Davis COUNTY HEALTH DEPARTMENT

ENVIRONMENTAL HEALTH
SERVICES DIVISION

2019 ANNUAL REPORT

Healthy Choices. Healthy People. Healthy Communities.

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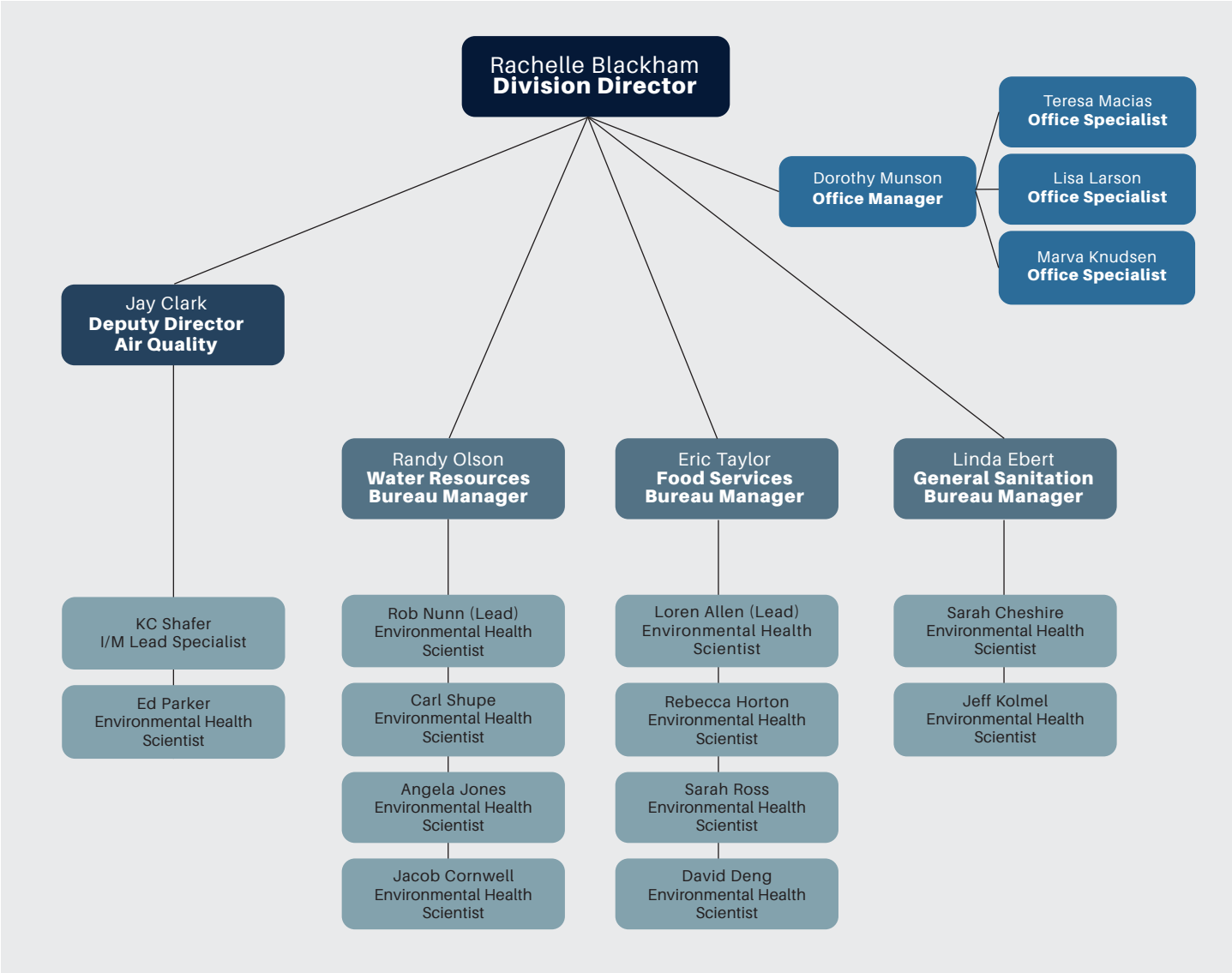
OVERVIEW

The mission of the Davis County Environmental Health Services Division is:

> Aid in the elimination of all environmental factors which lead to disease, lessen quality of life, and degrade the physical environment.

The Environmental Health Services Division supports its mission through four (4) bureau's: Air Quality, Food & Facilities, General Sanitation, and Water Quality. The environmental health profession is dynamic and continuously evolving. While many of the Division's programs have existed for many years, the program priorities and content continue to evolve. These changes and shifts of importance are brought about by outbreaks, changing economics or politics, and new program development. National, regional, state, county and city trends have also contributed to program focus. Currently the Environmental Health Services Division has about 50 programs; however, key programs include: food inspections, food trucks, temporary food establishments, schools, housing, body art, tanning, drinking water, fluoride, public pools, on-site wastewater, emissions testing, and environmental response.

DIVISION ORGANIZATION



DIVISION HIGHLIGHTS

VEHICLE REPAIR ASSISTANCE PROGRAM

After successfully being launched in 2018, the Davis County Vehicle Repair Assistance Program (DCVRAP) was continued through 2019 after the Davis County Health Department (DCHD) was awarded a grant through UCAIR. The DCHD matched the $20,000 grant which provided a total of $40,000 to repair vehicles that failed an emissions test. The DCVRAP began as a way to provide funding to low income residents of Davis County so that instead of applying for a certificate of waiver through the Inspection/ Maintenance program, they could be assisted in repairing their vehicle.

In 2018, the number of waivers that were issued to vehicles was significantly reduced due to the DCVRAP. This year, the program provided financial assistance towards the repair of 59 vehicles with a total cost of $59,356.44, with $47,166.55 being contributed by the program and $12,189.87 contributed by the vehicle owners. Due to these repairs a total of 501 lbs of emissions are estimated to have been reduced annually, with an estimated 2728 lbs of emissions being reduced over the lifetime of these vehicles. A high percentage of the vehicles that were repaired had failing catalytic converters.

2,728lbs

Emissions Reduced Over the Lifetime of DCVRAP Repaired Vehicles

Vehicles Approved for Repair in 2019

The catalytic converter removes 80-90% of the pollutants from the exhaust stream, which makes it the most important emissions control device on the vehicle. The DCVRAP will continue through 2020 with a $10,000 UCAIR grant that has been matched by the DCHD. In addition to this grant, a Targeted Airshed Grant has been awarded to the State of Utah by the United States Environmental Protection Agency. The Targeted Airshed Grant will provide $1,219,211 to the DCHD to operate a vehicle repair and replacement assistance program over the next five years.

INTERACTIVE STREAMS

The Division permits all public pools, spas, splash pads, and other interactive water features in Davis County. Prior to being permitted, Division staff approve construction plans and conduct multiple construction inspections, ensuring that completed pool, spa, and interactive water features are safe for public use. In 2019, the Division oversaw the construction of two (2) large interactive water features in Syracuse City and Bountiful City, unlike any others in the County at this time.

While the County currently has several splash pads, they are the first within the County containing a mixture of interactive streams, waterfalls, splash pools, and splash pads. These new features presented a new challenge and Division staff worked closely with Syracuse and Bountiful cities to learn about these new features to ensure that they would be safe for public use. The Syracuse City interactive water feature opened to the public in June of 2019 while the Bountiful City interactive water feature is expected to be completed sometime in 2020.

HARMFUL ALGAL BLOOM POSTINGS

The Davis County Health Department has been cooperating with recreational water monitoring and sampling with the Utah Division of Water Quality (DWQ) for the past 30 years. In the last few years, harmful algal blooms (HAB) have become more of a priority after several public health incidents had occurred at recreational water bodies across the state due to HABs. A HAB occurs when toxin producing species of cyanobacteria grow in large numbers in a water body.

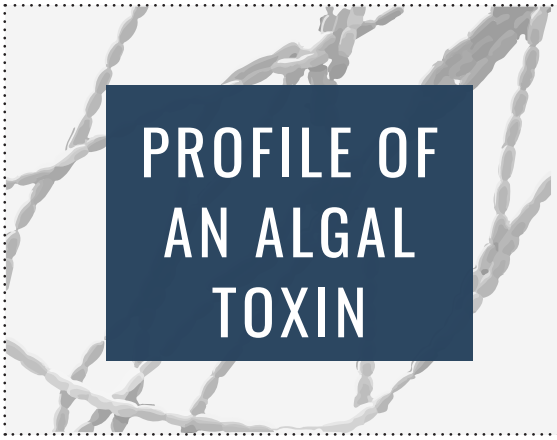
Depending on the species of cyanobacteria, toxins can be released into the water body when there are high cell counts, which poses a risk to the public and animals. On September 26, 2019, a complaint was reported to the Davis County Health Department of a potential HAB on Holmes Creek Reservoir in Layton. Personnel from DCHD were quickly dispatched to sample the water body on the same day. Laboratory results determined that there were cyanobacteria cell counts as high as 34,141 cells/ml and that anatoxin (0.14 µg/L) were also present.

On September 30, 2019, the DCHD in cooperation with DWQ and the Holmes Creek Reservoir Board of Directors, posted a public advisory for Holmes Creek Reservoir. On October 2, 2019, DCHD personnel collected investigative HAB samples at Hobbs Reservoir in Layton, Andy Adams Reservoir in Layton, and Mabey Pond in Clearfield, and continued sampling at Holmes Creek Reservoir, including an irrigation outflow. Laboratory results determined that Mabey Pond also had detectable levels of anatoxin (0.13 µg/L). A public health advisory was posted at Mabey Pond on October 4, 2019. Further samples were collected at Holmes Creek Reservoir and Mabey Pond on October 17, 2019 and October 25, 2019.

Mabey Pond was unposted after laboratory results showed a non-detect for anatoxin for both sample dates. Anatoxin was still detected at Holmes Creek Reservoir on both sample dates (0.15 µg/L and 0.11 µg/L), however, it was decided in November to remove the advisory postings due to the ending of the monitoring season.

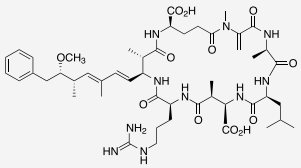
FLUORIDE

Fluoride was a hot topic this year after an unfortunate incident resulted in an overfeed of fluoride into the Sandy City Public Water System. The Division reviewed the findings from this incident and worked with the public water systems in Davis County to hopefully prevent a similar incident from occurring in their systems. With so much attention on fluoride, the Division drafted an overview of fluoride which was used to educate

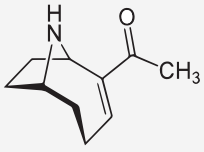


PROFILE OF AN ALGAL TOXIN

Microcystin-LR
Hepatoxin (affects liver)
Producers: Anabaena, Microcystis, Nostoc, Planktothrix



Anatoxin-A
Neurotoxin (affects nervous system)
Producers: Anabaena, Aphanizomenon, Planktothrix



commissioners, the Board of Health, and others, regarding the history of fluoride in Davis County. After reviewing the Sandy City incident and the latest research and recommendations regarding the fluoridation of public water systems the Davis County Board of Health - Drinking Water Fluoridation Regulation was due to be reviewed and revised.

This revision extended training requirements to all operators rather than just to the one operator in charge of the system, it more clearly defined steps that operators should take when they have identified an overfeed or underfeed of fluoride within their system, as well as clarified the fluoride level monitoring requirements. This revised regulation should be in effect this coming February.

FDA/AFDO PROGRAM STANDARDS

Again this year, the Division received another small grant to continue its participation in the FDA's Voluntary National Retail Food Regulatory Program (VNRFRP) Standards. This year the Division made effort to achieve compliance with Standard 3: Inspection Program Based on HACCP Principles. This standard helped emphasize the need to be conducting risk-based inspections that focus on identifying foodborne illness (FBI) risk factor violations and requiring them to be corrected on-site during the inspection.

Additionally, procedures were created to discuss long-term controls with food establishments struggling to manage particular foodborne illness risk factors as well as establishing protocol when handling a document or request related to HACCP plans and variances. The Division is now compliant with five (5) of the nine (9) VNRFRP Standards and has been awarded a grant to work on Standard 6: Compliance and Enforcement in the coming year.

Standard 1: Regulatory Foundation (2016);

Standard 2: Trained Regulatory Staff (2017);

Standard 3: Inspection Program Based on HACCP Principles (2019);

Standard 5: Foodborne Illness and Food Defense Preparedness & Response (2018); and

Standard 7: Industry & Community Relations (2017)

"This standard helped emphasize the need to be conducting risk-based inspections that focus on identifying foodborne illness (FBI) risk factor violations"

PILOTING PEER REVIEW

One of the hardest things to overcome with a workforce engaged in conducting food safety audits is ensuring consistency amongst staff. This is hardly a problem unique to food safety auditors, but it is something that the food industry recognizes and can be frustrated with at times. A few years ago, in an effort to reduce the amount of inconsistency amongst staff, the Division began standardizing each staff assigned to conduct food safety audits.

This practice has improved the consistency of our workforce, but this year the Division took this a step further in requesting staff to participate in peer review on a bi-monthly basis. This has allowed staff to inspect with various colleagues conducting food safety audits and also provides a forum for them to discuss their differences, in hopes of getting them all more similar over time. This practice was patterned after a peer review process implemented by the Seattle and King County Public Health Department.

Their Department partnered with Stanford University on a study and found that although peer review didn't eliminate inconsistencies amongst staff, it did have a significant impact on improving the consistency of their food safety auditors. The Division is confident that this research-based practice will be a benefit to the county in providing a consistent approach to all food establishment inspections and will be continuing to dedicate resources to this practice in the coming year.

"AIR POLLUTION WAS IDENTIFIED AS THE LEADING ENVIRONMENTAL HEALTH CONCERN IN DAVIS COUNTY"

-2012 Key Informant Survey

EFFECTS OF AIR POLLUTION

The World Health Organization estimates approximately 7 million deaths are due to exposure from air pollution

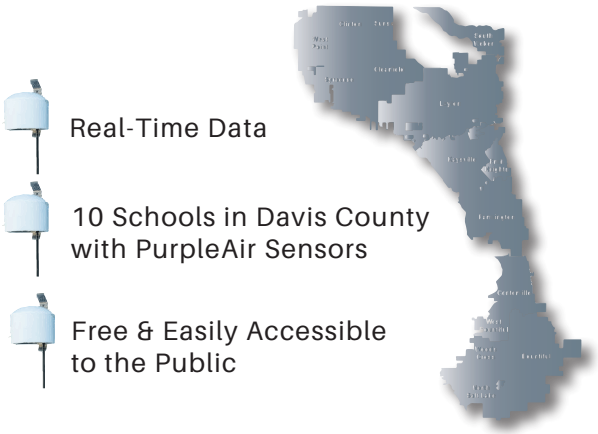
HEART DISEASE

LUNG CANCER & RESPIRATORY DISEASE

HEART ATTACK

INFORMING DAVIS COUNTY

Through PurpleAir Monitoring Sensors



Real-Time Data

10 Schools in Davis County with PurpleAir Sensors

Free & Easily Accessible to the Public

PURPLE AIR MONITORS

Air quality has been recognized as a major concern for Davis County residents. Of particular concern are aerosolized, microscopic solid and liquid particles classified as particulate matter (PM). When inhaled, these particles are harmful to the lungs and can even enter the bloodstream, contributing to a myriad of adverse health effects.

In 2019, the Division recognized a need to provide Davis County citizens with real-time, localized PM data, in order for people to be able to prevent their exposure to elevated levels of this harmful pollutant. Throughout 2019, the Division, in partnership with the Davis School District, installed ten (10) PurpleAir Sensors at Davis County schools that report real-time PM data to an online map.

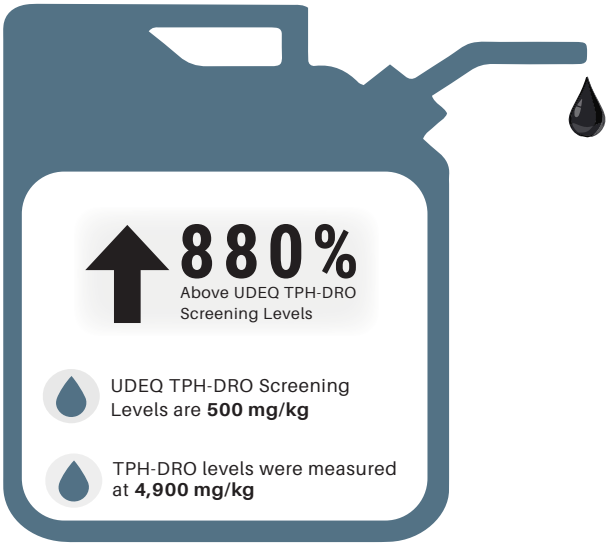
The map is free and easily accessible to the public at https://www.purpleair.com/map. PM data is color-coded on the PurpleAir map to give an easily understood visual representation of current air quality conditions. Sensors that are shown as green represent satisfactory PM levels, while sensors that show yellow, orange, and red represent increasing levels of severity. The Division will continue to install these sensors so that all residents will be able to easily check air quality conditions within Davis County.

IN THE NEWS

CLEARFIELD BASEBALL FIELD

On March 25, 2019, a complainant contacted the Division to report that gasoline was being used as a drying agent for the baseball field at Clearfield High School. It was reported that on March 23rd they had observed strong odors of gasoline at a baseball game. They were later informed that "gasoline" was being dumped on the field to dry the soil after recent rain storms.

After contacting the Davis School District to verify the complaint, Division staff were able to meet with a school district official and a representative from Terracon at the baseball field on March 26th. At this time, strong odors of fuel were observed and it was determined that personnel were using a gasoline and diesel mixture on the field. Division staff used a Drager X-AM 7000 to monitor the area for VOC's, but nothing was detected.



It was decided at this time that Terracon would develop a sample plan to assess the contaminated soil. The school district received results for the initial round of sampling on March 27th. Total Petroleum Hydrocarbon – Diesel Range Organic (TPH-DRO) levels were found to be at 4,900 mg/kg, well above the Utah Department of Environmental Quality (UDEQ) screening level of 500 mg/kg.

Remediation actions were organized by the school district, and were followed by a second round of sampling on April 1st. Results from the second round of sampling indicated that the TPH-DRO levels were below the UDEQ screening level. After Terracon provided a final report on April 10th, it was determined that no further actions were required.

FARMINGTON CREEK OIL

In April 2019, the Division's environmental response team responded to a complaint of an oil spill in Farmington Creek on Davis County property. The Division partnered with the Farmington City Fire Department, Farmington City Storm Water, Davis County Public Works, and Holly Energy to investigate the spill and contain the release.

The Division determined that an unknown quantity of used oil was dumped into the creek by an unknown party. Following the initial investigation, the Division worked with Davis County Public Works to clean up the spill and properly dispose of the contamination.

LAGOON CHLORINE RELEASE

In August 2019, the Division's environmental response team responded to a report of chlorine in Farmington Creek. Using colorimetric chlorine residual test kits, the Division determined that there was a chlorine residual between 5-10 ppm free chlorine in Farmington Creek. It was determined that the source of the chlorine was Lagoon Amusement Park's drinking water treatment facility.

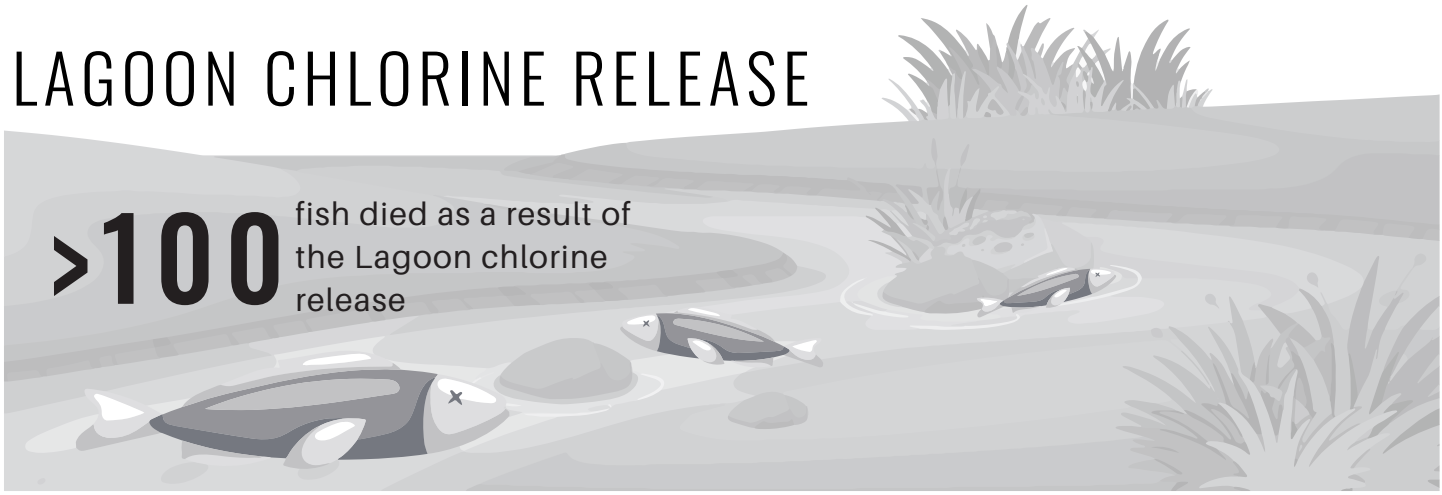
Equipment failure in the facility led to the accidental release of sodium hypochlorite into a storm drain, that eventually drained into Farmington Creek. The Division worked with Lagoon Amusement Park to limit the immediate impacts of the release as well as to prevent this type of release from occurring again. On the day after the release, the Division found a number of dead fish in Farmington Creek.

The Division worked with the Utah Division of Wildlife Resources, locating and counting over 100 dead fish that likely died as a result of the chlorine release. The Division continued to monitor chlorine residual levels in Farmington Creek for several days until the chlorine was no longer detectable in the creek.

VAPOR INTRUSION INCIDENT

In February 2019, the Division responded to a complaint related to strong chemical odors inside a Layton residence. During the course of the investigation, several residences in the neighborhood were found to be affected by vapor intrusion related to a release of petroleum products from a leaking underground storage tank site located upgradient from the residential neighborhood. During the investigation, contaminated water from the storm drain system was found discharging into Kay's Creek over a mile away from the site of the release.

The Division's environmental response team provided technical assistance to the Layton City Fire Department and partnered with the Utah Department of Environmental Quality (DEQ) and the United States Army National Guard Civil Response Team to investigate the extent of the areas affected by the release and the associated vapor intrusion. As a result of the initial investigation, the DEQ installed vapor mitigation systems in several residences and is currently overseeing the remediation and continued monitoring of the release.



PERFORMANCE MANAGEMENT

EMERGENCY RESPONSE EQUIPMENT COMPETENCY QUALITY IMPROVEMENT PROJECT

The Environmental Response Team (ERT) Members Will Increase their Proficiency and Confidence when using ER Equipment

The Division's Environmental Response Team is a member of the Davis County Haz-Mat Task Force, filling the role of the science team. As such, ERT members often work with local fire departments on a variety of environmental response calls ranging from petroleum spills to chemical laboratories. Each call is unique and may require the use of equipment to determine the safety of the environment being entered including appropriate personal protective equipment (PPE) that should be utilized by anyone entering a scene.

During the last two (2) years, the Division lost two (2) experienced team members and gained four (4) new members. This presented a challenge for the Division as new ERT members lacked the experience, knowledge, and confidence to select and use equipment when responding to an emergency response call.

The need for improvement was validated during a training exercise held February 20, 2018, in conjunction with the South Davis Metro Fire, Davis County Sheriff's Office, Utah Public Health Laboratory and the Civil Support Team. The exercise required the ERT members to select and use equipment and proper PPE. Areas for improvement were identified and have been the focus of training for this project.

To gather preliminary data for the QI project, a pre-test was administered to each ERT member. Each member was surveyed on the18 pieces of ER equipment and asked to:

- Assess their confidence level on a scale of 1-10;
- Identify the function for each piece of equipment; and
- Determined each piece of equipment be used for.

The results of the pre-test had an overall confidence level of 65% for the ERT. The goal of the project was to increase the overall confidence level to 75%.

Each month an ERT member was assigned at least one (1) piece of equipment which they had to learn and then provide training to the other ERT members. Each training included hands on training, a powerpoint presentation, discussion, and a review of equipment that was previously trained on. Each powerpoint presentation has been stored where it can be easily accessed and reviewed by ERT members as needed. In addition, basic operating instructions for equipment were updated and placed with the equipment.

After a year of training, a post-test was administered to each ERT member. The post-test was identical to the pre-test. A comparison between the pre-test and post-test was made to determine the success of the project. ERT members showed an increase in proficiency, knowledge, and confidence with each piece of ER equipment with an overall proficiency and confidence level of 81%. ER equipment training will be ongoing to ensure that each ERT member retains knowledge, proficiency, and confidence with the ER equipment.

PROJECT OUTCOMES

PROFICIENCY IMPROVEMENTS

+108%

Post-survey knowledge of Ludum **Function** improved by 108%. N=7

+72%

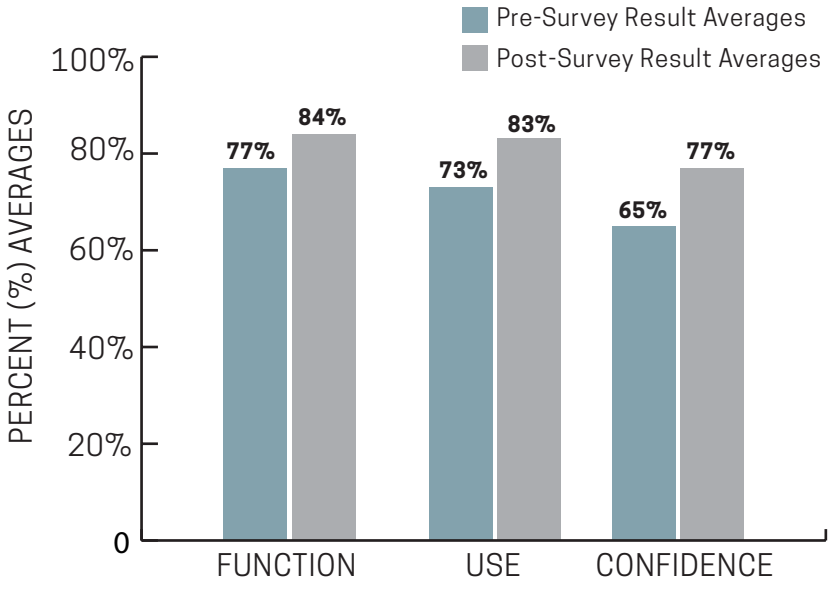
Post-survey **Confidence** in using the MultiRae Lite increased by 72%. N=7

+60%

Post-survey knowledge of 800 MHZ Radio **Use** increased by 60%. N=7

Percentages were calculated by comparing pre-survey results to post-survey results to determine the percent increase in member knowledge of function and use, and their personal rating of confidence for all pieces of equipment. The greatest percent increases for each category were chosen.

COMPARISON OF PRE & POST SURVEY RESULTS



CORRECTING FOODBORNE ILLNESS RISK FACTOR VIOLATIONS - QUALITY IMPROVEMENT PROJECT

Increasing the Number of Foodborne Illness Violations that are Corrected On-Site (COS) During an Inspection.

Environmental Health Services Division personnel consistently look to be more efficient and/or effective in their programs. Over the last few years, the Division has been working to increase consistency and effectiveness when conducting inspections of food establishments located in the county. As part of this process at least 20% of all inspection reports are reviewed each month to ensure that staff are following procedures and are consistent with one another. During these reviews, it was discovered that many of the foodborne illness risk factor violations, or the violations that tend to be associated with a higher risk of a foodborne illness outbreak, were not being marked as corrected on site (COS) during the inspection. In one of the appendices of the FDA food code, it states, "It is essential to consumer protection and to regulatory credibility for on-site correction to be obtained for any out-of-control foodborne illness risk factors before completing the inspection and leaving the food establishment. Obtaining on-site correction conveys the seriousness of the violation to management. Failure to require on-site corrective action when an out-of-control risk factor has been identified implies that the risk factor has little importance to food safety."

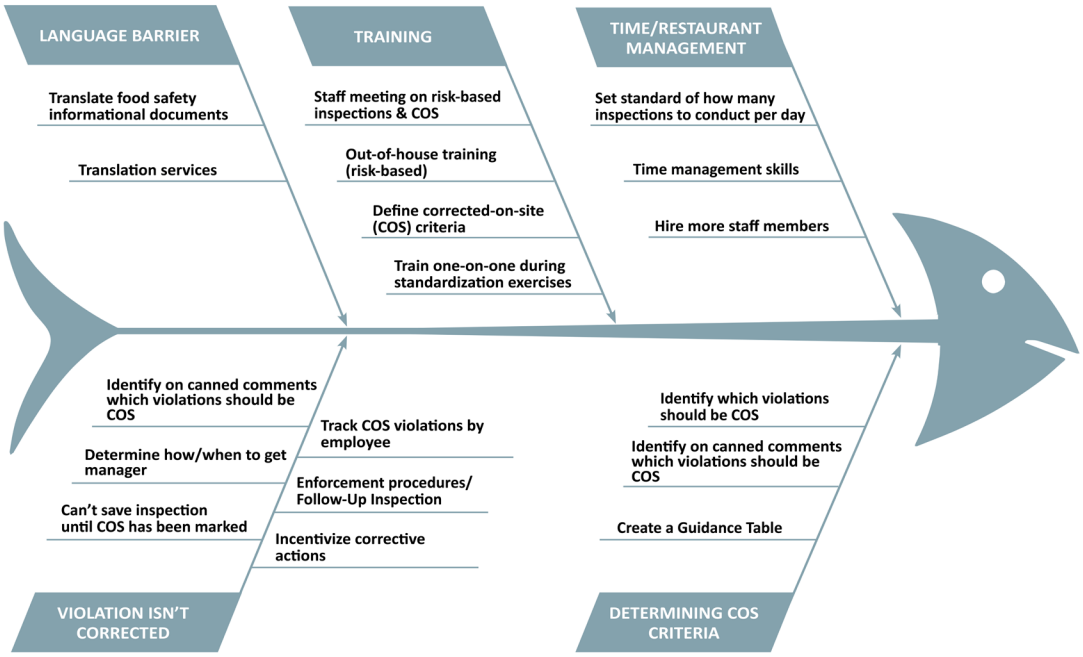
The Division assembled a team to work at improving the number of foodborne illness risk factor violations that are COS during an inspection. The number of foodborne illness violations that were marked on each inspection and whether they were COS was not tracked prior to this project; however, as the team evaluated the inspection reports from January to August of this year, they found that only 26% of foodborne illness risk factor violations were being marked as COS. The team then turned to a variety of quality improvement tools to help discover barriers and identify solutions to this problem. First, the team participated in a brainstorming activity and created an affinity diagram related to all the possible reasons that may be contributing to the violations not being marked as COS. After the barriers had been identified, the team utilized a Solutions and Effect Diagram to brainstorm ideas of how to overcome each of the barriers. This exercise provided many ideas of things that could be done, some more feasible than others (See Solutions & Effect Diagram). Finally, the team took all of the possible solutions and put them into an Impact Matrix to help determine which activities would be easier to implement while creating the biggest impact. Through this process, the team determined to:

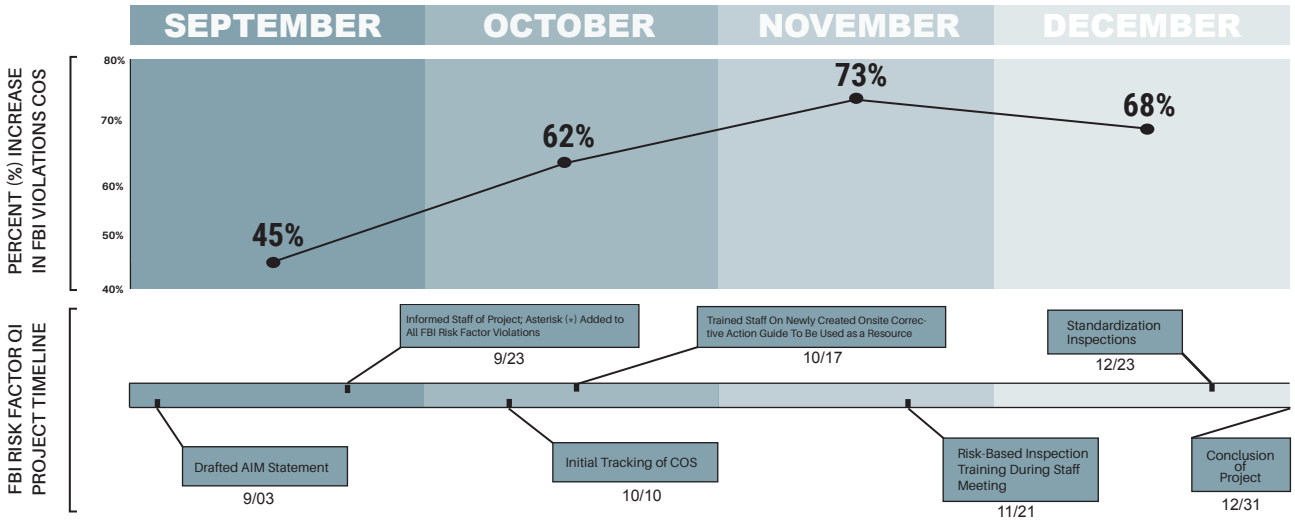
- Define COS criteria for each type of foodborne illness risk factor violation;
- Create a Guidance Table for staff to reference for the COS criteria;
- Identify foodborne illness risk factor violations that should be COS in the inspection software to alert staff attention;
- Track COS data related to foodborne illness risk factor violations for the Division and by the employee;
- Provide a staff meeting training on how to conduct a risk-based inspection; and
- Train staff on a one-on-one basis during Standardization exercises.

Over the span of three months, the team worked to implement each of these activities. In response, the Division improved from the baseline of only 26% of the foodborne illness risk factor violations that were marked as COS to 68% at the conclusion of the project. The Division is also determined to retain this progress in the future and has improved procedures and resources to assist staff in doing so.

PROJECT OUTCOMES

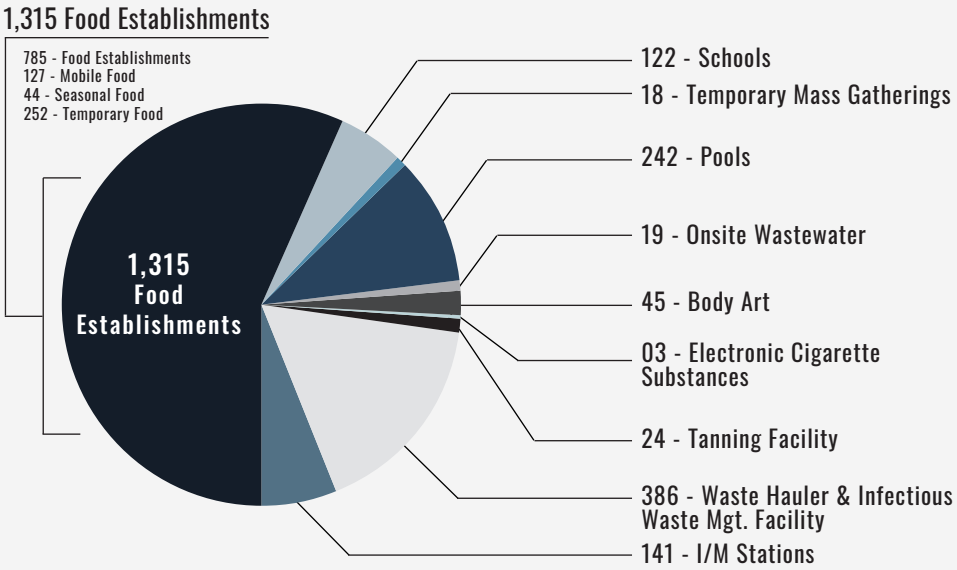
SOLUTIONS & EFFECT DIAGRAM



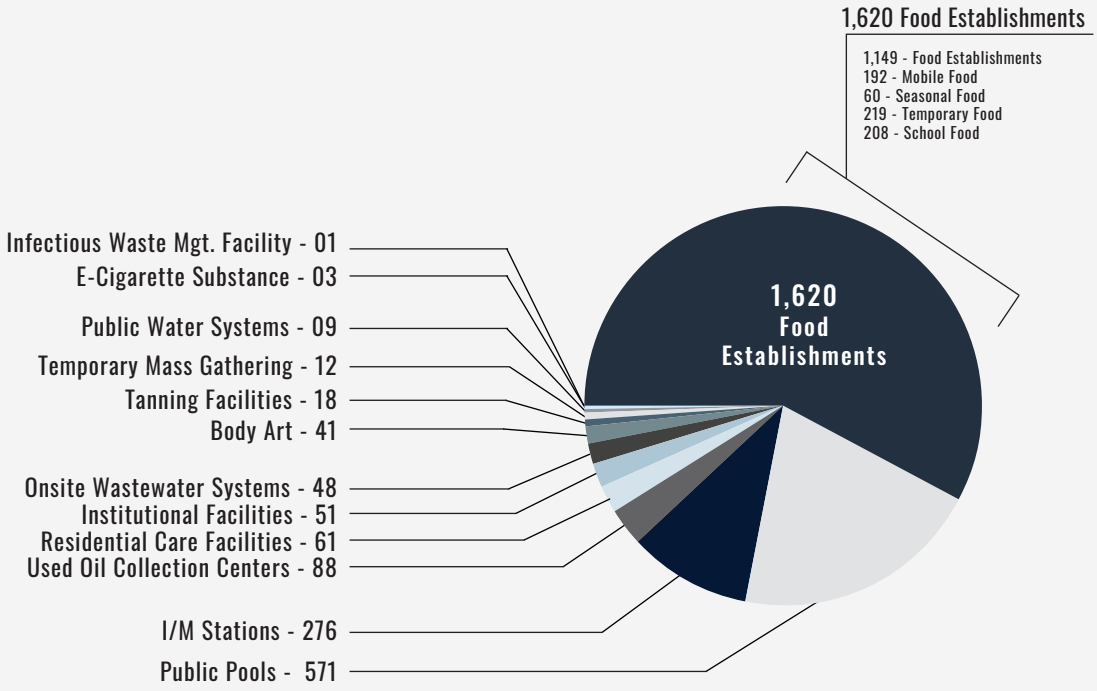


by the NUMBERS

2019 PERMITTED ENTITIES



2019 INSPECTIONS/ AUDITS

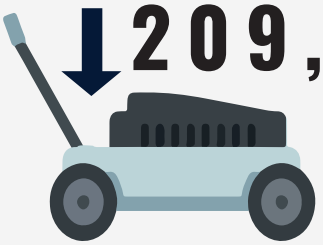


MANDATORY ACTION DAYS IN DAVIS COUNTY

26

Mandatory action days restrict solid burning, and are determined by current pollution levels.

MOW ELECTRIC EXCHANGE



209,683 lbs

Total emissions reduced from 2,228 lawn mowers & trimmers exchanged at all three (3) Mow Electric locations throughout the state.

BODY ART

+5

New body art facilities in Davis County

FBI COMPLAINTS

+46%

Increase in FBI complaints surveillance from 2018 to 2019. **N=265**

USED OIL COLLECTION

24,440 gal

Used oil collected from residents of Davis County

TOP 3 RISK FACTOR VIOLATIONS

29%

Of total violations cited **N=1,214**

23%

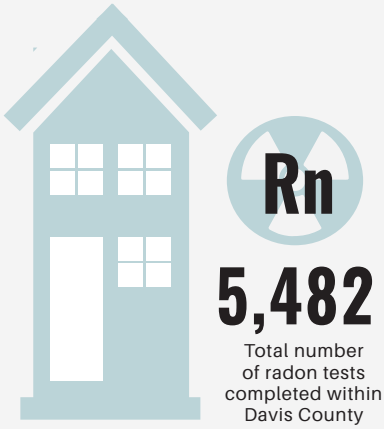
Of total violations cited **N=1,231**

21%

Of total violations cited **N=1,189**

These are the top three (3) violations noted during a food establishment inspection for 2019.

RADON IN DAVIS COUNTY



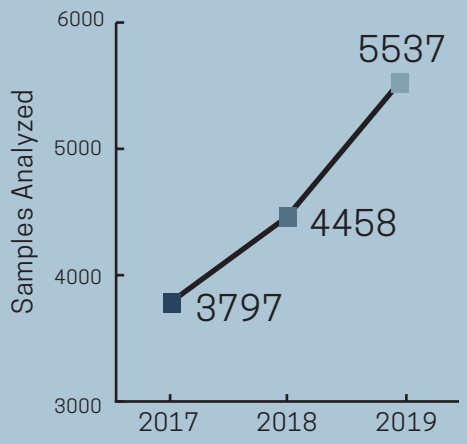
5,482

Total number of radon tests completed within Davis County

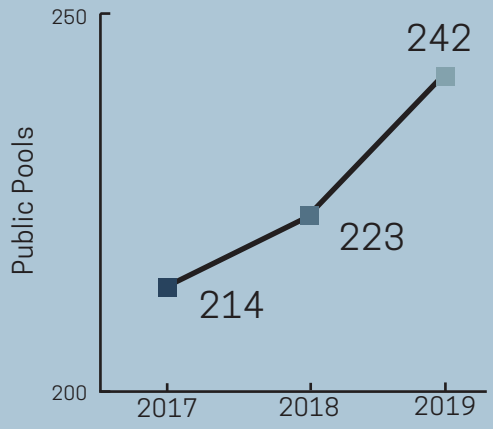
PROGRAM TRENDS

WATER QUALITY

DRINKING WATER SAMPLES ANALYZED

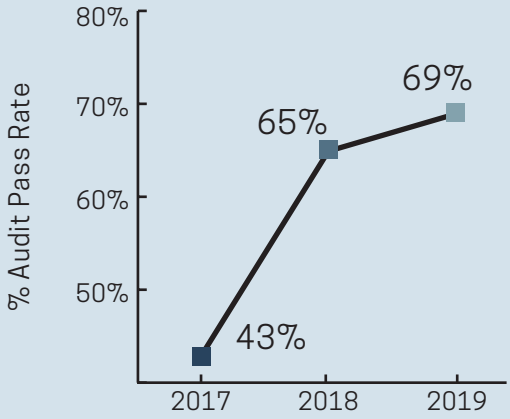


PERMITTED POOLS

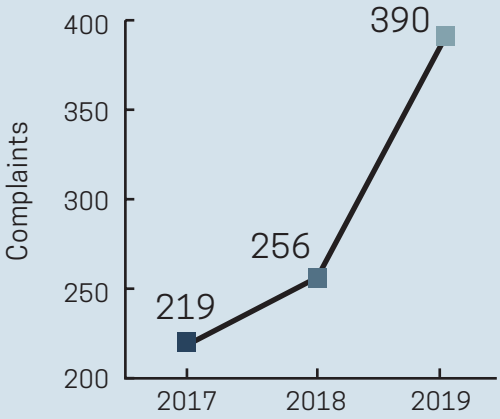


AIR QUALITY

COVERT AUDIT PASS RATE

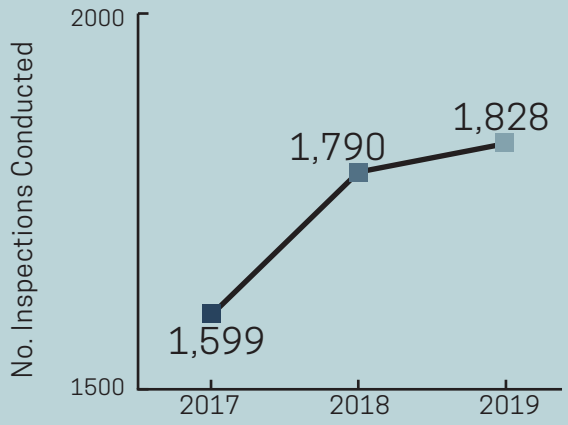


SMOKING VEHICLES COMPLAINTS

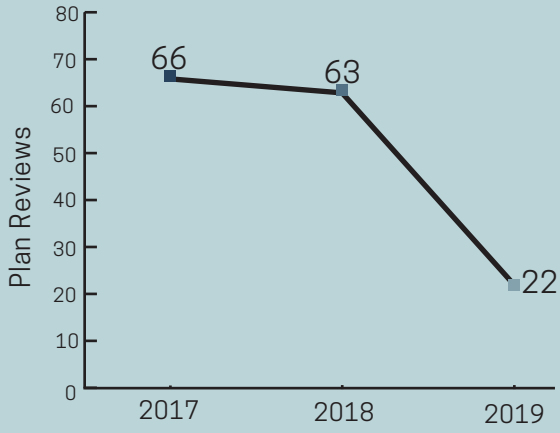


FOOD & FACILITIES

FOOD ESTABLISHMENT INSPECTIONS CONDUCTED

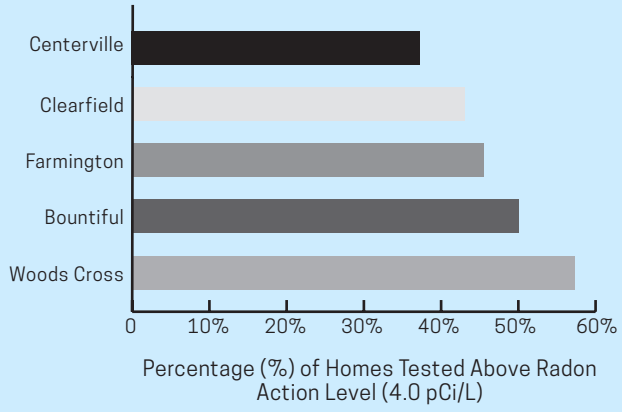


NEW FOOD ESTABLISHMENT PLAN REVIEWS

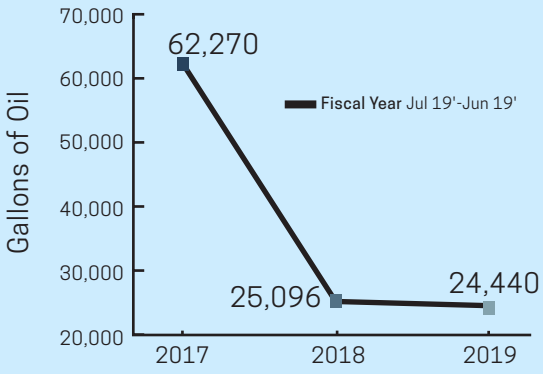


GENERAL SANITATION

CITIES WITH THE HIGHEST RADON HAZARD POTENTIAL (2019)



USED OIL COLLECTED IN DAVIS COUNTY



PARTNERSHIP INVOLVEMENT

MOW ELECTRIC

In cooperation with the Utah Division of Air Quality (UDAQ), Weber State University (WSU), the Weber-Morgan Health Department (WMHD), UCAIR, Bloom Recyclers, and Lowes, the Division participated in and successfully completed the State of Utah Lawn Mower Exchange Program on April 27, 2019 at the Weber State University Davis Campus distribution location.

The program distributed and exchanged 417 electric lawnmowers and 377 electric trimmers from this location, which replaced the same number of gasoline powered equipment at a total cost of $149,690. A grant from UCAIR provided $25,000 for the program which was combined with $5,000 each from the DCHD, WMHD, and WSU.

The additional funding was provided through the UDAQ and by fees collected from the participants. There was a total of 1,259 mowers and 969 trimmers that were exchanged through the program's three (3) distribution locations, which is calculated to reduce the following emissions annually (Table 1).

HILL AIR FORCE BASE

In the Fall of 2019, the Division worked with the United States Air Force representatives to promote the Hill Air Force Base Indoor Air Monitoring Program which was designed to investigate and mitigate vapor intrusion issues related to plumes of contaminated groundwater originating from the Hill Air Force Base Superfund Site. The Division provided educational materials to residents, located within the geographic boundaries of the groundwater contaminant plumes, encouraging them to allow Air Force staff to test their homes for the presence of contaminant vapors.

This educational effort was accomplished through the Division's radon program and through a two (2) day community outreach event in which the Division partnered with Hill Air Force Base, United States Environmental Protection Agency, Utah Department of Environmental Quality, several private partners, and the Layton City Fire Department to go door-to-door in the areas affected by the groundwater contaminant plumes to sign residents up for testing.

CO EXHAUST	NOX EXHAUST	VOC TOTAL	PM10 EXHAUST	PM2.5 EXHAUST	CO2 EXHAUST
29,146 lbs	**384 lbs**	**4,177 lbs**	**309 lbs**	**284 lbs**	**175,383 lbs**

TABLE 1. Calculated total annual emissions reduced in lbs based on 894 mower & trimmers exchanged.

KAYSVILLE WATER SYSTEM

The Division works closely with the 28 public drinking water systems in Davis County, as well as the Utah Division of Drinking Water (DDW), to ensure that Davis County residents are provided with clean, safe drinking water. Frequent water sampling is conducted at every drinking water system, both by the water system operators and by the Division, to monitor water quality.

Occasionally, water samples test positive for coliform bacteria, indicating an issue within a water system that needs to be addressed. In July of 2019, four (4) of the routine samples that Kaysville City operators submitted to the Division's lab for analysis tested positive for total coliforms. Repeat samples were taken and analyzed. These samples also tested positive for total coliforms.

When repeat samples test positive for total coliform, drinking water systems are required by rule to complete a Level 1 Assessment of their drinking water system which entails a survey of the entire system in order to identify and correct any issues. The Division, in coordination with DDW, advised Kaysville City on how to proceed with their Level 1 Assessment. Throughout August, the Division provided additional assistance by collecting and analyzing 11 investigative samples in the area of concern.

Additional coliform positive samples in September required the operators to complete a more thorough Level 2 Assessment. The Division met with Kaysville City and the DDW in October to complete the Level 2 Assessment. Through this process, a plan to address the underlying system issues was agreed upon by all parties. The Division will continue to work with the system operators to ensure that the plan is effectively carried out to prevent further issues.

ONSITE WASTEWATER PLANNING

In response to the increasing pressure for development in the northeast corner of Davis County (including Hooper, West Point, Clinton, and Syracuse cities), the Division has been working extensively with several agencies to help plan for future growth. Along with the Davis County Community and Economic Development Department, North Davis Sewer District, West Point City, and the Davis County Commissioners, potential issues and solutions for the area have been discussed. Historically, this land has lacked proper infrastructure and suitable conditions for traditional septic systems. As part of this planning process, the Division is working to conduct a density study that will determine the impact of current and future septic systems on the overall water quality of the area.

TEACHING NUTRITIONAL SERVICES TO DSD

A teacher from North Davis Junior High School contacted the Division in 2018 to discuss the idea of having a Health Department representative conduct food handler training for her students. After working out the logistics of how this program could work, the Division began teaching multiple classes twice a year.

This past September, the Division provided two (2) food handler training courses to more than 50 students at North Davis Junior High School. All students in these two classes were required to attend and take the exam as part of their course curriculum. Those students who elected to pay the $25 fee and passed the exam were issued their food handler permits.

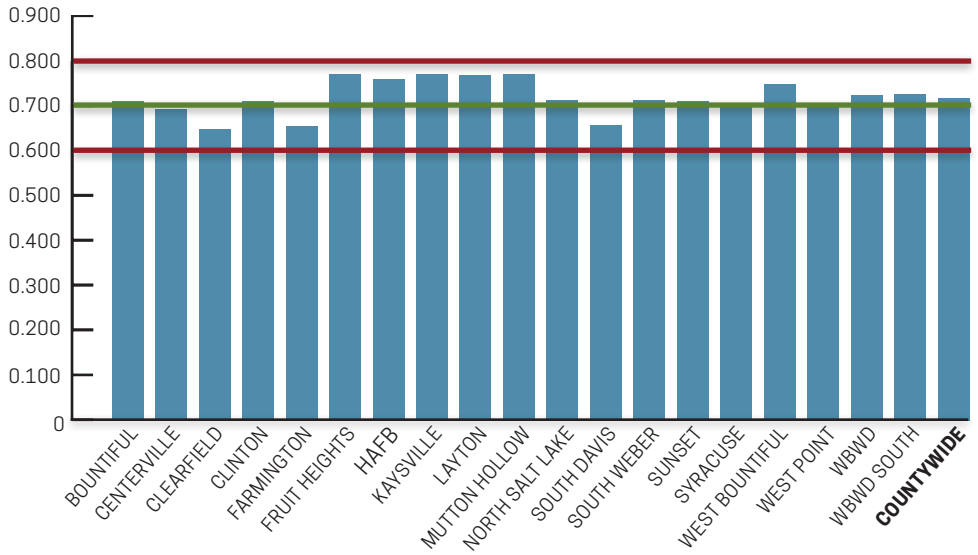
This collaborative effort between the Division and the Davis School District provides an opportunity for students to get a head start in the job market.

FLUORIDE ANNUAL REPORT

The Division regulates the application of fluoride into public drinking water systems within Davis County. This includes monitoring fluoride levels in public water supplies through laboratory analysis, ensuring field equipment used by public water systems is accurate, reviewing monthly reports, and requiring water operators to receive fluoride-specific training. This year the Division also partnered with Salt Lake County to provide training for 128 water operators. This training includes regulatory updates, operator safety, and the operation and maintenance of fluoride equipment. The Davis County Board of Health - Drinking Water Fluoridation Regulation requires that public water systems maintain fluoride levels between 0.6 and 0.8 ppm throughout their system while targeting an optimal level of 0.7 ppm. The county wide fluoride average for this year was 0.717 ppm.

The annual average for each of the county's water systems are displayed in the chart below. This year all water systems maintained compliance with the annual control ranges. In addition to the Davis County Board of Health - Drinking Water Fluoridation Regulation, the Division also works with water systems to ensure compliance with the Safe Drinking Water Disclosure Act which requires the fluoride compounds added to water maintain NSF/ANSI Standard 60 certification. This year a documentation review was completed on 10 water systems to determine compliance with this standard. Additionally, the Division checked all fluoride components from three (3) water systems during their sanitary survey. A sanitary survey is conducted on each water system every three (3) years.

2019 DAVIS COUNTY ANNUAL FLUORIDE AVERAGES



YEAR END DATA

PERMITS	TOTAL	PERMITS	TOTAL
FOOD ESTABLISHMENTS:	**785**	HIGH:	12
RISK I:	207	**CHARTER/PRIVATE SCHOOLS:**	**31**
RISK II:	203	CHARTER:	26
RISK III:	254	PRIVATE:	5
RISK IV:	88	**TEMPORARY MASS GATHERINGS:**	**18**
RISK V:	6	**PUBLIC POOLS:**	**242**
PENDING:	27	YEAR ROUND POOLS:	92
MOBILE FOOD ESTABLISHMENTS:	**127**	SEASONAL POOLS:	136
PRIMARY FOOD TRUCKS - RISK 1:	19	OTHER:	4
PRIMARY FOOD TRUCKS - RISK 2:	33	PENDING:	10
SECONDARY FOOD TRUCKS:	65	**ON-SITE WASTEWATER SYSTEMS:**	**19**
LIMITED-USE FOOD EST. - RISK 1:	3	ALTERNATIVE OPERATING PERMITS:	7
LIMITED-USE FOOD EST. - RISK 2:	7	CONVENTIONAL OPERATING PERMITS:	5
SEASONAL FOOD ESTABLISHMENT:	**44**	CONSTRUCTION PERMITS:	7
RISK I:	18	**BODY ART:**	**45**
RISK II:	18	**ELECTRONIC CIGARETTE SUBSTANCE:**	**3**
FLAVORED ICE:	8	**TANNING FACILITY:**	**24**
TEMPORARY FOOD ESTABLISHMENTS:	**252**	**WASTE HAULERS:**	**385**
ANNUAL:	42	WASTE VEHICLE:	371
SINGLE EVENT - RISK 1:	106	INFECTIOUS WASTE COL. VEHICLE:	11
SINGLE EVENT - RISK 2:	104	WASTE TIRE TRANSPORTER:	3
PERMITS OBTAINED ON-SITE:	32	**INFECTIOUS WASTE MGT. FACILITY:**	**1**
SCHOOL FOOD ESTABLISHMENTS:	**107**	**I/M STATIONS:**	**141**
PUBLIC SCHOOLS:	**91**	BASIC TESTING:	112
ELEMENTARY:	61	TESTING & REPAIR:	29
JUNIOR HIGH:	18	**TOTAL PERMITS ISSUE:**	**2,315**

INSPECTIONS/AUDITS	TOTAL	INSPECTIONS/AUDITS	TOTAL
FOOD ESTABLISHMENTS:	**1,149**	ABANDONED SYSTEMS:	9
ROUTINE:	868	FAILED SYSTEMS:	1
FOLLOW-UP:	71	PRE-OPENIING / SITE REVIEW:	10
CRITICAL ITEM:	47	**BODY ART:**	**41**
PRE-OPENING / SITE REVIEW:	163	ROUTINE:	21
MOBILE FOOD ESTABLISHMENTS:	**192**	FOLLOW-UP:	0
PRIMARY FOOD TRUCKS:	76	PRE-OPENIING / SITE REVIEW:	20
SECONDARY FOOD TRUCKS:	54	**ELECTRONIC CIGARETTE SUBSTANCE:**	**3**
LIMITED-USE FOOD EST. :	10	ROUTINE:	3
PRE-OPENING / SITE REVIEW:	36	FOLLOW-UP:	0
FOLLOW-UP INSPECTIONS:	16	PRE-OPENING/SITE REVIEW:	0
SEASONAL FOOD ESTABLISHMENTS:	**60**	**TANNING FACILITY:**	**18**
ROUTINE:	58	ROUTINE:	11
FOLLOW-UP:	0	FOLLOW-UP:	0
PRE-OPENING / SITE REVIEW:	2	PRE-OPENIING / SITE REVIEW:	7
TEMPORARY FOOD ESTABLISHMENTS:	**219**	**USED OIL COLLECTION CENTERS:**	**88**
SCHOOL FOOD ESTABLISHMENTS:	**208**	**INFECTIOUS WASTE MGT. FACILITY:**	**1**
SCHOOLS:	**41**	**PUBLIC WATER SYSTEMS:**	**9**
TEMPORARY MASS GATHERINGS:	**12**	SANITARY SURVEYS:	7
RESIDENTIAL CARE FACILITIES:	**61**	TIER 1 ASSESSMENTS:	1
CORRECTIONAL FACILITIES:	**2**	TIER 2 ASSESSMENTS:	1
JOB CORPS:	**8**	**I/M STATIONS:**	**276**
PUBLIC POOLS:	**571**	STATION AUDITS:	156
ANNUAL:	222	COVERT AUDITS:	115
QUARTERLY:	329	PRE-OPENING:	5
FOLLOW-UP:	2	**TOTAL PERMITS ISSUE:**	**3,007**
CONSTRUCTION:	15		
PRE-OPENING:	3		
ON-SITE WASTEWATER SYSTEMS:	**48**		
CONSTRUCTION:	28		

COMPLAINT INVESTIGATIONS	TOTAL	NOTICES	TOTAL
FOOD ESTABLISHMENTS:	**92**	**FOOD ESTABLISHMENTS:**	**157**
FOODBORNE ILLNESS:	**7**	FOLLOW-UP INSPECTION:	38
SCHOOLS:	**8**	COMPLIANCE MEETING:	29
PUBLIC SCHOOLS:	**9**	PERMIT SUSPENSION:	6
ON-SITE WASTEWATER SYSTEMS:	**11**	CHANGE OF OWNERSHIP:	20
DRINKING WATER:	**16**	CEASE & DESIST:	2
ILLICIT DISCHARGES:	**36**	MOBILE FOOD ESTABLISHMENTS:	22
BODY ART:	**3**	SEASONAL FOOD ESTABLISHMENTS:	1
PUBLIC LODGING:	**2**	TEMPORARY FOOD ESTABLISHMENTS:	39
MASSAGE:	**2**	**SCHOOLS:**	**2**
COSMETOLOGY:	**2**	**PUBLIC POOLS:**	**1**
HOUSING:	**123**	**ON-SITE WASTEWATER SYSTEMS:**	**3**
VECTOR CONTROL:	**39**	**ILLICIT DISCHARGES:**	**3**
ELEVATED BLOOD LEVELS:	**8**	**BODY ART:**	**2**
AIR QUALITY:	**10**	**TANNING FACILITY:**	**7**
UTAH INDOOR CLEAN AIR ACT:	**7**	**COSMETOLOGY:**	**2**
SMOKING VEHICLES:	**390**	**HOUSING:**	**10**
SOLID FUEL BURNING:	**3**	**I/M PROGRAM:**	**46**
ENVIRONMENTAL RESPONSE:	**31**	SMOKING VEHICLE:	36
SOLID WASTE / GENERAL SANITATION:	**17**	DUPLICATE CERTIFICATES:	10
TOTAL COMPLAINTS INVESTIGATED:	**816**	**NOTICE OF VIOLATIONS (NOV):**	**95**
		COVERT AUDIT - FAILED (STATION):	34
		COVERT AUDIT - FAILED (TECHNICIAN):	33
FOODBORNE ILLNESS SURVEILLANCE:	120	CHALLENGE TEST - VIN MISMATCH:	26
		OTHER DIVISION PROGRAMS:	2
		TOTAL NOTICES ISSUED:	**328**

NOTE: *Programs not listed did not have any Notices issued in 2019.*

TRAINING & EDUCATION	TOTAL
FOOD HANDLER PERMITS ISSUED:	**10,702**
INTERNAL CLASS IN SPANISH:	129
INTERNAL CLASS IN ENGLISH:	72
EXTERNAL VENDOR PERMIT:	10,501
FOOD SAFETY MANAGERS REGISTERED:	**410**
POOL OPERATORS LICENSED:	**35**
INTERNAL POOL OPERATOR TRAINING:	32
I/M TECHNICIANS TRAINED:	**178**
NEW TECHNICIAN:	159
RE-TRAIN TECHNICIAN:	19
PLAN REVIEWS	**TOTAL**
FOOD ESTABLISHMENTS:	**337**
PLAN REVIEWS:	30
SITE REVIEWS:	2
CHANGE OF OWNERSHIP:	64
MOBILE FOOD ESTABLISHMENTS:	**36**
SEASONAL FOOD ESTABLISHMENTS:	**0**
TEMPORARY FOOD ESTABLISHMENTS:	**194**
SCHOOLS:	**5**
PUBLIC SCHOOLS:	**6**
ON-SITE WASTEWATER SYSTEMS:	**24**
FEASIBILITY ASSESSMENT RECORDS:	8
SITE ASSESSMENTS:	5
SOIL EVALUATIONS:	4
PLAN REVIEWS:	7

EH LABORATORY	TOTAL
DRINKING WATER SAMPLES ANALYZED:	**5,537**
ROUTINE:	3,420
REPEAT:	71
CITY INVESTIGATIVES:	852
DCHD INVESTIGATIVES:	274
FLUORIDE SAMPLES ANALYZED:	**460**
SPLIT SAMPLES:	72
CITY INVESTIGATIVES:	1
DCHD INVESTIGATIVES:	387
POOL SAMPLES ANALYZED:	**1,415**
ROUTINE:	1,310
REPEAT:	105
RECREATIONAL WATER SAMPLES:	**1,078**
STREAMS:	762
PONDS:	268
GREAT SALT LAKE:	48
ADDITIONAL SERVICES:	**TOTAL**
ENVIRONMENTAL RESPONSE CALLOUTS:	**44**
RADON TESTS CONDUCTED:	**60**
SITE ASSESSMENTS COMPLETED:	**87**
CHEMICALLY CONTAMINATED PROPERTIES:	**28**
I/M CONTRACTOR DATA:	**TOTAL**
TOTAL INITIAL EMISSIONS TESTS:	**238,966**
TOTAL FAILED INITIAL EMISSIONS TESTS:	**18,747**
DIESEL EMISSIONS FAILURE RATE:	**13.5%**
GASOLINE EMISSIONS FAILURE RATE:	**8.3%**
TOTAL OBD TESTS:	**203,488**
TOTAL TWO-SPEED IDLE TESTS:	**17,548**
TOTAL CONTRACTOR TESTS:	**5,795**
CERTIFICATE OF WAIVERS ISSUED:	**34**