[TEMPERATURE DATA]

AVERAGE MONTHLY: 73.3
DPTR FM NORMAL: 3.5
HIGHEST: 97 ON 31,30
LOWEST: 48 ON 3

[PRECIPITATION DATA]

TOTAL FOR MONTH: 0.06
DPTR FM NORMAL: -0.58
GRTST 24HR 0.03 ON 6- 6

SNOW, ICE PELLETS, HAIL
TOTAL MONTH: 0.0 INCH
GRTST 24HR 0.0
GRTST DEPTH: 0

SYMBOLS USED IN COLUMN 16

1 = FOG OR MIST
2 = FOG REDUCING VISIBILITY TO 1/4 MILE OR LESS
3 = THUNDER
4 = ICE PELLETS
5 = HAIL
6 = FREEZING RAIN OR DRIZZLE
7 = DUSTSTORM OR SANDSTORM: VSBY 1/2 MILE OR LESS
8 = SMOKE OR HAZE
9 = BLOWING SNOW
X = TORNADO

[NO. OF DAYS WITH]

MAX 32 OR BELOW: 0
MAX 90 OR ABOVE: 14
MIN 32 OR BELOW: 0
MIN 0 OR BELOW: 0

[WEATHER - DAYS WITH]

0.01 INCH OR MORE: 3
0.10 INCH OR MORE: 0
0.50 INCH OR MORE: 0
1.00 INCH OR MORE: 0

[HDD (BASE 65)]

TOTAL THIS MO. 15
DPTR FM NORMAL -17
TOTAL FM JUL 1 15
DPTR FM NORMAL -17

[CDD (BASE 65)]

TOTAL THIS MO. 280
DPTR FM NORMAL 100
TOTAL FM JAN 1 349
DPTR FM NORMAL 106

CLEAR (SCALE 0-3) 19
PTCLDY (SCALE 4-7) 12
CLOUDY (SCALE 8-10) 0

[PRESSURE DATA]

HIGHEST SLP M ON M
LOWEST SLP 29.79 ON 31

[REMARKS]
#FINAL-07-18#

[Explanation of the Preliminary Monthly Climate Data (F6) Product]

These data are preliminary and have not undergone final quality control by the National Climatic Data Center (NCDC). Therefore, these data are subject to revision. Final and certified climate data can be accessed at the NCDC - http://www.ncdc.noaa.gov.

WFO Monthly/Daily Climate Data

```
000
CXUS56 KOTX 010900
CF6GEG
PRELIMINARY LOCAL CLIMATOLOGICAL DATA (WS FORM: F-6)

                                        STATION:   SPOKANE WA AIRPORT
                                        MONTH:     AUGUST
                                        YEAR:      2018
                                        LATITUDE:   47 37 N
                                        LONGITUDE: 117 32 W

  TEMPERATURE IN F:        :PCPN:    SNOW:  WIND      :SUNSHINE: SKY     :PK WND
=================================================================================
1   2   3   4   5  6A  6B    7    8   9   10  11  12  13   14  15   16   17  18
                                    12Z  AVG MX 2MIN
DY MAX MIN AVG DEP HDD CDD  WTR  SNW DPTH SPD SPD DIR MIN PSBL S-S WX    SPD DR
=================================================================================

 1  91  64  78   6   0  13 0.00  0.0    0 10.8 22 230   M    M   2        32 210
 2  87  61  74   2   0   9 0.00  0.0    0 11.9 23 240   M    M   1        29 230
 3  77  55  66  -6   0   1 0.00  0.0    0 11.3 21 220   M    M   4        33 220
 4  82  53  68  -4   0   3 0.00  0.0    0  4.8 13  10   M    M   4        15 200
 5  88  58  73   1   0   8 0.00  0.0    0  3.2 14 330   M    M   2 8      17 330
 6  91  61  76   4   0  11 0.00  0.0    0  6.2 17 300   M    M   4 8      23 290
 7  93  62  78   7   0  13 0.00  0.0    0  7.3 21 270   M    M   5 8      24 280
 8  98  64  81  10   0  16 0.00  0.0    0  3.9 12  70   M    M   1 8      14  30
 9 103  68  86  15   0  21 0.00  0.0    0  5.5 12  70   M    M   1 8      17  70
10 102  73  88  17   0  23 0.00  0.0    0  8.9 20 250   M    M   4 38     24 220
11  87  62  75   4   0  10 0.00  0.0    0 13.2 28 230   M    M   4 8      36 270
12  77  54  66  -4   0   1 0.00  0.0    0  8.2 18 220   M    M   3 8      22 210
13  82  56  69  -1   0   4 0.00  0.0    0  5.3 10  30   M    M   9 8      16 310
14  87  57  72   2   0   7 0.00  0.0    0  3.7 13 220   M    M   7 8      16 220
15  90  60  75   5   0  10 0.00  0.0    0  3.7 12 270   M    M   5 8      14 270
16  94  64  79   9   0  14 0.00  0.0    0  5.3 13 200   M    M   5 8      19 270
17  87  66  77   8   0  12    T  0.0    0  8.9 21 220   M    M   7 8      25 220
18  83  59  71   2   0   6 0.00  0.0    0  5.9 12 210   M    M   6 8      15 210
19  77  58  68  -1   0   3 0.00  0.0    0  4.2 10  20   M    M  10 8      14  10
20  79  56  68  -1   0   3 0.00  0.0    0 10.8 25  40   M    M   8 8      32  60
21  83  56  70   2   0   5 0.00  0.0    0  5.8 15  50   M    M   6 8      20  20
22  87  54  71   3   0   6 0.00  0.0    0  5.5 16 250   M    M   1 8      21 230
23  83  58  71   3   0   6 0.00  0.0    0 12.1 22 220   M    M   7 8      28 220
24  74  54  64  -4   1   0 0.00  0.0    0 13.4 23 210   M    M   5 8      27 240
25  70  48  59  -8   6   0 0.00  0.0    0  8.3 15 220   M    M   8 8      20 210
26  64  53  59  -8   6   0 0.06  0.0    0 10.5 18 220   M    M  10 8       M  M
27  68  52  60  -7   5   0 0.11  0.0    0  7.1 16  30   M    M   6 1      19  30
28  75  48  62  -4   3   0 0.00  0.0    0  9.1 16 270   M    M   5        24 250
29  83  53  68   2   0   3 0.00  0.0    0 10.6 25 220   M    M   6 8      30 210
30  77  54  66   0   0   1 0.00  0.0    0 10.4 23 250   M    M   6 8      27 260
31  74  49  62  -4   3   0 0.00  0.0    0 10.2 21 250   M    M   2        27 220
=================================================================================
SM 2593 1790        24 209  0.17     0.0 246.0          M      154
=================================================================================
AV 83.7 57.7                                7.9 FASTST   M    M   5    MAX(MPH)
```

MISC ----> # 28 230 # 36 270

NOTES:
LAST OF SEVERAL OCCURRENCES

COLUMN 17 PEAK WIND IN M.P.H.

PRELIMINARY LOCAL CLIMATOLOGICAL DATA (WS FORM: F-6) , PAGE 2

STATION: SPOKANE WA AIRPORT
MONTH: AUGUST
YEAR: 2018
LATITUDE: 47 37 N
LONGITUDE: 117 32 W

[TEMPERATURE DATA]

AVERAGE MONTHLY: 70.7
DPTR FM NORMAL: 1.4
HIGHEST: 103 ON 9
LOWEST: 48 ON 28,25

[PRECIPITATION DATA]

TOTAL FOR MONTH: 0.17
DPTR FM NORMAL: -0.42
GRTST 24HR 0.11 ON 27-27

SNOW, ICE PELLETS, HAIL
TOTAL MONTH: 0.0 INCH
GRTST 24HR 0.0
GRTST DEPTH: 0

SYMBOLS USED IN COLUMN 16

1 = FOG OR MIST
2 = FOG REDUCING VISIBILITY TO 1/4 MILE OR LESS
3 = THUNDER
4 = ICE PELLETS
5 = HAIL
6 = FREEZING RAIN OR DRIZZLE
7 = DUSTSTORM OR SANDSTORM: VSBY 1/2 MILE OR LESS
8 = SMOKE OR HAZE
9 = BLOWING SNOW
X = TORNADO

[NO. OF DAYS WITH]

MAX 32 OR BELOW: 0
MAX 90 OR ABOVE: 8
MIN 32 OR BELOW: 0
MIN 0 OR BELOW: 0

[WEATHER - DAYS WITH]

0.01 INCH OR MORE: 2
0.10 INCH OR MORE: 1
0.50 INCH OR MORE: 0
1.00 INCH OR MORE: 0

[HDD (BASE 65)]

TOTAL THIS MO. 24
DPTR FM NORMAL -9
TOTAL FM JUL 1 39
DPTR FM NORMAL -26

CLEAR (SCALE 0-3) 7
PTCLDY (SCALE 4-7) 21
CLOUDY (SCALE 8-10) 3

[CDD (BASE 65)]

TOTAL THIS MO. 209
DPTR FM NORMAL 41
TOTAL FM JAN 1 558
DPTR FM NORMAL 147

[PRESSURE DATA]

HIGHEST SLP M ON M
LOWEST SLP 29.71 ON M

[REMARKS]
#FINAL-08-18#

Appendix G
Recreation and Climate Summary

Table 13. Assumptions for Standardizing Recreation Frequency Questions

Questionnaire Response	New Value Column Assignment	Assumption or Comment	New Unit Column Assignment
Daily, or "Daily But not over"	90	Every day/month for 3 months	D
Every day, "Every Week"	90	Every day/month for 3 months	D
Weekly	48	4 days per week for 4 weeks/ for 3 months	D
_ x Month		Value * 3 months	T
_ x Week		Value * 4 weeks * 3 months	T
Frequently, or regularly	24	Every weekend 2 days/week for 3 months	X
Summer, Seasonal, or Season	6 or 0	2 days/month for 3 months For activities other than hunting. If hunting had "Season or seasonal" then value was assigned 0.	X
Monthly	6	2 days/month for 3 months	X
Value + "Times"	Value		T
Value + "Daily"	Value		D
Value only	Value		N
Range of values (e.g., 3-4, or 12-20)		Median of values given (rounded up), or higher of the 2 values given	T, D, or N
Few Times, Occasionally	3	Once a month	X
_ to _ weeks		Higher value	D
Every other week, Every Weekend	24	2 days/week times 12 weeks	D
If response is 0 OR UNKNOWN	0		

New Unit Columns Assignment Codes:
T= times
D= days
N=no units provided
X=difficult to interpret

Table 14. Assumptions for Standardizing Recreation Location Questions – Water Activities

0 = No Answer or Unable to Categorize	1 = Likely no Lead Exposure	2 = Likely no Lead Exposure, but Uncertain	3 = Multiple Locations	4 = Likely Lead Exposure
Reilly Creek	Out Of Area	NF CDA River	All Over	Big Creek
Unknown	Pool	Dobson	CDA River*	Black Lake
River	Lake Elsie	Little North Fork	Lakes	Black Rock
	Bumblebee	Gene Day Park	Local Creeks	Blue Lake
	St. Joe		Local Lakes	Bull Run
	Glidden Lake		Locally	Burke
	Home		Local Rivers	Canyon Creek
	Waterpark			Cataldo
	Shoshone Creek			Cataldo Mission
	Steamboat			Cave Lake
	Avery Creek			CDA River*
	Graham Creek			Chain Lakes
	Silver Mountain			Day Rock Pond
	Moon Pass Creek			Dudley
	Out Of Area			Harrison
	CDA Lake			Killarney
				Kingston
				Lucky Friday Pond
				Medicine Lake
				Medimont
				Moon Gulch
				Mullan Pond
				Nine Mile
				Nine Mile Pond
				Osburn
				Pinecreek
				Pinehurst
				Rainy Hill
				Rose Lake
				Smelterville
				South Fork CDA River
				Swan Lake
				Two Mile Creek
				Wallace
				Weir Gulch

* "CDA river" was assigned a "3" if it was listed with other areas that are likely not contaminated, and assigned a 4 if it was listed with other areas that are likely contaminated.

Note: If multiple locations were listed, "3" was assigned if one or more listed locations would have been assigned a "1" and one or more locations would have been assigned a "4."

For fishing, CDA lake is categorized as 2, otherwise as 1

Table 15. Assumptions for Standardizing Recreation Location Questions – Non-Water Activities (2 pages)

0 = No Answer or Unable to Categorize	1 = Likely no Lead Exposure	2 = Likely no Lead Exposure (Assuming Areas were Remediated)	3 = Multiple Locations	4 = Likely Lead Exposure*
Main Rd	Airway Heights	4th of July	All Over/ All Around	Abbey Rd
Trails	Athol	Around house	Everywhere	Bear Creek
Unknown	Avery	Bike Trail	Hills	Big Creek
River	Bayview	By the Way Campground	In Town/ Around Town/ In Valley	Bull Run
Shoshone	Big Fork	CDA Lake	Locally	Burke
Unknown	Bonner County	Driveway	Lower Basin	Cataldo
Lakes/Rivers	Bumblebee	Home	Placer Creek/Two Mile	CCC Road Cataldo
	Calder	Latour Creek		CDA River
	Camp Easton	Lives in camper on property		Elizabeth Park
	Cedars	Lot next door		French Gulch
	Christmas Hill	Mullan Mountain Roads		Kellogg
	Centennial Trail	On Own Property		Kellogg Cemetery
	Clark Fork	Rails to Trails		Killarney Area
	Columbia Falls	Silver Mountain		Kingston
	Dobson Pass	Trail of the Coeur d'Alenes		Little Pine
	Fairgrounds	Wall Ridge		Medimont
	Farragut state park	Yard		Montgomery Gulch
	Flathead			Mullan
	Frost Peak			Nine Mile
	Glidden Lake			Nuchols Gulch
	Graham Creek			Osburn
	Hayden			Osburn Gulches
	Hells Canyon			Page
	Heyburn			Pinecreek
	Hood Park, WA			Pinehurst
	Initial Peak			Polaris
	Kennewick			Rainy Hill
	Lake Elsie			Rose Lake
	Leavenworth			SF CDA River
	Lewiston			Silverhorn
	Libby			Silverton
	Liberty Lake			Smelterville

0 = No Answer or Unable to Categorize	1 = Likely no Lead Exposure	2 = Likely no Lead Exposure (Assuming Areas were Remediated)	3 = Multiple Locations	4 = Likely Lead Exposure*
	Meadow Mountain			Sunnyslopes
	Mirror Lake			Swan Lake
	Moon Pass			Wallace
	Montana			Wardner
	Mountains			
	Moyie Springs			
	Murray			
	NF CDA River			
	Old River Road			
	Old Town			
	Out Of Area/State			
	Oregon			
	Pacific Coast			
	Pine Point			
	Priest Lake			
	Prichard			
	Red Ives			
	Reilly Creek			
	Shoshone Camp			
	Shoshone Creek			
	Spirit Lake			
	Spokane			
	St Joe			
	St Maries			
	Steamboat			
	Taft			
	Teepee Creek			
	Unit 1/Unit 4			
	Utah			
	Washington			
	Winchester			
	Yellowstone MT			

Note: If multiple locations were listed, "3" was assigned if one or more listed locations would have been assigned a "1" and one or more locations would have been assigned a "4."
* Assumed that recreational activities such as camping, biking, mudding, etc. occur in unremediated areas such as hillsides/floodplain.

Figure 72. Frequency and Location of Dirt biking/4 wheeling Among LHIP Participants - Sitewide

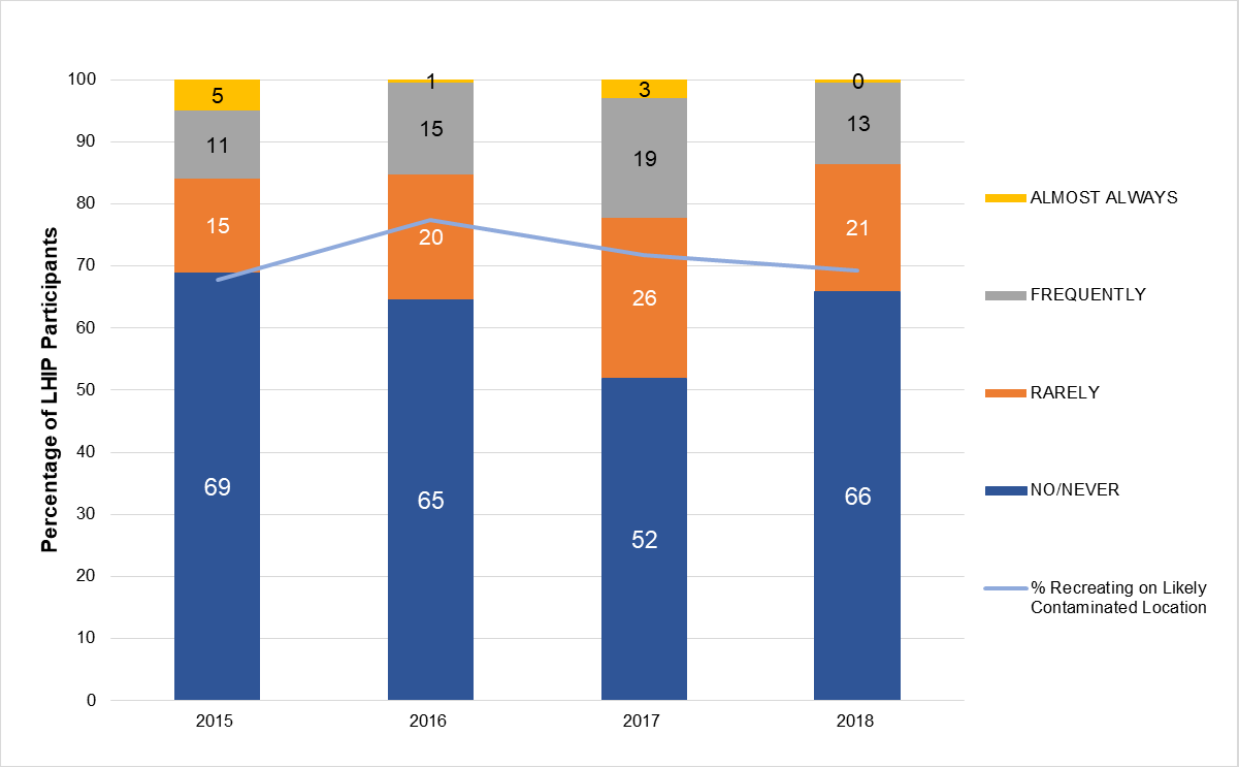

Figure 73. Frequency and Location of Biking Among LHIP Participants - Sitewide

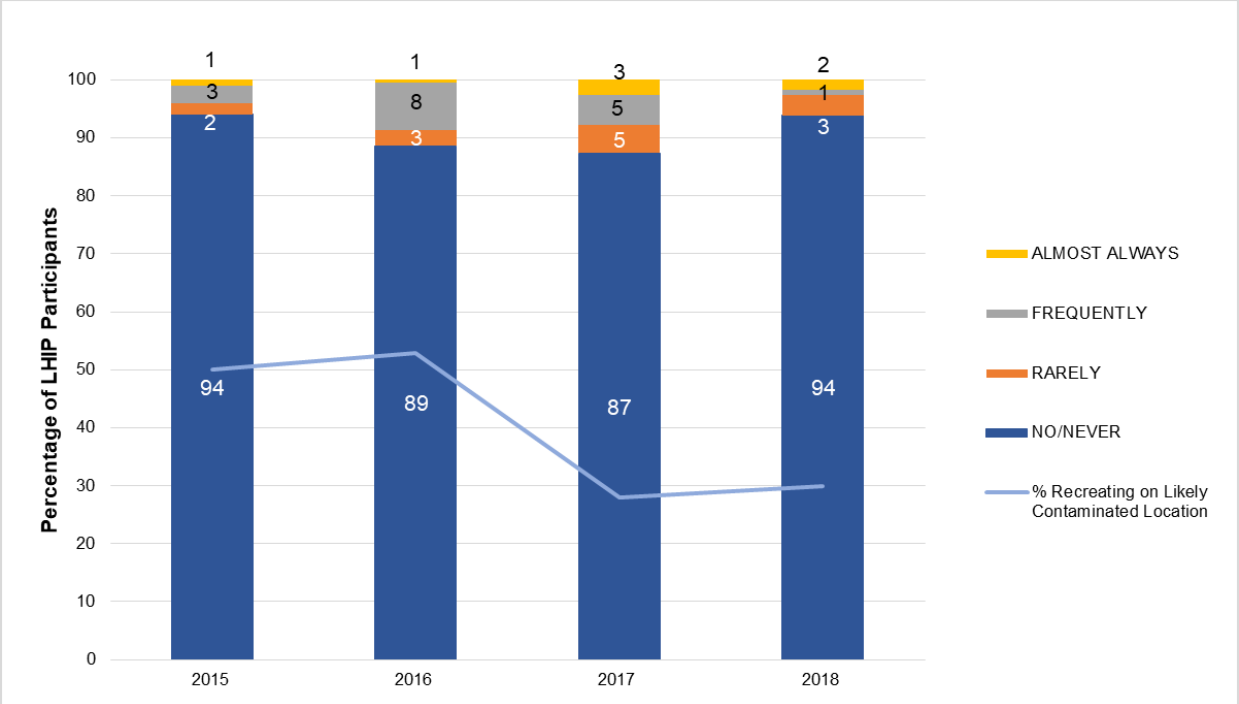

Figure 74. Frequency and Location of Mudding Among LHIP Participants - Sitewide

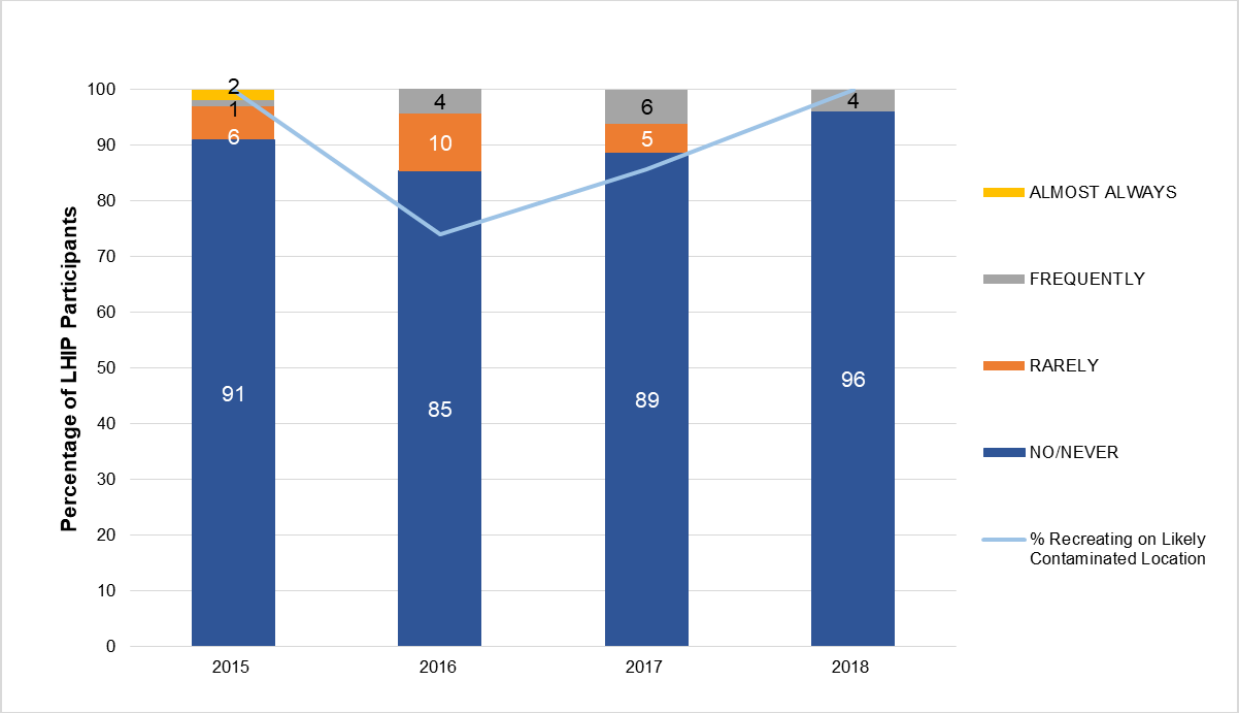

Figure 75. Frequency and Location of Camping Among LHIP Participants - Sitewide

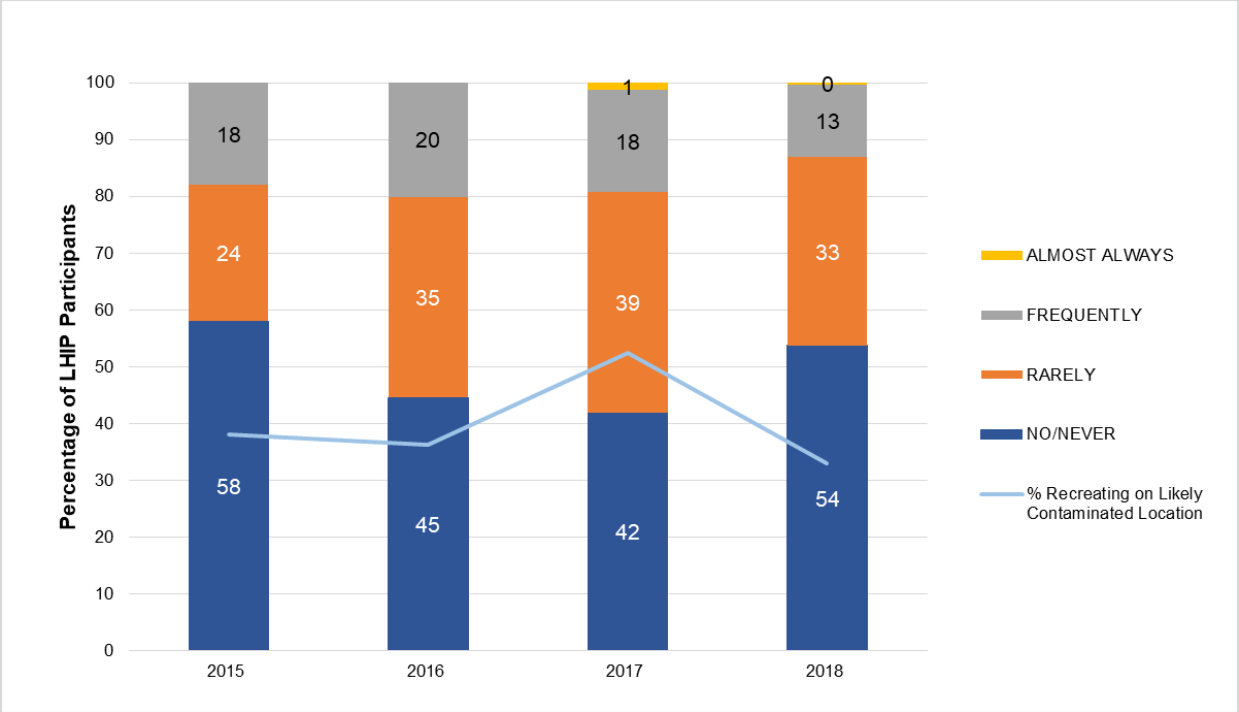

Figure 76. Frequency and Location of Boating Among LHIP Participants - Sitewide

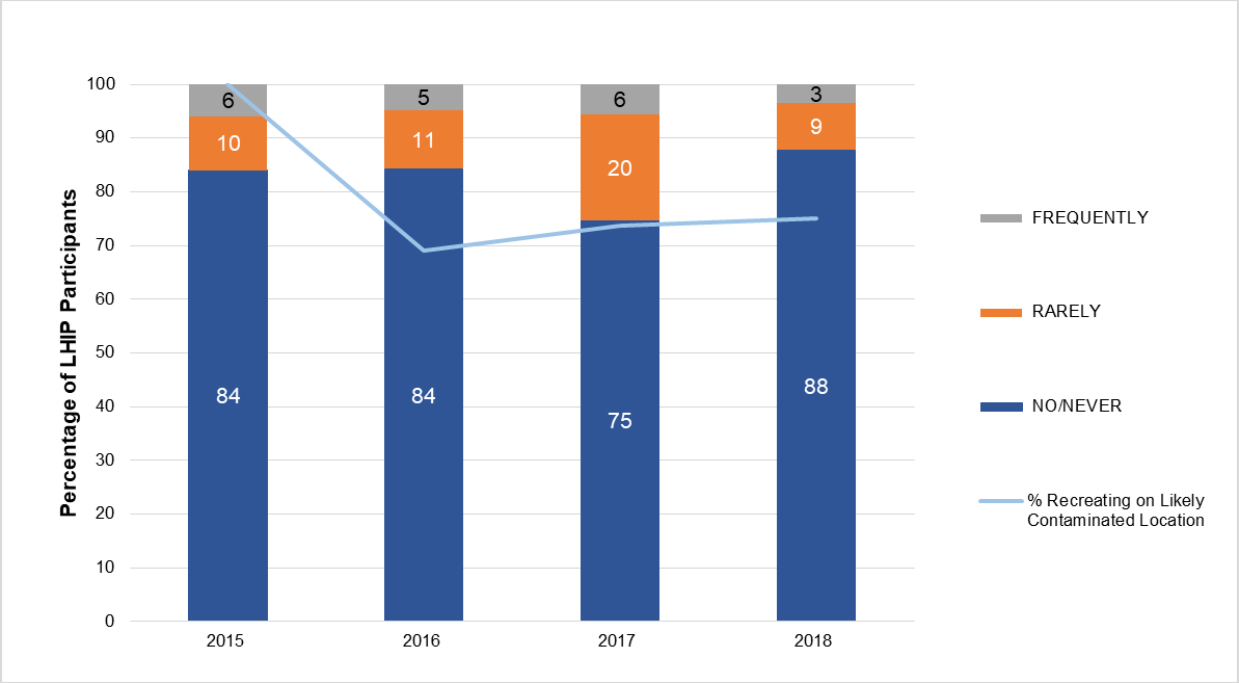

Figure 77. Frequency and Location of Swimming Among LHIP Participants - Sitewide

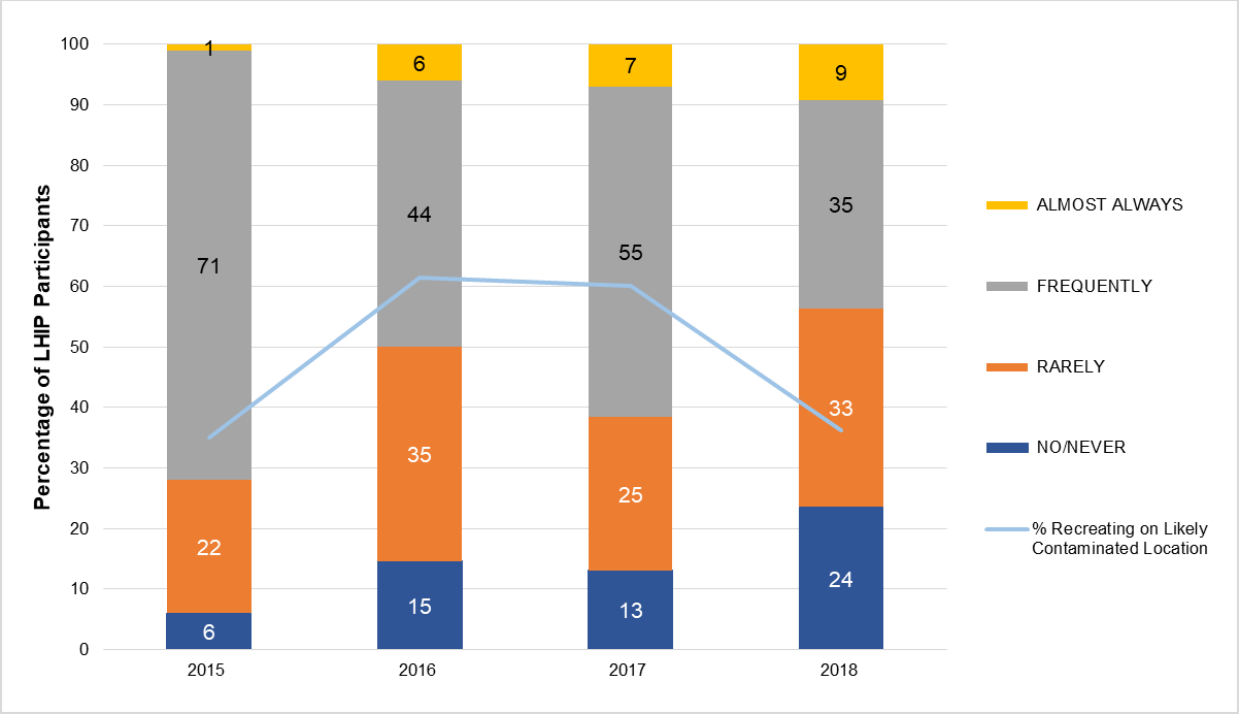

Figure 78. Frequency of and Location of Hunting Among LHIP Participants - Sitewide

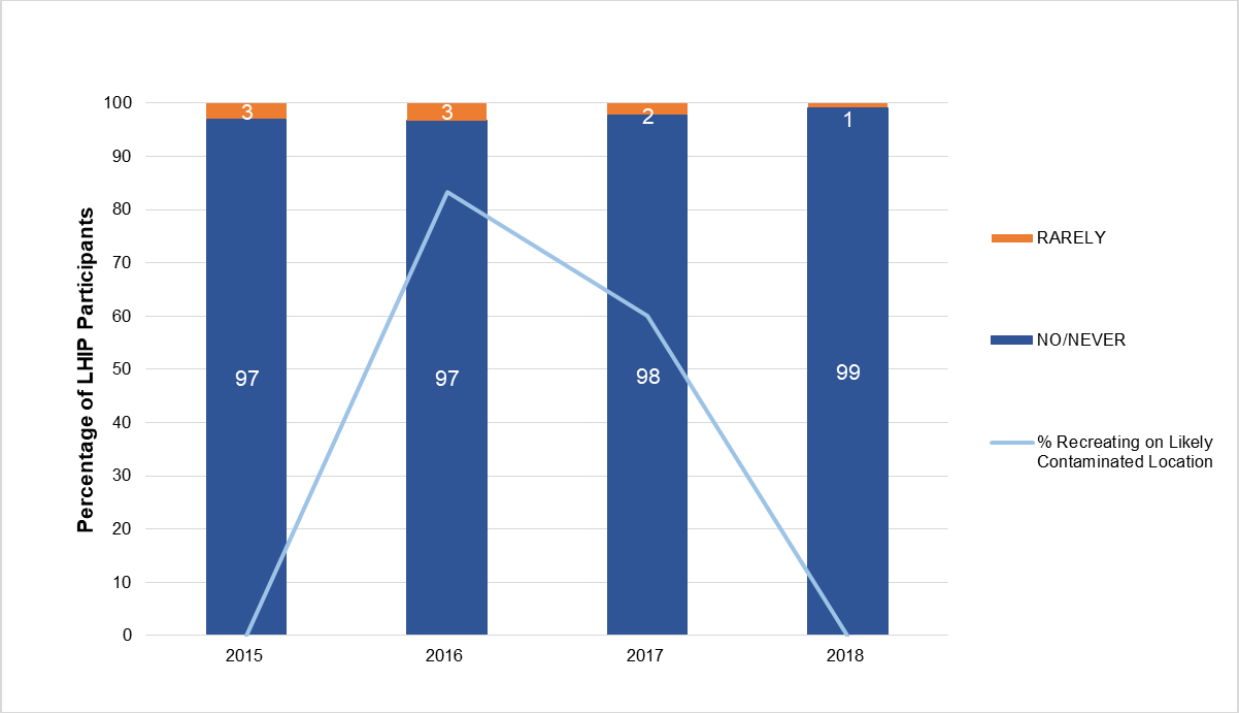

Figure 79. Frequency and Location of Fishing Among LHIP Participants - Sitewide