

NC DEPARTMENT OF  
**HEALTH AND  
HUMAN SERVICES**  
Division of Public Health

## Environmental Health Section

# FY 2021-22 ANNUAL REPORT



*The mission of the Environmental Health Section is to protect people by promoting a safe and healthy environment in partnership with private businesses and public agencies through consistent application of education, best practices, and compliance monitoring.*

# INTRODUCTION

Welcome to the Environmental Health Section's first annual report! One thing is for sure, environmental health practice produces a significant amount of data and there's much to be learned from our collective work. We selected metrics that both tell our story and provide insight into program effectiveness so that we can maintain existing standards or make necessary adjustments to better protect public health. In addition, this report provides a glimpse into the future so that we can be better prepared with the resources that we'll need to maintain our programs and services.

I invite you to let us know what you think by sharing any feedback with our office. Although this report has the Section's name on it, it's our vision to capture environmental health work throughout the state and our plan is that each year we'll get better at doing this.

I'm thrilled to release this report, as it represents some of the great work we've accomplished over the past couple of years; however, no data set can tell the complete story of the positive impact that we make every day in environmental health to save lives and improve the quality of life of North Carolina's citizens and visitors. So, with that in mind, thank you for what you do every day to protect the public's health.



Larry D. Michael  
State Environmental Health Director/Section Chief  
NC Division of Public Health

# FOOD PROTECTION AND FACILITIES BRANCH

## Food Establishment Inspections

For the 2021-22 fiscal year, there were 46,124 permitted food establishments in North Carolina. Throughout the COVID-19 pandemic, the number of establishments has remained stable, while showing a 2% increase from the previous fiscal year. Although many food establishments closed during the pandemic, new food establishments

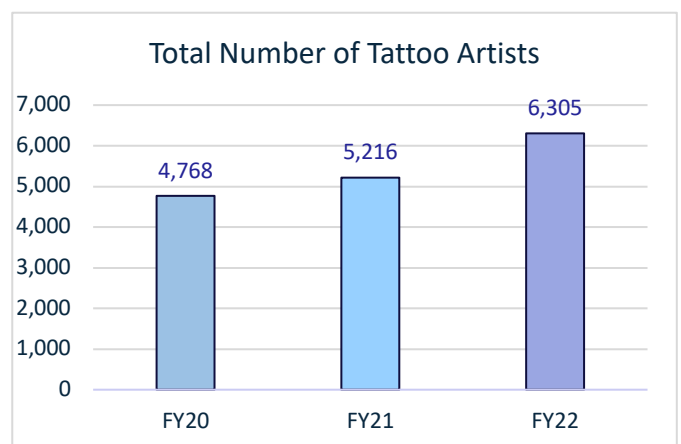
	FY18	FY19	FY20	FY21	FY22
Establishments	43,688	44,264	44,689	45,038	46,124
Inspections	88,602	87,759	67,675	71,126	79,763
Reinspections	718	732	602	429	537
Plans Reviewed	555	774	673	1040	844

replaced them resulting in an upward trend. Over the past five years, there has been a 5% increase in the number of establishments. Environmental Health Specialists (EHS) in local

health departments (LHDs) completed 79,763 inspections during the 2021-22 fiscal year. This is an approximate 10% reduction compared to pre-pandemic rates. Likely attributed to the important role that local EHSs played during the COVID-19 pandemic and the inspection frequency reduction afforded by the Secretary for pandemic response in FY21. However, inspection numbers have increased over the last three years. In addition, the number of chain or franchise food establishment plans reviewed by the Section in the 2021-22 fiscal year was 844, down from 1,040 in the previous fiscal year. However, since FY18, the Section has seen a significant increase (52%) in plans reviewed.

## Pools, Tattoos and State Institutions

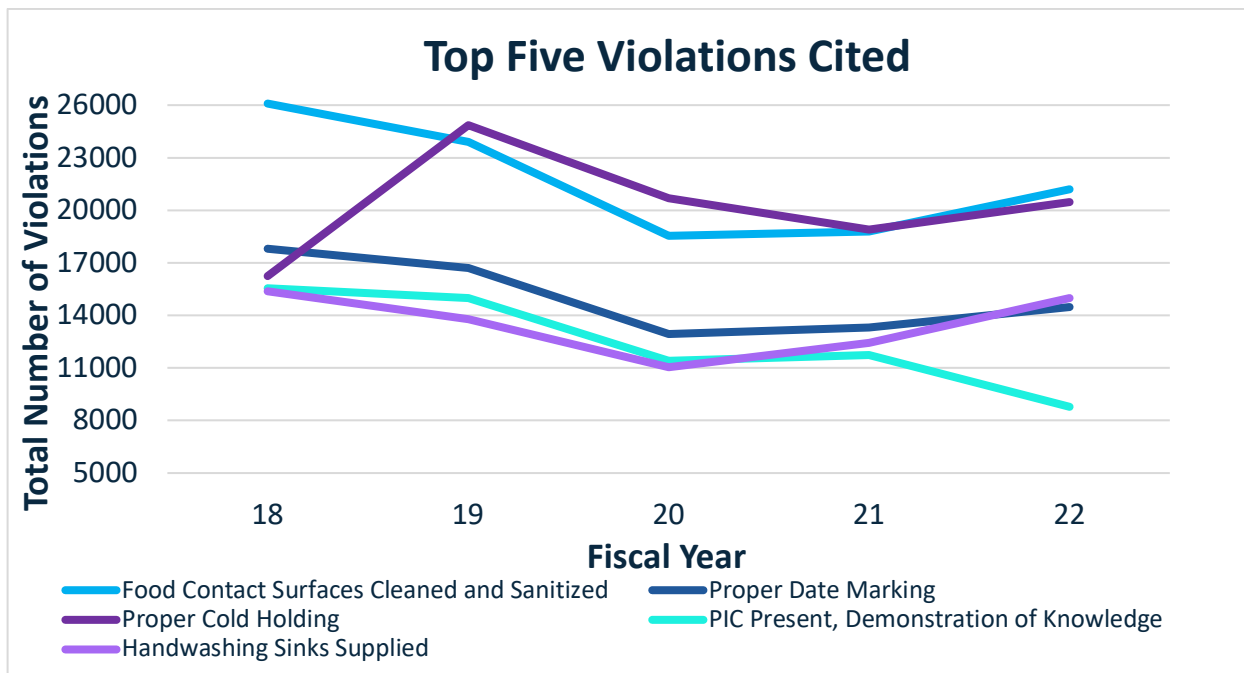
The number of pool permits in the state has remained relatively consistent, with 11,024 total pool permits in the 2021-22 fiscal year. There has been a recent increase in the number of tattoo artists, increasing 32% over the last three fiscal years. Due to the local health department use of varied inspection software products, data collection and analysis for these programs remain difficult. Inspections at the 160 state institutions are completed by the environmental health regional specialists in this program. Inspections of these institutions continued through the COVID-19 pandemic.



# FOOD PROTECTION AND FACILITES BRANCH

## Inspection Compliance

Food establishment inspections are focused on reducing the main risk factors of foodborne illness. Looking at trends in incidence of violations cited most often can provide insight into whether risk factors are being reduced. Overall, the top five cited violations have been trending lower over the last five years. The most cited violation is cleaning and sanitizing of food contact surfaces. It is important to note that in January 2019, the required cold holding temperature decreased from 45°F to 41°F, which led to the sharp increase in violations from FY18 and FY19. The greatest reduction in incidence was observed in violations regarding the presence of a person in charge (PIC).



Overall, the incidence of priority violations in inspections has increased. In fiscal year 2021-22, the incidence of priority violations per inspection was 2.21, compared to 1.79 in fiscal year 2017-18. This increase is interesting to note and could be explained by staffing turnover or shortages among food establishment workers. It could also result from EHS training that focuses more on violations that directly contribute to foodborne illnesses. This is an important trend to monitor over time, with the goal being reduced incidence of priority violations.

# CIT AND AUTHORIZATIONS

## Intern Training

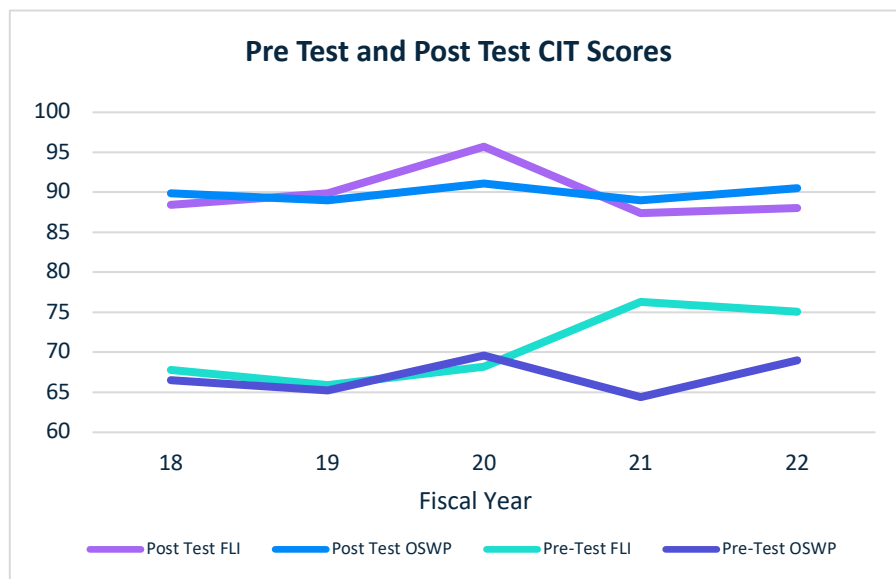
The Environmental Health Section provides initial training for all interns across North Carolina, known as Centralized Intern Training (CIT). There was a total of 117 interns in

	FY20	FY21	FY22
Child-Care and Schools	72	45	52
Childhood Lead Prevention	40	18	37
Food Lodging & Institutions (FLI)	117	78	62
Onsite Water Protection (OSWP)	80	61	62
Public Swimming Pools	118	60	50
Tattoo	78	37	93
Private Well	55	44	111

the general training module, 122 in the food and lodging module, and 58 in the onsite water protection module in the 2021-22 fiscal year, which is consistent with previous years. The total number of authorizations has been increasing since the FY21 drop (560 in FY20; 343

in FY 21; 467 in FY 22), noting the sharp increase among those authorized in tattoo and private wells.

Interns are given a pre- and post-test for CIT, and those scores are used to monitor effectiveness of training and overall knowledge of interns. Over the past five years, the pre-test and post-test scores for the OSWP module have remained consistent, with an average pre-test score of 69.9 (out of 100) and a post-test score of 89.9. While the post-test scores for the FLI module have been consistent, there was a significant increase in pre-test scores during FY21 and FY22. There was an increase from a 67.3 average from FY18 – FY20 to 75.3 in FY21 – FY22. Since the post-test average did not increase, this resulted in a lower percent change in score. Percent change can be an indicator of knowledge increase and, therefore, course effectiveness – so this trend will be considered when discussing changes to module format.



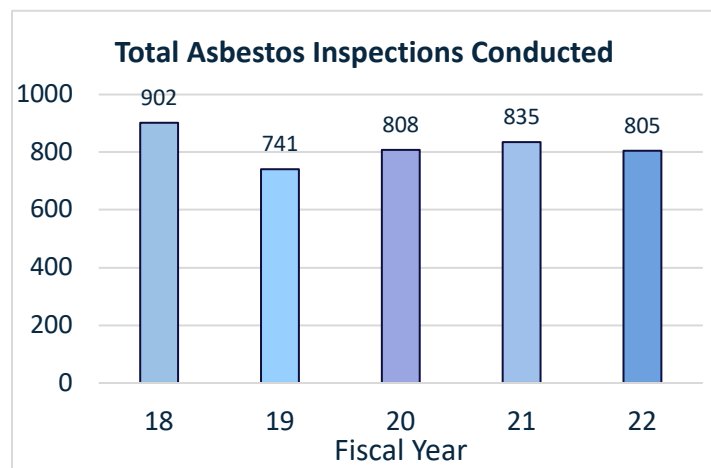
# HEALTH HAZARDS CONTROL UNIT

## Lead and Asbestos Hazard Management Programs

The Health Hazards Control Unit (HHCU) is responsible for providing management of asbestos and lead-based paint renovation projects throughout North Carolina. Many people think asbestos has been banned or completely removed, but there are thousands of public and private buildings in North Carolina that still contain asbestos. During the last state fiscal year, nearly 4 million square feet of asbestos were permitted with the HHCU and removed by accredited asbestos professionals.

During the 2021-22 fiscal year, there were 805 asbestos inspections completed by the HHCU staff. This number has been consistent over the last five years, which demonstrates there is steady demolition and renovation being completed throughout the state. Asbestos

accreditations for the 2021-22 fiscal year were 2,917, which represents a slight increase over the previous fiscal year of about 2%.



Houses built before 1978 and child-occupied facilities that undergo applicable lead abatement, renovation, or repair activities must be completed by North Carolina-certified individuals or firms. Though lead-based paint has been banned since 1978, there are still many older houses and other buildings with hazards from lead-based

	FY18	FY19	FY20	FY21	FY22
Lead Certifications	212	228	185	159	202
Lead Abatement Firms	77	80	74	73	76
Renovators	457	443	592	468	459
Renovation Firms	1,171	1,149	1,108	1,058	992
Lead Renovation Inspections	139	216	232	440	234

paint. The HHCU staff perform inspections on these activities, with 234 inspections completed in the 2021-22 fiscal year. Like many other metrics, the lead certifications experienced a small decrease during the COVID-19

pandemic but is increasing as of the 2021-22 fiscal year. The number of lead abatement firms, renovators, and renovation firms has remained relatively stable over the last five years. It is important that there are adequate abatement firms, renovators, and renovation firms so that citizens in North Carolina have access to professionals that can safely remove and renovate buildings with lead-based paint hazards.

# CHILDREN'S ENVIRONMENTAL HEALTH

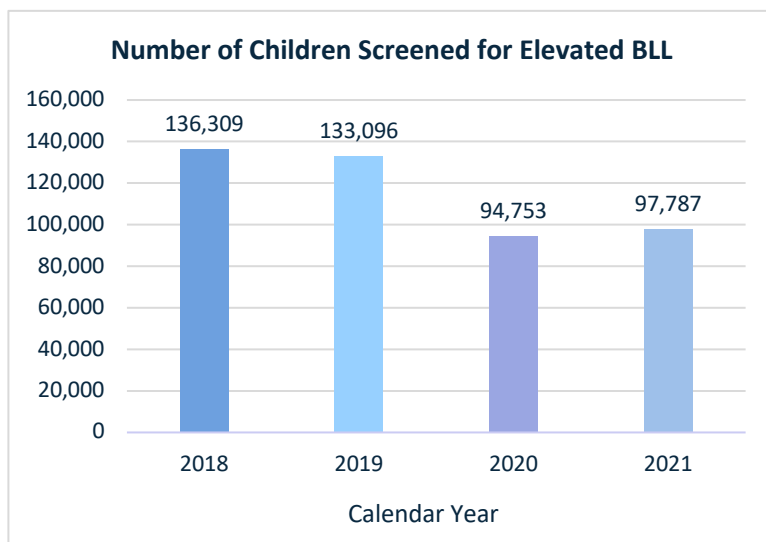
\*Children's Environmental Health reports data based on calendar year instead of fiscal year. The following report has been prepared with most recent available data. CY2020-CY2021 metrics are preliminary as test results are still being processed

## Childhood Blood Lead Surveillance

Blood lead testing at ages 12 and 24 months is recommended for all North Carolina children and is required for Medicaid children. Children are counted as being tested for lead poisoning in successive years until they are confirmed to have a blood lead level (BLL)  $\geq 5$  micrograms per deciliter ( $\mu\text{g}/\text{dL}$ ). Confirmation is based on two consecutive blood lead test results of  $\geq 5$   $\mu\text{g}/\text{dL}$  within a 12-month period. Number tested is an unduplicated count of children tested during the calendar year.

	CY2018	CY2019	CY2020	CY2021
Number of Children Tested	136,309	133,096	94,753	97,787
Number with BLL $\geq 5\mu\text{g}/\text{dL}$	1,649	1,234	1,049	1,060
Percent BLL $\geq 5\mu\text{g}/\text{dL}$	1.2%	0.93%	1.1%	1.1%

The overall number of children tested decreased during 2020. The reason for this 29% decrease could be attributed to the COVID-19 pandemic and fewer office visits during that time. Testing was also affected by a recall of test kits for point-of-care (POC) blood lead analyzers used by many health care providers. While the total number of children tested decreased, the percentage with a test result  $\geq 5$   $\mu\text{g}/\text{dL}$  remained consistent.



In October of 2021, the Centers for Disease Control and Prevention (CDC) lowered the blood lead reference value for children from 5  $\mu\text{g}/\text{dL}$  to 3.5  $\mu\text{g}/\text{dL}$ . As a result, the testing and follow-up schedule for children under the age of six was revised to include clinical follow-up recommendations for children with a lead level  $\geq 3.5$   $\mu\text{g}/\text{dL}$ . Implementation of this change began in March 2022. It is anticipated that this change will

increase the need for diagnostic testing by four-fold compared to previous guidelines which called for diagnostic testing beginning at 5  $\mu\text{g}/\text{dL}$ . Mandated environmental follow-up services for children confirmed to have a lead level  $\geq 5$   $\mu\text{g}/\text{dL}$  are not affected by the revised recommendations. This would require legislative changes.

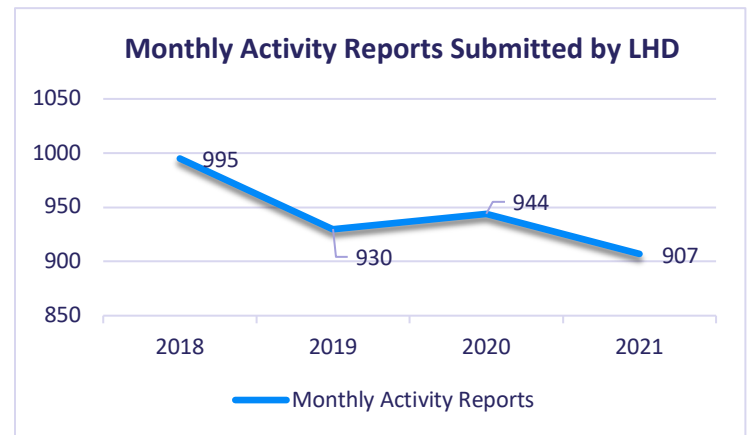


# ONSITE WATER PROTECTION BRANCH

\*Onsite Water Protection Branch reports data based on calendar year instead of fiscal year. The following report has been prepared with most recent available data and relies on manually reported numbers from local health departments.

## Onsite Water Protection

The Onsite Water Protection Branch (OSWP) relies on monthly activity reports from local health departments for data on all onsite wastewater systems. Over the last four calendar years, there has been an overall decline in the number of monthly activity reports submitted by local health departments. In the 2021 calendar year, 76% of monthly activity reports were received. This represents a 9.7% decrease from the 2018 calendar year. The Section will continue to work with local health departments to collect monthly activity reports so that accurate data for statewide onsite wastewater systems can be tracked and analyzed. Working to provide more complete, accurate statewide information is a goal of the Section.



	CY2018	CY2019	CY2020	CY2021
IP Permits (excluding a2)	19,937	19,895	25,417	24,084
CA Permits (excluding a2)	25,671	25,262	30,918	29,343
Total Engineered Option Permits	529	551	740	1,275
COVID-LSS Permits	N/A	N/a	531	976
GS130-335 (a2) – IP Permit	N/A	3	49	1,801
GS130-335 (a2) – CA Permit	N/A	3	29	1,639

The number of improvement permits and construction authorizations has increased over the last four calendar years. Both were at their highest level during the 2020 calendar year and saw a slight decrease in 2021. The total number of engineered option permits increased sharply in the 2021 calendar year, up over 70% from the 2020 calendar year and up 141% from the 2018 calendar year. Additionally, the option to receive the design and construction of a wastewater system based on evaluation from a licensed soil scientist has become increasingly more popular. Roughly 7% of total improvement permits and 5% of construction authorization permits use this option. The permitting process assesses the soil and other factors that impact the site suitability, installation, and operation efficacy of wastewater systems. These permits help to ensure safe and adequate wastewater disposal in homes and businesses throughout NC, which consequently better protects the environment and public health. Monitoring these numbers helps to inform policies around onsite wastewater permits.



# CONCLUSION

The COVID-19 pandemic proved to be challenging for local health departments throughout North Carolina and the Environmental Health Section. Virtually all environmental health services were impacted by the pandemic. The most significant impacts included reduced childhood blood lead level screenings attributed to fewer health care provider visits and a reduction in the number of establishment inspections due to the shift toward pandemic response and temporary inspection frequency changes. In addition, we experienced sharp increases in the number of improvement permits and construction authorizations fueled by the building boom and complicated by pandemic response. Finally, the dip in environmental health specialist interns completing the training process is likely a direct result of pandemic prioritization within local health departments. The Environmental Health Section will work toward a better understanding of these metrics in the coming fiscal year and we will continue to work with all stakeholders to use data-driven goals to improve public health in North Carolina.

As mentioned in the introduction, this is our first annual Environmental Health Section report, and we appreciate any feedback that will be useful in compiling and writing our second annual report.

Please send comments or questions to [veronica.bryant@dhhs.nc.gov](mailto:veronica.bryant@dhhs.nc.gov)

## Thanks

Thanks to Veronica Bryant for compiling this data and writing much of the narrative. In addition, thanks to each Branch and Program within the Environmental Health Section for contributions to this report, including:

Jon Fowlkes and Steven Berkowitz—Onsite Water Protection Branch

Ed Norman and Melanie Napier—Childhood Lead Poisoning Prevention Program

Jeff Dellinger—Health Hazards Control Unit

Shane Smith—Food Protection and Facilities Branch

Alice Isley—Tattoo, State Institutions, and Public Swimming Pool Program

Melissa McKenzie and Angela Cochran—Centralized Intern Training and Authorizations