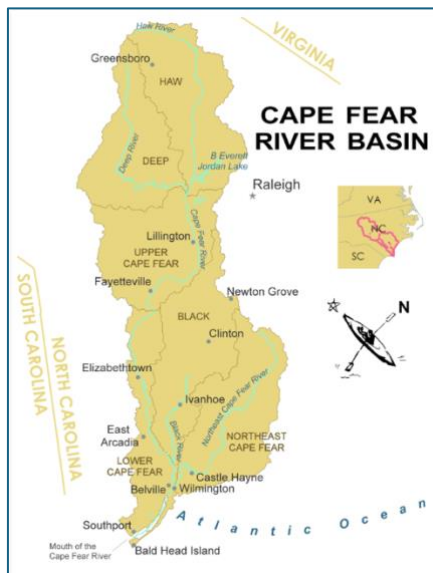


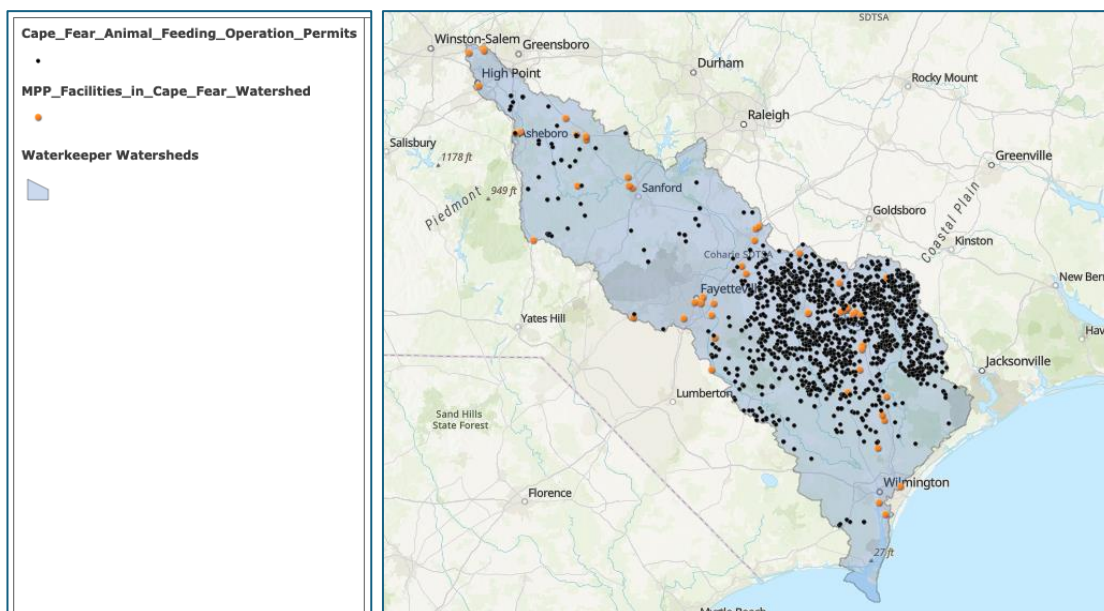
Meat and Poultry Processing

CAPE FEAR RIVER BASIN



The Cape Fear River Basin is the largest river basin in North Carolina, encompassing about 9,164 square miles, or approximately 16.5 percent of North Carolina’s total land area. Nearly one-third of the State’s population lives in the Cape Fear River Basin, and about 20 percent of North Carolinians get their drinking water from the Cape Fear River, including people living in Greensboro, Fayetteville, and Wilmington. The Cape Fear River Basin also boasts some of North Carolina’s most impressive remaining natural biodiversity, providing habitat for a variety of native, threatened, and endangered species, and supporting a thriving tourism economy for recreational boaters, birders, and other nature-lovers.

EPA has identified at least 54 potential Meat and Poultry Products (“MPP”) facilities that are either discharging waste directly or indirectly through municipal wastewater treatment plants (“WWTPs”), or are deemed “non-discharging,” in the Cape Fear River Basin. In addition to MPP facilities, swine and poultry Animal Feeding Operations (“AFOs”) are more densely concentrated in the Cape Fear River Basin than anywhere else on Earth.



There are approximately 1,257 permitted Animal Feeding Operations in the Cape Fear Basin and many unpermitted poultry feeding operations. Each year, AFOs in this region house about five million pigs and more than 144 million birds. Collectively, these facilities generate a staggering quantity of waste, much of which finds its way into the Cape Fear River and associated waters. MPP Facilities and AFOs are significant sources of pollution that are harming the Cape Fear Basin.

Indirect Dischargers to WWTPs

Based on a map of indirectly discharging MPP facilities produced by EPA as part of the current ELG rulemaking and an electronic dataset from EPA, it appears that many of the facilities in the Cape Fear River Basin are indirect dischargers through municipal WWTPs. Due to the nature of permitting for these facilities under the federal Clean Water Act, access to records for them is often limited. EPA has not established national pretreatment standards for indirectly discharging MPP facilities and, as a result, they are known to be significant contributors of pollutants to the nation's waters. For example:

[Raeford WWTP](#) is a municipal WWTP that serves a population of roughly 4,700 people in Raeford, NC and discharges up to 3 MGD of wastewater to Rockfish Creek. The WWTP is located in an area that has 9 EJScreen Indexes above the 80th percentile within one mile, including the 90th percentile for wastewater discharges. Records available through ECHO indicate that Raeford WWTP has been in violation of its NPDES permit in 10 of the last 12 quarters. The September 15, 2023, [NPDES Permit¹](#) for the WWTP contains permit limits that allow for very high discharges of Ammonia-N (Apr 1-Oct. 31



9 mg/l Monthly Average and 27 mg/l Weekly Average, and Nov. 1-Mar. 31 26 mg/l Monthly Average and 35 mg/l Weekly Average) and the permit lacks any concentration limits on Metals, Chlorides, Total Phosphorus, TKN, Nitrate-Nitrite, and Total Nitrogen.

The WWTP has 3 permitted significant industrial users, including Butterball (IU 7989). According to the [2023 Annual Pretreatment Report](#),² Butterball is permitted to discharge 0.3 MGD of industrial wastewater to the WWTP, including BOD (8,006 lbs./day), TSS (3,002 lbs./day), Ammonia (37.5 lbs./day), Zinc (3.4 lbs./day), and COD (14,095 lbs./day). Butterball's pretreatment permit does not contain limits on TKN, Total Phosphorus, Chlorides, Pathogens, or other Metals.

Given the lack of limits in the WWTP’s NPDES permit and Butterball’s pretreatment permit, it is not surprising that ECHO records show that Raeford WWTP is discharging [high concentrations](#) of Phosphorus and Nitrogen, and contributing significant [loads](#) of several pollutants associated with poultry processing plants to Rockfish Creek, including Nitrogen (68,403 lbs./yr. – 2023), Phosphorus (11,868 lbs./yr. – 2023) and TSS (71,278 lbs./yr. – 2023), with even higher loadings in 2020 and 2021.

RAEFORD WWTP
RAEFORD, NC, 28376
 FRS ID: 110001934319
 NPDES ID(s): NC0026514
 TRI ID(s): None

Discharges to Chemical Groups by Pounds (lb)

Units: Pounds TWPE

Chemical Group ↑	2020 DMR (lb/yr) ↓	2020 TRI (lb/yr) ↓	2021 DMR (lb/yr) ↓	2021 TRI (lb/yr) ↓	2022 DMR (lb/yr) ↓	2022 TRI (lb/yr) ↓	2023 DMR (lb/yr) ↓
▶ AMMONIA	14,274	--	2,006	--	11,636	--	5,696
▶ BOD, 5-day, 20 deg. C	65,534	N/A	48,990	N/A	39,985	N/A	43,713
▶ NITRATE COMPOUNDS	36,858	--	49,344	--	21,124	--	21,794
▶ Nitrogen	169,663	N/A	122,653	N/A	64,866	N/A	68,403
▶ Phosphorus	20,880	N/A	25,170	N/A	10,008	N/A	11,868
▶ Solids, total suspended	119,945	N/A	81,599	N/A	56,360	N/A	71,278
▶ Total Kjeldahl Nitrogen	169,663	N/A	122,653	N/A	64,866	N/A	68,403
▶ Total Residual Chlorine	0	N/A	0	N/A	0	N/A	0

Siler City WWTP is a municipal WWTP in Siler City, NC that serves a population of roughly 7,700 people and, as of 2023, [3 significant industrial users](#),³ including Mountaire Farms, Inc. (IU 4) – a poultry processing facility that is authorized to discharge up to 1.65 MGD into the WWTP. Siler City WWTP discharges effluent into Loves Creek, which flows into the Rocky River about one-half mile downstream. Rocky River is [habitat](#)⁴ for rare mussels, including several state-listed threatened and endangered species, and the Cape Fear Shiner. A [2022 NC Department of Environmental Quality Study](#)⁵ showed that Rocky River had elevated levels of Turbidity, Ammonia-N, BOD, Chlorophyll-a and Chloride. Rocky River flows into the Deep River, which in turn flows into Haw River and then to the Cape Fear River.



As of 2021, [the pretreatment permit](#)⁶ for Mountaire allowed the facility to discharge effluent with very high concentrations and loads – Nitrogen (75 mg/l and 781.875 lbs./day), Phosphorus (6 mg/l and 62.550 lbs./day) and Ammonia (40 mg/l and 417 lbs./day) into the Siler City WWTP. There are no pretreatment limits for Metals, Chlorides, or Pathogens in the permit. According to the 2023 [Pretreatment Report](#),⁷ Mountaire’s permit limits have also been changed to allow higher concentrations and



loadings of Ammonia-N (50 mg/l and 688.05 lbs./day), Nitrogen (100 mg/l and 1,376.1 lbs./day) and Phosphorus (7.2 mg/l and 99.08 lbs./day). That report also indicates that, during 2023, Mountaire had 10 Notices of Violation for violation of its pretreatment permit for exceeding Ammonia, BOD, Total Nitrogen, and Total Phosphorus on multiple occasions, and Mountaire is challenging its pretreatment permit and \$495,850 in unpaid fines the company owes Siler City.

The WWTP has been in [noncompliance](#) with its NPDES permit for BOD, Cadmium, Chloride, Fecal Coliform, Ammonia-N, and/or TSS in every quarter since at least January 2021 and has been in significant non-compliance for 8 of the last 13 quarters. The violations are [attributed](#),⁸ in large part, to the inability of the WWTP to handle the large volume of wastewater generated by Mountaire, which is sent to the WWTP without adequate pretreatment requirements and limits.

The state has fined the town for [numerous violations](#), including its failure to address Mountaire’s high concentrations of Ammonia and BOD in 2021, and has taken other actions like issuing a [Special Order by Consent](#)⁹ that somewhat inexplicably allows the town to accept new wastewater flows if it meets certain conditions during its upgrades to the WWTP. Regardless, the pollution is continuing, the NPDES and pretreatment permits still do not contain protective limits, and violations are continuing. Even when treatment upgrades are in place, it is not clear that protective limits will be added to the pretreatment and NPDES permits. The situation illustrates the need for national pretreatment standards to prevent these problems, which can arise when municipalities that lack adequate wastewater treatment plants agree to take the waste produced by MPP facilities to spur economic development without mandating protective pretreatment requirements, and when state regulators issue NPDES permits for the WWTP that are not protective of water quality given the pollutant loads that the WWTP must handle.

According to [ECHO](#), Siler City WWTP reports that it is contributing large loads of pollutants to Loves Creek and Rocky River, including Nitrogen (313,223 lbs./yr. – 2023), Chlorides (1,219,949 lbs./yr. – 2023), BOD (43,814 lbs./yr. – 2023), and Ammonia-N (25,738 lbs./yr. – 2023).

SILER CITY WWTP
SILER CITY, NC, 27344
 FRS ID: 110040028332
 NPDES ID(s): NC0026441
 TRI ID(s): None

Discharges to Chemical Groups by Pounds (lb)

Units: Pounds TWPE

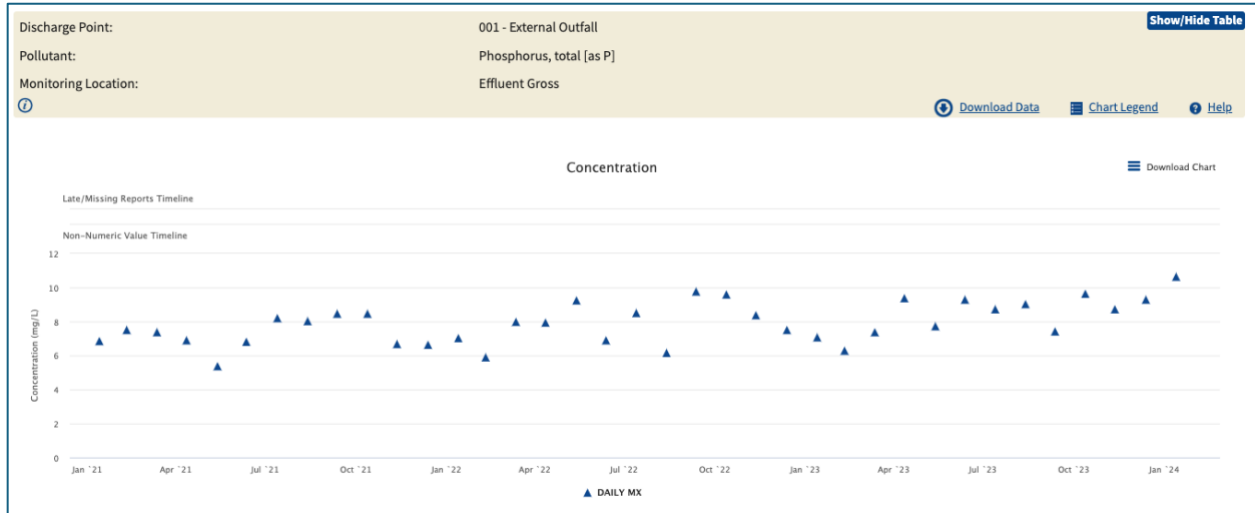
Chemical Group	2020 DMR (lb/yr)	2020 TRI (lb/yr)	2021 DMR (lb/yr)	2021 TRI (lb/yr)	2022 DMR (lb/yr)	2022 TRI (lb/yr)	2023 DMR (lb/yr)
▶ AMMONIA	39,289	--	97,729	--	66,942	--	25,738
▶ BOD, 5-day, 20 deg. C	70,982	N/A	128,960	N/A	199,425	N/A	43,814
▶ CADMIUM AND CADMIUM COMPOUNDS	0	--	0	--	11.59	--	0
▶ CHLORIDE	--	N/A	--	N/A	1,555,965	N/A	1,219,949
▶ COPPER AND COPPER COMPOUNDS	--	--	--	--	69.46	--	32.35
▶ DIOXANE, 1,4-	--	--	--	--	0	--	0
▶ NITRATE COMPOUNDS	129,893	--	46,728	--	69,860	--	142,055
▶ Nitrogen	306,387	N/A	262,088	N/A	282,006	N/A	313,223
▶ Phosphorus	0	N/A	0	N/A	0	N/A	0
▶ Solids, total suspended	45,008	N/A	84,931	N/A	372,275	N/A	38,206
▶ Total Kjeldahl Nitrogen	306,387	N/A	262,088	N/A	282,006	N/A	313,223
▶ Total Residual Chlorine	0	N/A	0	N/A	0	N/A	0

Direct Dischargers

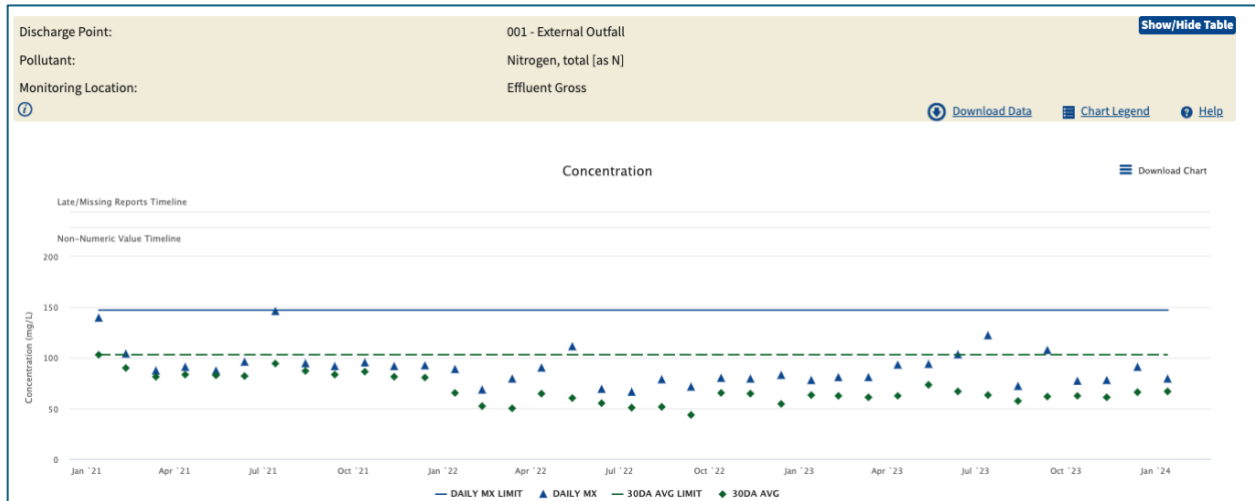
[House of Raeford Farms, Inc. – Wallace Chicken Processing Plant](#) (“Wallace Plant”) is a poultry processing plant located in Teachey, NC. The facility discharges up to [1.5 MGD](#) of industrial wastewater into Rock Fish Creek, a tributary of the Northeast Cape Fear River under NC NPDES Permit NC0003344. The Northeast Cape Fear River is [impaired](#) by nutrient pollution, including Ammonia, Nitrogen, and Phosphorus. There are 5 EJSreen Indexes above the 80th percentile within one mile of the Wallace Plant, including wastewater discharges at the 87th percentile.



The Wallace Plant's [NPDES permit](#)¹⁰ contains concentration limits on BOD, pH, TSS, Ammonia-N, Fecal Coliform, Oil and Grease, Total Residual Chlorine, Total Nitrogen, and Total Cadmium. The limit for Total Nitrogen is very high at 103 mg/l Monthly Average and 147 mg/l Daily Maximum. There are no limits on Total Phosphorus or Metals other than Cadmium. As a result, according to [ECHO](#), the facility discharges high concentrations of Phosphorus into the Rock Fish Creek, with DMRs showing multiple values in excess of 8 mg/l.



ECHO also shows that the Wallace Plant discharges very high concentrations of Total Nitrogen into Rock Fish Creek.



ECHO [reports](#) discharges of high loads of multiple pollutants into Rock Fish Creek each year, including, for example, Nitrogen (222,237 lbs./yr. in 2023), Ammonia-N (1,562 lbs./yr. in 2023), and Phosphorus (29,212 lbs./yr. in 2023). Metals and other pollutants likely discharged from the facility are not reported on ECHO.

DMR and TRI Multi-Year Loading Report

HOUSE OF RAEFORD FARMS INC WALLACE DIV
WALLACE, NC, 28466

FRS ID: 11000350389

NPDES ID(s): NC0003344, NCG060177

TRI ID(s): 28466SWFTCL170C

Discharges to Chemical Groups by Pounds (lb)

Units: Pounds TWPE

Chemical Group ↑	2020 DMR (lb/yr) ↓	2020 TRI (lb/yr) ↓	2021 DMR (lb/yr) ↓	2021 TRI (lb/yr) ↓	2022 DMR (lb/yr) ↓	2022 TRI (lb/yr) ↓	2023 DMR (lb/yr) ↓
▶ AMMONIA	451	--	260	--	529	--	1,562
▶ BOD, 5-day, 20 deg. C	2,106	N/A	2,643	N/A	1,958	N/A	3,653
▶ CADMIUM AND CADMIUM COMPOUNDS	--	--	0	--	0	--	0
▶ COPPER AND COPPER COMPOUNDS	77.56	--	58.4	--	0	--	--
▶ Nitrogen	242,041	N/A	262,236	N/A	168,700	N/A	222,237
▶ Oil and grease	982	N/A	2,270	N/A	1,187	N/A	2,720
▶ Phosphorus	22,337	N/A	22,037	N/A	23,671	N/A	29,212
▶ Solids, total suspended	5,732	N/A	4,689	N/A	4,693	N/A	3,697
▶ Total Residual Chlorine	0	N/A	0	N/A	0	N/A	0

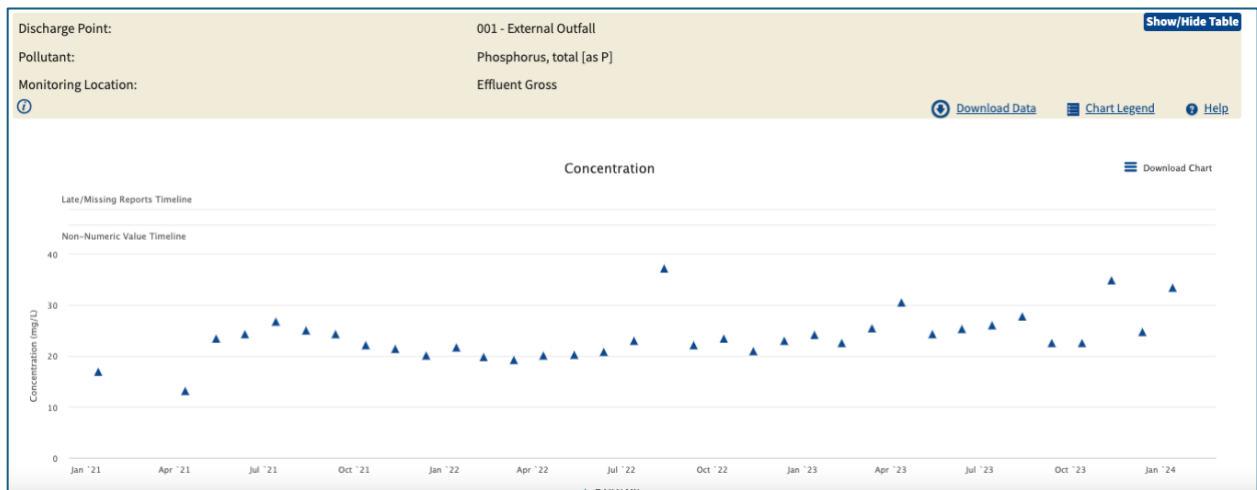
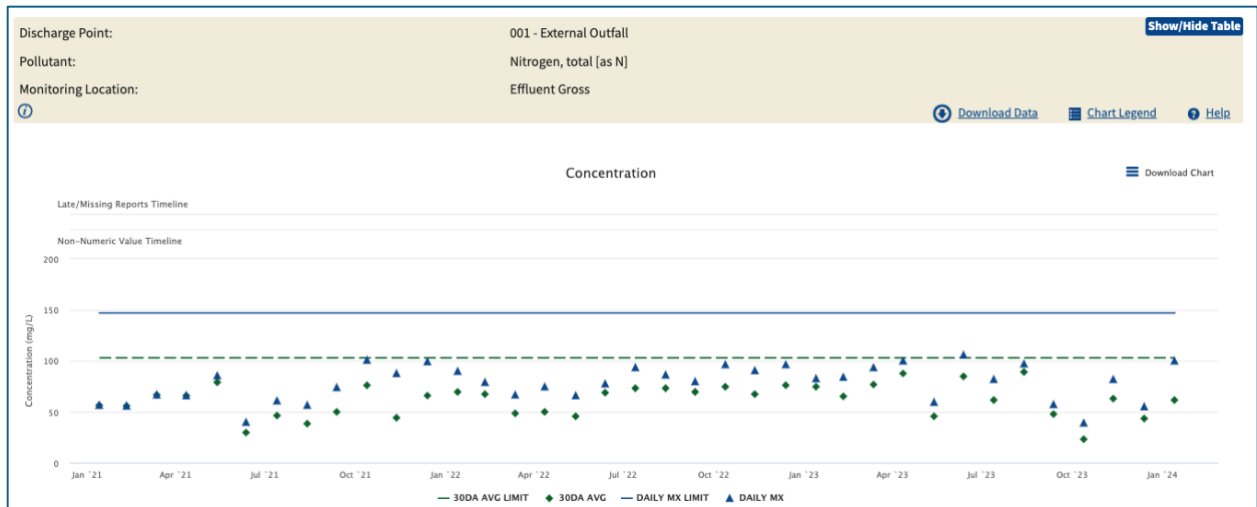
PILGRIM'S PRIDE CORP. – SANDFORD

PROCESSING PLANT is a poultry processing plant located in Sanford, NC that processes approximately 670,000 live poultry per week and discharges up to 1 MGD of industrial wastewater into the Deep River under NC NPDES permit [NC0072575](#).¹¹ Pilgrim's Pride entered into a [Special Order by Consent](#)¹² in 2015 due to its inability to comply with its effluent limits for Total Nitrogen and



Ammonia-N over a two-year period, whereby it agreed to consider connecting to the City of Sanford's WWTP or improving its own system and to paying a small fine. In return, it was issued less stringent effluent limits until 2017 – for example, Nitrogen (Daily Maximum went from 147 mg/l to 250 mg/l) and Ammonia-N (Daily Maximum went from 2 mg/l to 4 mg/l). In 2021, the facility's NPDES permit restored those limits, but it did not include any concentration limits for Total Phosphorus, Chlorides, or Metals.

ECHO shows that this facility discharges high concentrations of Total Nitrogen and Phosphorus, with multiple Total Phosphorus values > 20 mg/l to the Deep River from January 1, 2021 through March 15, 2024.



[ECHO](#) also shows high loading of multiple pollutants into the Deep River each year, including, for example, Nitrate compounds (463,005 lbs./yr. – 2022 TRI), Nitrogen (218,152 lbs./yr. – 2022), and Phosphorus (33,111 lbs./yr. – 2022). Metals and other pollutants likely discharged from the facility are not reported on ECHO.

**PILGRIM'S PRIDE CORPORATION – SANFORD PROCESS
SANFORD, NC, 27330**

FRS ID: 110000551493

NPDES ID(s): NC0072575, NCG060174

TRI ID(s): 27330GLDNP6500Z

Discharges to Chemical Groups by Pounds (lb)

Units: Pounds TWPE

Chemical Group	2020 DMR (lb/yr)	2020 TRI (lb/yr)	2021 DMR (lb/yr)	2021 TRI (lb/yr)	2022 DMR (lb/yr)	2022 TRI (lb/yr)	2023 DMR (lb/yr)
▶ AMMONIA	68.11	224	281	156	226	122	122
▶ BOD, 5-day, 20 deg. C	1,341	N/A	1,821	N/A	546	N/A	1,659
▶ NITRATE COMPOUNDS	163,379	695,974	121,461	587,904	121,230	463,005	106,506
▶ Nitrogen	326,132	N/A	224,455	N/A	218,152	N/A	194,292
▶ Oil and grease	0	N/A	1,589	N/A	--	N/A	--
▶ PERACETIC ACID	--	0	--	0	--	0	--
▶ Phosphorus	43,869	N/A	36,975	N/A	33,111	N/A	36,210
▶ Solids, total suspended	2,619	N/A	896	N/A	1,250	N/A	1,439
▶ Total Kjeldahl Nitrogen	326,132	N/A	224,455	N/A	218,152	N/A	194,292
▶ Total Residual Chlorine	0	N/A	0	N/A	0	N/A	0

SMITHFIELD FRESH MEATS CORP. – TAR HEEL PLANT is a Meat Processing, Further Processing, and Rendering plant located in Tar Heel, NC. It is one of the largest hog slaughterhouses in the world, slaughtering [9,126,607,299.7 head](#)¹³ in 2022. The Tar Heel Plant discharges up to 3 million gallons of industrial wastewater each day into the Cape Fear River pursuant to [NC NPDES Permit NC0078344](#),¹⁴ which expired on

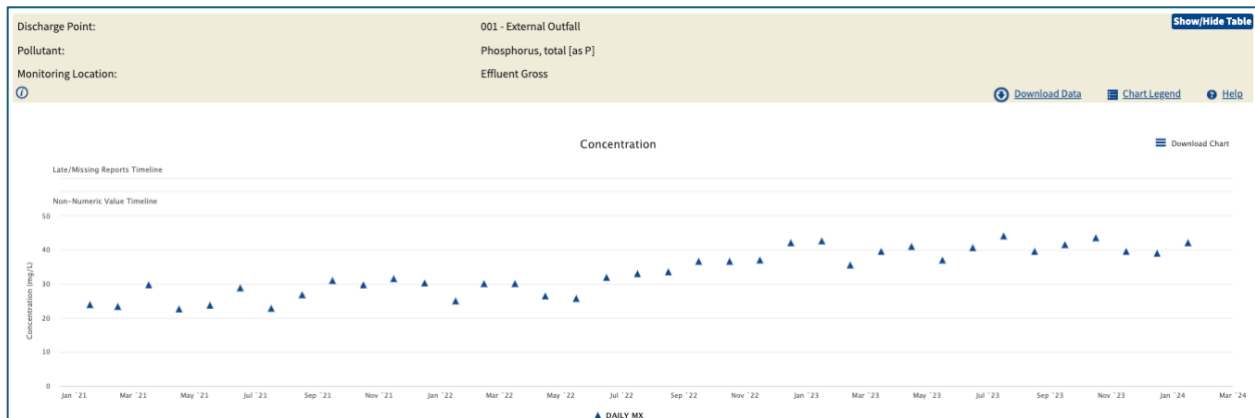


October 31, 2022. The facility is located in an area with 3 State EJ Indexes above 80 percent, including a 94 for wastewater discharges. On several occasions, Cape Fear Riverkeeper has personally observed pollution coming from the slaughterhouse in the Cape Fear River, including an unpleasant odor, visible solids, and foamy residue that persists miles downstream from the slaughterhouse.

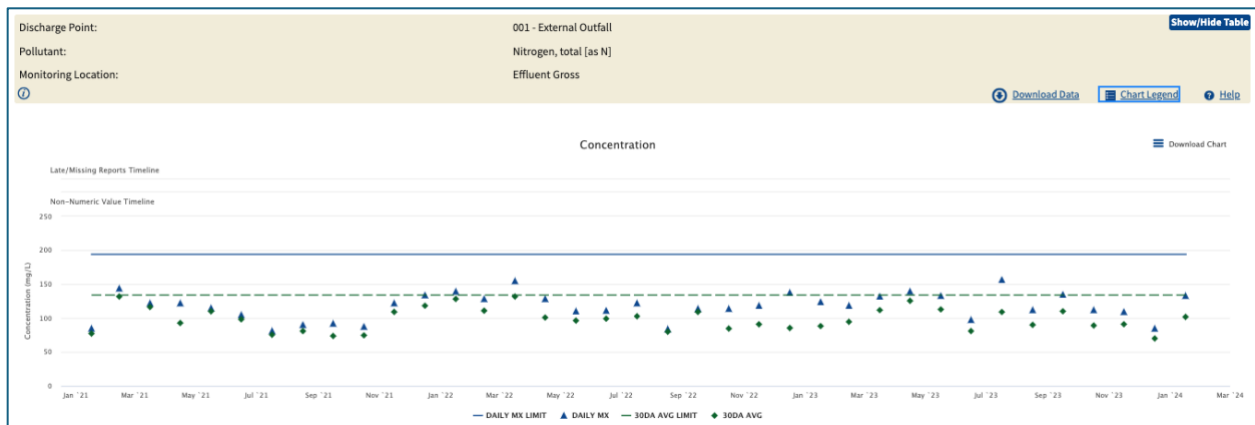
According to Smithfield’s [2023 NPDES Permit Renewal Application Update](#),¹⁵ the facility reports that its wastewater treatment plant effluent contains various daily maximum discharge concentrations of Copper, Nickel, Zinc, Cyanide, Phenols, Bromoform, Chlorodibromomethane, Chloroform, Dichlorobromomethane, Methyl Bromide, Bromide, Total Residual Chlorine, Color, Fecal Coliform, Fluoride, Nitrate-Nitrite (121 mg/l), Total Organic Nitrogen (144 mg/l), Oil and Grease, Phosphorus (31.5 mg/l), Sulfate (128 mg/l), Aluminum, Boron, Iron, Magnesium, Manganese, and Total Alpha Radiation. The most [recent](#)

[NPDES permit¹⁶](#) for the Tar Heel Plant only includes [concentration limits](#) on Ammonia-N, BOD, Total Nitrogen, Oil and Grease, Fecal Coliform, pH, D.O., Settleable Solids, and TSS. The Total Nitrogen limit in the permit is very high at 134 mg/l (Monthly Average) and 194 mg/l (Daily Maximum). The permit does not contain a concentration or load limit on Total Phosphorus.

As a result, [ECHO](#) shows that the Tar Heel Plant discharges very high concentrations of Phosphorus into the Cape Fear River, with DMRs showing multiple values in excess of 40 mg/l from January 1, 2021 through March 15, 2024.



ECHO also shows that the Tar Heel Plant discharges very high concentrations of Nitrogen into the Cape Fear River.



With regard to loading, [ECHO](#) shows that the Tar Heel Plant is contributing high loads of multiple pollutants into the Cape Fear River each year, including, for example, Nitrate compounds (3,090,624 lbs./yr. in 2022 and 4,002,689 lbs./yr. – 2021), Nitrogen (705,360 lbs./yr. – 2022), Phosphorus (224,988 lbs./yr. – 2022), and TSS (196,520 lbs./yr. – 2022). Metals and other pollutants discharged from the facility are not reported on ECHO.

DMR and TRI Multi-Year Loading Report

SMITHFIELD PACKING COMPANY INCORPORATED - TAR HEEL
 TAR HEEL, NC, 28392-9307

FRS ID: 110007377338

NPDES ID(s): NC0078344, NCG060126

TRI ID(s): 28392CRLNFHWY87

Discharges to Chemical Groups by Pounds (lb)									
Units: <input checked="" type="radio"/> Pounds <input type="radio"/> TWPE									
Chemical Group	2020 DMR (lb/yr)	2020 TRI (lb/yr)	2021 DMR (lb/yr)	2021 TRI (lb/yr)	2022 DMR (lb/yr)	2022 TRI (lb/yr)	2023 DMR (lb/yr)	2023 TRI (lb/yr)	2023 DMR (lb/yr)
AMMONIA	4,017	532	3,300	432	1,137	178	1,048		1,048
BOD, 5-day, 20 deg. C	50,703	N/A	38,995	N/A	36,861	N/A	43,277		43,277
HYDROGEN SULFIDE	--	102	--	89	--	84	--		--
NITRATE COMPOUNDS	987,409	4,765,781	--	4,062,689	--	3,090,624	--		--
Nitrogen	1,877,065	N/A	727,500	N/A	705,360	N/A	789,740		789,740
Oil and grease	0	N/A	0	N/A	0	N/A	8,200		8,200
Organic Nitrogen	1,877,065	N/A	727,500	N/A	705,360	N/A	789,740		789,740
Phosphorus	230,189	N/A	198,713	N/A	224,988	N/A	321,502		321,502
Solids, total suspended	232,373	N/A	155,885	N/A	196,520	N/A	229,176		229,176
Total Kjeldahl Nitrogen	1,877,065	N/A	727,500	N/A	705,360	N/A	789,740		789,740
Total Residual Chlorine	0	N/A	0	N/A	0	N/A	0		0

Land Application Facilities

Numerous potential MPP facilities in North Carolina appear to be regulated under what are referred to as “Non-Discharge Permits,” rather than Individual NPDES Permits, in instances where the facilities land apply their process wastewater. As recognized in EPA’s Environmental Assessment¹⁷ for the proposed rule, land application of MPP wastewater can, and does, result in pollutant discharges that adversely impact surface water quality. Those discharges are not exempt from the federal Clean Water Act permitting requirements, but it appears that the NC DEQ is treating some or all of the MPP facilities that only land apply process wastewater in the state as non-discharging operations that do not require Individual NPDES discharge permits.

For example, Butterball, LLC in Mt. Olive, NC is a turkey processing plant that operates a wastewater treatment and irrigation facility with multiple large land application fields (shown on right).



Butterball operates under a 2 MGD [Non-Discharge Permit](#)¹⁸ issued by NC DEQ. Process wastewater from the facility is applied to multiple land application fields. The Butterball Plant land application areas are traversed by numerous unnamed streams that flow a short distance into the Northeast Cape Fear River, which is directly adjacent to the facility, providing a direct pathway for pollution discharges.



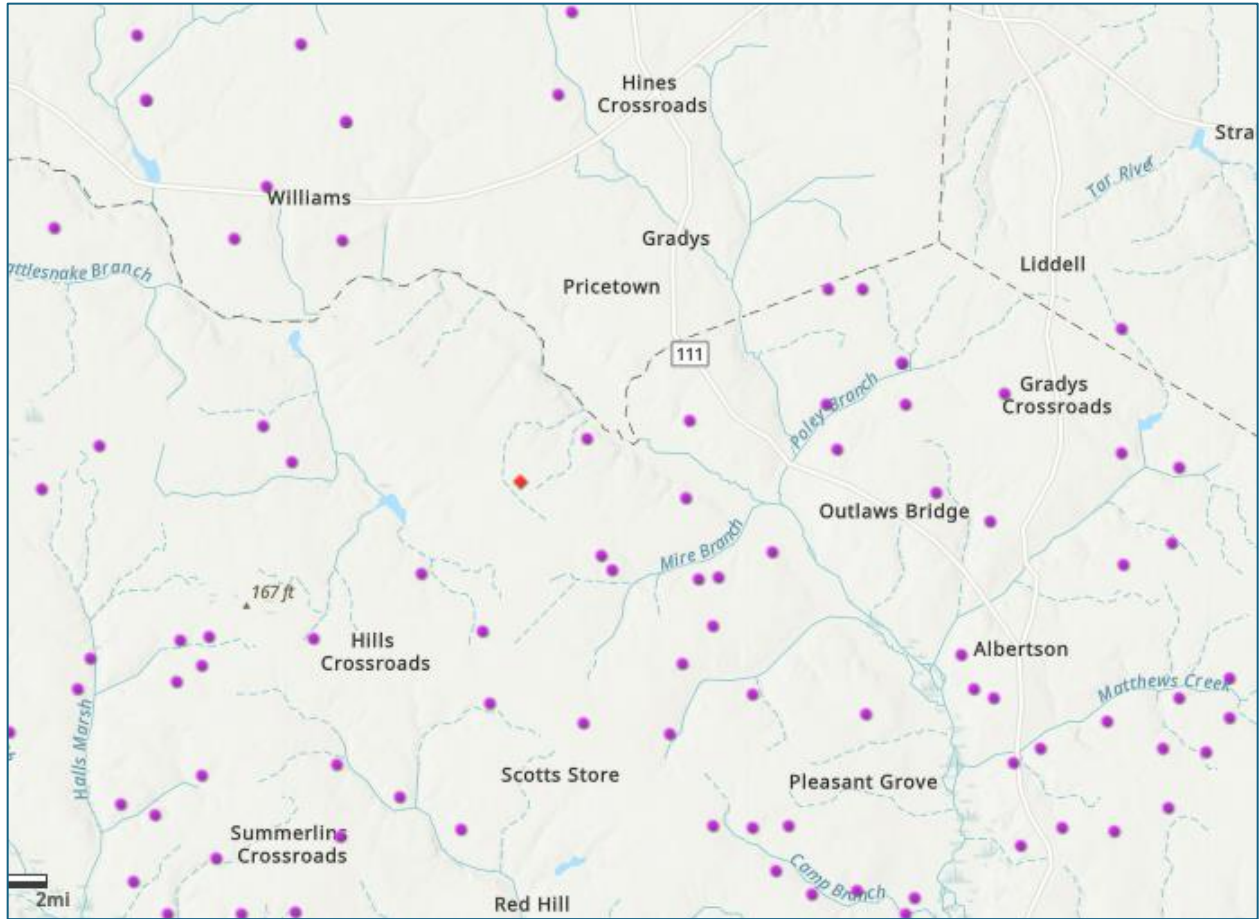
Additionally, significant Nitrate and TDS groundwater contamination is present at multiple land application site locations per the facility's [2024 Annual Groundwater Report](#).¹⁹ See Table below. This groundwater is relatively shallow and is, thus, likely hydrologically connected to the adjoining Northeast Cape Fear River. As acknowledged in EPA's Environmental Assessment at pp. 2-2 and 7-4, pollutants in land applied MPP waste can leach into hydrologically connected groundwater and contaminate local waterways.

	Sampling Date	Water Level From Top of Casing	pH	Total Organic Carbon	Fecal Coliform	Total Dissolved Solids	Total Phosphorus	Ammonia-N	Nitrate-N	Nitrite-N	Chloride
Units	-	feet	s.u.	mg/l	MPN/100 mL	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l
Groundwater Standard	-		6.5 - 8.5	-	1	500	-	1.5	10	1	250
MW-22	1/12/2023	9.8	4.1	1.2	<1	161	0.04	<0.2	18.1	0.02	14
	5/4/2023	8.1	4.4	1.5	<1	128	0.47	<0.2	12.5	0.02	30
	9/8/2023	8.4	4.4	0.9	<1	117	0.14	<0.2	11.4	0.02	13
MW-23	1/12/2023	8.2	4.5	2.4	<1	346	0.15	<0.2	8.28	0.02	122
	5/4/2023	7.8	5.7	1.5	<1	335	1	<0.2	0.86	0.07	46
	9/8/2023	8.8	5.1	2.6	<1	157	3.06	<0.2	3.47	0.06	34
MW-24	1/12/2023	10.6	4.7	4.9	<1	154	0.05	0.2	9.21	0.02	49
	5/4/2023	11.7	4.9	0.4	<1	24	0.15	0.2	1.8	0.02	5
	9/8/2023	11.2	4.9	1	<1	90	0.26	0.2	9.6	0.05	15
MW-27	1/12/2023	10.6	4.2	1.9	<1	478	0.04	0.2	13	0.02	171
	5/4/2023	8.9	4.8	0.5	<1	79	0.08	0.2	8.23	0.02	11
	9/8/2023	8.17	5.8	0.5	<1	89	0.08	0.2	5.8	0.02	17
MW-28	1/12/2023	13.9	4.4	0.8	<1	60	0.4	<0.20	5.16	0.04	4.4
	5/4/2023	9.8	4.9	0.5	<1	58	0.2	<0.20	3.85	0.02	5
	9/8/2023	9.9	5.2	0.5	<1	85	0.14	<0.20	5.98	0.02	5
MW-29	1/12/2023	9.6	5.7	0.5	<1	87	0.14	<0.2	0.04	<0.02	73
	5/4/2023	9.6	5.4	1.3	<1	87	0.09	<0.2	0.1	<0.02	9
	9/8/2023	12.4	4.3	0.5	<1	96	1.13	<0.2	0.02	<0.02	11
MW-34	1/12/2023	14	4.8	0.5	<1	99	0.04	<0.2	5.23	<0.02	10
	5/4/2023	12.1	5.3	0.5	<1	87	0.2	<0.2	8.38	<0.02	9
	9/8/2023	13.3	4.7	0.5	<1	125	0.12	<0.2	8.72	0.1	15
MW-35	1/12/2023	14.1	5.2	0.6	<1	87	0.04	<0.20	1.65	<0.03	5
	5/4/2023	12.3	5.7	0.5	<1	46	0.25	<0.20	1.99	<0.02	6
	9/8/2023	14.2	5.3	0.5	<1	56	0.27	<0.20	1.07	<0.08	5
MW-36	1/12/2023	13.8	5	0.7	<1	73	0.14	<0.2	2.31	<0.02	11
	5/4/2023	12	5.1	0.5	<1	42	0.04	<0.2	0.4	<0.02	6
	9/8/2023	13.4	5.1	0.5	<1	47	1.46	<0.2	0.85	0.07	8
MW-37	1/12/2023	17.1	4.7	0.8	<1	137	0.04	<0.20	9.37	<0.02	40
	5/4/2023	16.3	5	0.5	<1	123	0.04	<0.20	0.4	<0.02	30
	9/8/2023	18.2	4.3	0.5	<1	158	0.06	<0.20	7.63	<0.02	44
MW-38	1/12/2023	19.5	4.1	2.4	<1	642	0.04	<0.2	55.1	0.02	196
	5/4/2023	20.1	4.4	1.5	<1	737	0.22	<0.2	21.4	0.02	43
	9/8/2023	20.8	4.4	1.5	<1	852	0.67	<0.2	68.3	0.02	217
MW-39 (CP-1)	1/12/2023	18.7	4.0	0.5	<1	235	0.36	<0.2	16.70	0.02	98
	5/4/2023	18.3	4.3	0.5	<1	173	0.05	<0.2	18.3	0.02	52
	9/8/2023	19.1	4.1	0.5	<1	217	0.1	<0.2	16.10	0.02	71
MW-40 (CP-2)	1/12/2023	13.2	4.6	0.5	<1	19	0.04	<0.02	23.8	0.02	37
	5/4/2023	11.5	4.9	0.5	<1	210	1.23	<0.02	20.1	0.02	55
	9/8/2023	12.8	4.8	0.5	<1	364	0.47	<0.02	10.8	0.02	68
MW-41 (CP-3)	1/12/2023	16.3	4.2	0.5	<1	315	0.04	0.2	36.1	0.02	50
	5/4/2023	15.3	4.2	0.5	<1	139	0.11	0.2	18.8	0.02	31
	9/8/2023	15.8	4.2	0.5	<1	305	0.47	<0.2	23.3	0.02	85
MW-42 (CP-4)	1/12/2023	10.2	4.7	1.5	<1	78	0.04	<0.02	0.99	0.02	14
	5/4/2023	3.05	5	1	<1	82	0.24	<0.02	1.08	0.02	16
	9/8/2023	11.4	4.7	1	<1	78	0.42	<0.2	1	0.02	13

Denotes an exceedance of groundwater standard.

* Note: pH at the site has historically been below the groundwater standard range even in upgradient wells.

The Butterball Plant is also surrounded by multiple permitted and unpermitted AFOs that are also land applying animal waste, contributing a significant cumulative pollution load to the Northeast Cape Fear River.



Butterball (Red Diamond) Surrounded by Permitted Animal Feeding Operations (Purple Dots – From NC DEQ GIS available at:

<https://data-ncdenr.opendata.arcgis.com/maps/animal-feed-operation-permits-view>)

Appendix 1 – List of Potential MPP Facilities from EPA Data (Direct, Indirect and “Non-Discharging”)

Facility Name	Latitude	Longitude
American Skin Food Group LLC	34.542748	-77.920776
Americold Logistics LLC	35.516586	-79.214496
BIG ED FEED MILL - ROSE HILL	34.855	-78.036389
Brookwood Farms	35.719398	-79.448674
Butterball, LLC	35.140516	-77.91392
Butterball, LLC	34.975889	-79.209418
Cangialosi Specialty Sausage Company, Inc.	36.095909	-79.976868
Carlie C. McLamb Meats	35.299552	-78.587508
Carlie C's Operation Center, Inc.	35.346695	-78.580261
CE Kitchen LLC	34.142287	-77.91523
Chaudhry Meat Company, Inc.	35.739665	-79.498826
Chirpy's Barbecue	35.52442	-79.496175
Clean Eat Kitchen	34.262471	-77.839511
COASTAL PROTEIN WWTF	35.157069	-78.629703
CTH US Inc.	34.992276	-78.314091
House Of Raeford Farms	34.858953	-78.034362
House of Raeford Farms Inc	34.75615	-78.05164
JM Brothers Inc.	35.939946	-79.9982
Larry's Sausage Co., Inc.	35.060357	-78.848387
Lewis Sausage Co., Inc.	34.563368	-77.932422
Lineage Logistics	34.75428	-78.8049
Mac's Farms Sausage Co., Inc.	35.245537	-78.354976
Martin's Pork Products, Inc.	35.189103	-78.655035
MawMaw's Chicken Pies	36.077339	-80.05074
McButt's Country Sausage, LLC	34.8871309	-78.7910432
Mickenzie Jerky, Inc.	34.972206	-78.947612
Morty Pride Meats, Inc.	35.032207	-78.794076
Morty Pride Meats, Inc.	35.046766	-78.861188
Mountaire Farms Inc.	35.731209	-79.44956
MOUNTAIRE FARMS-CANDOR FEED MILL	35.299167	-79.717222

National Distribution Center	34.985736	-78.80767
Nordic Logistics & Warehousing dba Agro Merchants Group	35.357307	-78.56751
Nordic Logistics and Warehousing, LLC	34.658712	-78.10843
Parks Family Meats, LLC	34.998585	-78.070078
PDNC, LLC	36.0875	-79.97313
Pender Packing Company, Inc.	34.423765	-77.956698
Pilgrim's Pride Corporation	35.560841	-79.234948
PILGRIM'S PRIDE CORPORATION	35.808333	-79.551389
Port of Wilmington Cold Storage	34.191563	-77.948243
R. D. Jones Packing Company Inc.	35.12076	-78.15076
Randolph Packing Co., Inc.	35.747574	-79.81175
Smithfield Fresh Meats Corp.	34.993827	-78.31011
The Pork Company	35.006606	-78.122913
Thomas Brothers Foods	35.748585	-79.785459
United States Cold Storage Inc	35.013694	-78.1094
VALLEY PROTEINS - FAYETTEVILLE DIV	35.0333	-78.8639
VALLEY PROTEINS - ROSE HILL WWTF	34.838943	-78.037127
Vanguard Culinary Group, Ltd.	35.037441	-78.89554
Villari Bros. Foods LLC	34.98618	-78.08456
Violet Sanford Holdings, LLC	35.526327	-79.22903
WARSAW FEED MILL	34.9975	-78.1497
Wells Pork & Beef Products	34.642784	-77.909223
Westwater, Inc. (Westwater Country Hams)	34.985621	-78.04495

Endnotes

¹ NC DEQ, *NPDES Permit NC0026514 for Raeford WWTP* (Nov. 1, 2023), available at: <https://edocs.deq.nc.gov/WaterResources/DocView.aspx?id=2962031&dbid=0&repo=WaterResources&searchid=9805555f-0c0c-47f8-8354-899f244b34a3&cr=1>. **Exhibit 1**

² City of Raeford, *2022 Pretreatment Annual Report* (Feb. 8, 2023), available at: <https://edocs.deq.nc.gov/WaterResources/DocView.aspx?id=2686806&dbid=0&repo=WaterResources&searchid=9805555f-0c0c-47f8-8354-899f244b34a3>. **Exhibit 2**

³ Town of Siler City, *2023 Pretreatment Annual Report* (Feb. 29, 2024), available at: <https://edocs.deq.nc.gov/WaterResources/DocView.aspx?id=3179739&dbid=0&repo=WaterResources>. **Exhibit 3**

⁴ NC DEQ, *Rocky River Watershed Interagency Meetings: Intersection of Rocky River Water Quality and Needs of its Rare Species*, available at: <https://www.deq.nc.gov/water-quality/planning/bpu/cape-fear/rocky-river/meeting-3-presentation-1-fws-augspurger/download>.

⁵ NC DEQ, *Rocky River Water Quality Study Plan* (June 24, 2022), available at: <https://ncnewsline.com/wp-content/uploads/2022/08/Rocky-River-update-June2022PDF.pdf>.

⁶ Town of Siler City, *2021 Pretreatment Annual Report* (Feb. 23, 2022), available at: https://ncnewsline.com/wp-content/uploads/2022/08/NC0026441_Pretreatment-Annual-Report_20220302.pdf. **Exhibit 4**

⁷ **Exhibit 3**, *supra* endnote 3.

⁸ Lisa Sorg, NC Newsline, *Mountaire chicken slaughter plant overwhelming Siler City wastewater treatment facility, which has incurred 80 violations, \$110K in fines*, (Aug. 22, 2022), available at: <https://ncnewsline.com/2022/08/22/mountaire-chicken-slaughter-plant-overwhelming-siler-city-wastewater-treatment-facility-which-has-incurred-80-violations-110k-in-fines/>. **Exhibit 5**

⁹ NC DEQ, *Special Order by Consent (SOC) EMC SOC WQ S22-003 Siler City WWTP NPDES Permit NC0026441* (April 14, 2023), available at: <https://edocs.deq.nc.gov/WaterResources/DocView.aspx?id=2750702&dbid=0&repo=WaterResources>. **Exhibit 6**

¹⁰ NC DEQ, *NPDES Permit NC0003344 for House of Raeford Farms Duplin County* (Feb. 1, 2024), available at: <https://edocs.deq.nc.gov/WaterResources/DocView.aspx?id=3115327&dbid=0&repo=WaterResources&searchid=ecebdc3-7c70-4f33-b03f-afd031bd5acd&cr=1>. **Exhibit 7**

¹¹ NC DEQ, *NPDES Permit NC0072575 Pilgrim's Pride Processing Plant Lee County* (May 1, 2021), available at: <https://edocs.deq.nc.gov/WaterResources/DocView.aspx?id=1697422&dbid=0&repo=WaterResources&searchid=45f859d0-c4e2-4751-b192-2f304b4a0e27&cr=1>. **Exhibit 8**

¹² NC DEQ, *Draft Final Special Order by Consent Pilgrim's Pride Corporation WWTP, Class 3 EMC SOC WQ S15-002* (Oct. 26, 2015), available at: <https://edocs.deq.nc.gov/WaterResources/DocView.aspx?dbid=0&id=323479&page=2>. **Exhibit 9**

¹³ Smithfield Foods, *Additional Information for Renewal Application to NC DEQ for NPDES Permit NCO078344* (April 5, 2023), available at: <https://edocs.deq.nc.gov/WaterResources/DocView.aspx?id=2842188&dbid=0&repo=WaterResources&searchid=b1f65ca0-1026-47a1-9b41-c43b6662b096&cr=1>. **Exhibit 10**

¹⁴ NC DEQ, *Final NPDES Permit NC0078344 Tar Heel Plant* (Feb. 1, 2018), available at: <https://edocs.deq.nc.gov/WaterResources/DocView.aspx?id=2215419&dbid=0&repo=WaterResources&searchid=b1f65ca0-1026-47a1-9b41-c43b6662b096>. **Exhibit 11**

¹⁵ **Exhibit 10**, *supra* endnote 13.

¹⁶ **Exhibit 11**, *supra* endnote 14.

¹⁷ EPA, *Environmental Assessment for Revisions to the Effluent Limitations Guidelines and Standards for the Meat and Poultry Products Point Source Category*, EPA-HQ-OW-2021-0736-0661 (Dec. 11, 2023), available at: <https://www.regulations.gov/document/EPA-HQ-OW-2021-0736-0661>.

¹⁸ NC DEQ, *Wastewater Irrigation System Permit No. WQ0000884 Butterball – Mt. Olive WWTP Duplin County* (Aug. 30, 2022), available at: <https://edocs.deq.nc.gov/WaterResources/DocView.aspx?id=3101966&dbid=0&repo=WaterResources&searchid=2fa21836-421f-4959-9377-d0719119eb47>. **Exhibit 12**

¹⁹ NC DEQ, *Butterball Annual Groundwater Report WQ0000884* (Feb. 28, 2024), available at: <https://edocs.deq.nc.gov/WaterResources/DocView.aspx?id=3195280&dbid=0&repo=WaterResources&searchid=2fa21836-421f-4959-9377-d0719119eb47&cr=1>. **Exhibit 13**