



# SWINE FARM PERMIT MODIFICATIONS

Associated with the Align RNG Proposed Project

Environmental Justice Report North  
Carolina Department of Environmental Quality

December 22, 2020

## 1 Environmental Justice (EJ) Report

The EJ Report is an initial look at the demographics and socioeconomics of a facility's surrounding community area. This includes information within a radius determined by the North Carolina Department of Environmental Quality (Department or DEQ) regarding race and ethnicity (decennial census year), poverty status, per capita income, and ability to speak English (most current American Community Survey (ACS) census range), the current North Carolina Department of Commerce county tier, and presence of Native American territory. The EJ Report does not include a reconnaissance of the community.

A Draft EJ report will be prepared at the beginning of the permit application process when requested by the appropriate Division Director. This report will be distributed to interested community members (if known) and posted to the DEQ website with the relevant permit application before the close of the public comment period. The primary goal is to encourage EJ Report comments and suggestions from the surrounding community, industry, and environmental groups throughout the comment period.

It is important to keep in mind, that based on the data available, the following limitations of this evaluation: census data is from 2010 and may be outdated; the more recent American Community Survey data through 2018 are estimates; the U.S. EPA's EJSCREEN does not provide all of the data categories that were used in this analysis so the census tract and county data cannot be compared to the radius evaluating the facility boundary; and census tracts can be large areas that do not identify exact locations of each population.

The Department has prepared this overview of the demographic and socioeconomic data of the communities surrounding the four animal feeding operations that have applied for modifications to their existing animal waste management permits, associated with the Align RNG, LLC facility to foster communication prior to the Division of Water Resource's final action on the permit modifications.

## 2 Environmental Justice Evaluation

Environmental justice is the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income, with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies (US EPA). This evaluation examines the demographic and environmental conditions in Sampson and Duplin Counties, as well as census tracts 903, 908.01, 9710, and 9701, and the one-mile buffer around the property boundary of the proposed Align RNG, LLC facility. Finally, the demographics of the entire state of North Carolina are also considered as they compare to both the county and local census tract and radius settings.

The Department has assessed the permit modification applications and the composition of the communities surrounding the facility as proposed in the permit application. Accordingly, this Environmental Justice Report includes:

- Overview of the permit modifications submitted by four animal feeding operations
- Study of area demographics [determined by utilizing the US EPA Environmental Justice tool (EJSCREEN) <https://ejscreen.epa.gov/mapper/> and current, available census data. <http://factfinder.census.gov/faces/nav/jsf/pages/index.xhtml>]
- Comparison of local area demographics to both county and statewide census data
- County health assessment
- Surrounding sensitive receptors
- Local industrial sites (using the NCDEQ Community Mapping System <https://ncdenr.maps.arcgis.com/apps/webappviewer/index.html?id=1eb0fbe2bcfb4cccb3cc212af8a0b8c8>).

Demographics (including race and ethnicity, poverty status, and per capita incomes) for Sampson and Duplin counties will be compared to the local (census tracts and project radius) level data to identify any disparities surrounding the project area. Using standard environmental justice guidelines from the EPA and National Environmental Policy Act (NEPA) documentation, the following conditions will be flagged as potential communities of concern:

- 10% or more in comparison to the county or state average
- 50% or more minority
- 5% or more in comparison to the county or state average for poverty

### 3 Proposed Project

Align RNG, LLC submitted an air permit application for a proposed facility in Duplin County, North Carolina. The air permit application is for a new processing facility which would receive biogas produced in anaerobic digesters at various independently-owned and operated swine facilities located in Duplin and Sampson counties. This report focuses on the four swine farms currently under review for a modification to their animal operations permits, which would supply the Align RNG proposed facility with biogas. Those farms are the Kilpatrick Farm 1,2,4 & 5 & Merritt Farm, Benson Farm, Waters Farm 1-5 M&M Rivenbark, and Farms 2037 & 2038 (Table 1). The Kilpatrick Farm 1, 2, 4, & 5 & Merritt Farm proposes to cover one of existing, synthetically lined lagoons at the Kilpatrick Farm site. This modification would treat the waste from 13,336 Wean to Finish swine at the Kilpatrick Farm site. The remaining 5,083 Wean to Finish swine at the Merritt Farm site will continue to be served by the existing lagoon at that site. These two farm sites are covered under one permit because they share land application fields. The other three farms each plan to install one new synthetically lined anaerobic digester. Anaerobic digesters are designed to breakdown organic materials (such as animal or agricultural waste) more quickly and more completely in an environment without oxygen. These digesters are designed to capture the biogas that is a by-product of anaerobic digestion.

**Table 1. Swine Operations information and Modification overview**

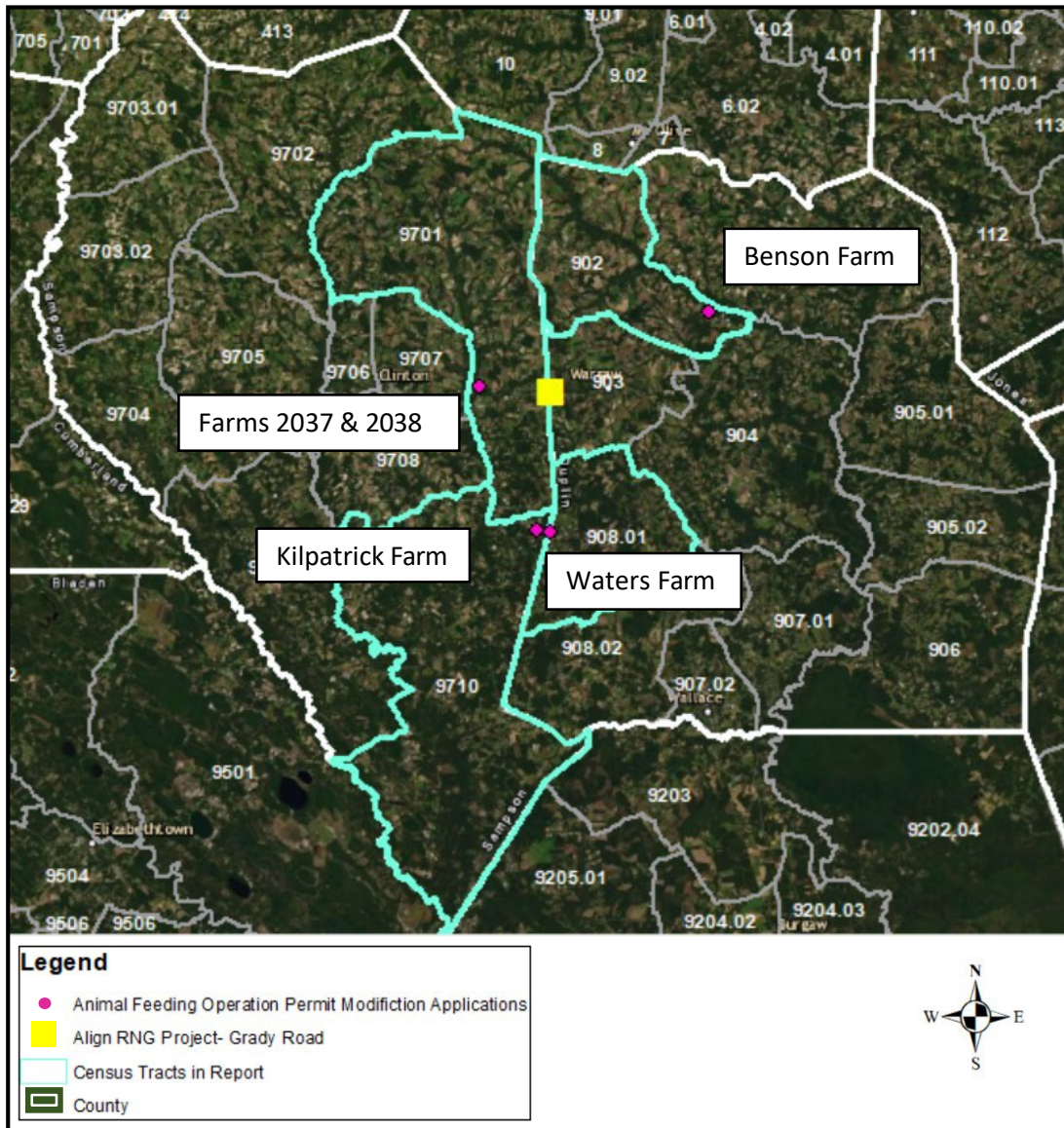
Farm	Permitted head count (size) & Type	Modifications Considered
Waters Farm 1-5 M&M Rivenbark	12,308 Wean to Finish Swine	Install new synthetically lined and covered anaerobic digester
Benson Farm	6,120 Feeder to Finish Swine	Install new synthetically lined and covered anaerobic digester
Kilpatrick Farm 1, 2, 4, & 5 & Merrit Farm	18,419 Wean to Finish Swine	Install cover on existing synthetically lined lagoon
Farm 2037 and 2038	20,992 Feeder to Finish Swine	Install new synthetically lined and covered anaerobic digester

While the surrounding farms are considered, neither the gathering lines (low-pressure biogas pipelines) nor the Piedmont Natural Gas pipeline will be included in this analysis. Public comments on the Align RNG facility also raised concerns regarding truck traffic and disease vectors, however these concerns are outside the scope of this analysis as well.

### 4 Geographic Area

The proposed facility, Align RNG, LLC, is located at 2940 NC Highway 24 West, Turkey, NC 28393 (Figure 1). The four farms under review for permit modifications are as follows:

- Waters Farm 1-5 M&M Rivenbark: 885-A Bonham Rd, Magnolia, NC 28453; Duplin County
- Benson Farm: 956 Veaches Mill Rd, Warsaw, NC 28398; Duplin County
- Kilpatrick Farm 1, 2, 4, & 5 & Merrit Farm, 1457 A K Bryan Rd, Magnolia, NC 28453; Sampson County
- Farm 2037 and 2038, 779 Old Goodson Farm Ln, Turkey, NC 28393; Sampson County



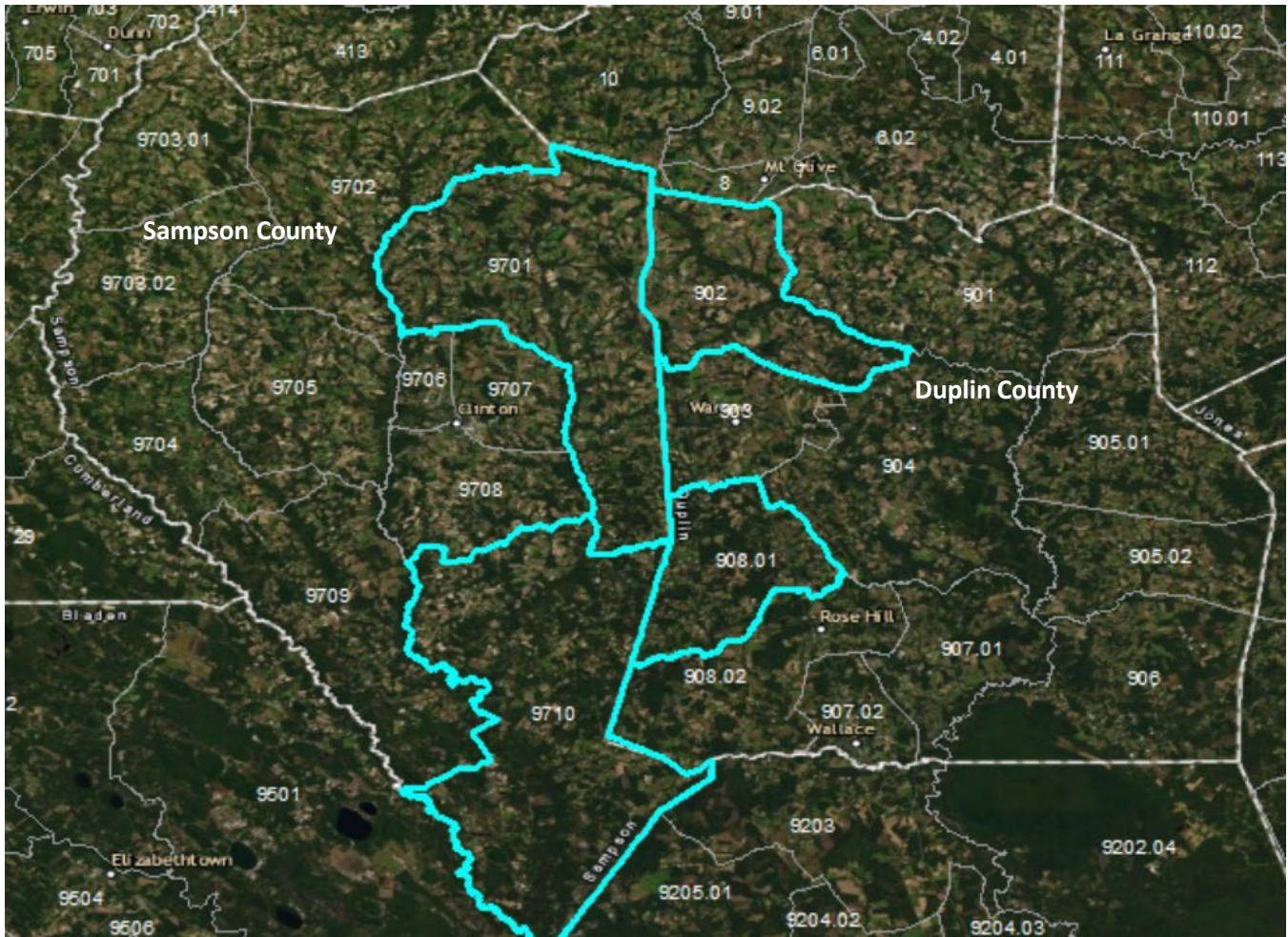
**Figure 1. Facility location (Align RNG, LLC) with the four swine facilities applying for permit modifications.**

### Regional Setting

The four swine facilities are located in Duplin and Sampson counties in four census tracts. Both Sampson and Duplin counties are designated as Tier 1 counties. Tier 1 counties encompass the 41 most distressed counties based on average unemployment rate, median household income, percentage growth in population, and adjusted property tax per capita. The swine facilities are located in two census tracts in Duplin County – census tracts 902 (Benson Farm) and 908.01 (Waters Farm), and two in Sampson County – census tracts 9701 (Farms 2037 & 2038) and 9710 (Kilpatrick Farm) (Figure 2). Census tracts are small, relatively



permanent statistical subdivisions of a county with a unique numeric code (US Census Bureau). According to the North Carolina Commission of Indian Affairs, Sampson County is identified as an area where the State-recognized Coharie Tribe resides.



**Figure 2. Census tracts of Sampson and Duplin counties, highlighting the four included in this report.**

**Table 2. Regional Setting - Race and Ethnicity**

	North Carolina		Duplin County		Sampson County	
	Estimate	Percent	Estimate	Percent	Estimate	Percent
Total:	9,535,483	100.00	58,505	100.00	63,431	100.00
Not Hispanic or Latino:	8,735,363	91.61	46,446	79.39	52,991	83.54
White alone	6,223,995	65.27	30,959	52.92	33,754	83.54
Black or African American alone	2,019,854	21.18	14,640	<b>25.02</b>	16,948	<b>26.72</b>
American Indian and Alaska Native alone	108,829	1.14	173	0.30	1,130	1.78
Asian alone	206,579	2.17	135	0.23	217	0.34
Native Hawaiian and Other Pacific Islander alone	5,259	0.06	28	0.05	43	0.07
Some other race alone	15,088	0.16	46	0.08	81	0.13
Two or more races:	155,759	1.63	465	0.79	818	1.29
Hispanic or Latino:	800,120	8.39	12,059	<b>20.61</b>	10,440	<b>16.46</b>

Source: US Census Bureau, 2010 Census

All **bolded and orange cells** indicate a difference that is greater than 10% when compared to the state.

**Table 3a. Local Setting – Race and Ethnicity**

Subject	Census Tract 902, Duplin County, North Carolina		Census Tract 908.01, Duplin County, North Carolina		Census Tract 9701, Sampson County, North Carolina		Census Tract 9710, Sampson County, North Carolina	
	Estimate	Percent	Estimate	Percent	Estimate	Percent	Estimate	Percent
Total:	4,341	100.00	3,220	100.00	7,110	100.00	5,429	100.00
Not Hispanic or Latino:	3,293	75.86	1,920	59.63	5,362	75.41	4,159	76.61
White alone	2,138	49.25	930	28.88	3,388	47.65	1,941	35.75
Black or African American alone	1,087	<b>25.04</b>	940	<b>29.19</b>	1,838	<b>25.85</b>	2,116	<b>38.98</b>
American Indian and Alaska Native alone	15	0.35	9	0.28	51	0.72	25	0.46
Asian alone	10	0.23	3	0.09	10	0.14	13	0.24
Native Hawaiian and Other Pacific Islander alone	4	0.09	3	0.09	5	0.07	3	0.06
Some other race alone	2	0.05	9	0.28	8	0.11	2	0.04
Two or more races:	37	0.85	26	0.81	62	0.87	59	1.09
Hispanic or Latino:	1,048	<b>24.14</b>	1300	<b>40.37</b>	1,748	<b>24.59</b>	1270	<b>23.39</b>

Source: US Census Bureau, 2010 Census  
All **bolded and orange** cells indicate a difference that is greater than 10% when compared to the state.  
All **bolded and blue** cells indicate a difference that is greater than 10% when compared to the county and state.

**Table 3b. Local Setting; one-mile radius – Race and Ethnicity**

Subject	Waters Farm Project Area- 1-mile Buffer		Benson Farms Project Area- 1-mile Buffer		Kilpatrick Farm Project Area- 1-mile Buffer		Farms 2037 and 2038 Project Area- 1-mile Buffer	
	Estimate	Percent	Estimate	Percent	Estimate	Percent	Estimate	Percent
Total:	25	100.00	114	100.0	103	100.00	407	100.00
Not Hispanic or Latino:	12	50.00	91	20.0	74	72.00	337	83.00
White alone	6	24.00	51	45.0	43	42.00	189	46.00
Black or African American alone	6	<b>25.00</b>	38	<b>33.0</b>	29	<b>29.00</b>	145	<b>36.00</b>
American Indian and Alaska Native alone	0	0.00	1	1.0	1	0.00	1	0.00
Asian alone	0	0.00	0	0.0	0	0.00	1	0.00
Native Hawaiian and Other Pacific Islander alone	0	0.00	0	0.0	0	0.00	1	0.00
Some other race alone	10	<b>42.00</b>	19	<b>16.0</b>	23	<b>22.00</b>	54	<b>13.00</b>
Two or more races:	0	0.00	2	2.0	2	2.00	5	1.00
Hispanic or Latino:	13	<b>50.00</b>	23	<b>20.0</b>	29	<b>28.00</b>	70	<b>17.00</b>
Total Minority		<b>76.00</b>		<b>55.0</b>		<b>58.00</b>		<b>54.00</b>

Source: US Census Bureau, 2010 Census; obtained through EJSCREEN  
All **bolded and orange cells** indicate a difference that is greater than 10% when compared to the state.  
All **bolded and blue cells** indicate a difference that is greater than 10% when compared to the county and state.



**Table 4. Poverty Status – Regional Setting**

Subject	North Carolina						Duplin County					
	Total		Below poverty level		Percent below poverty level		Total		Below poverty level		Percent below poverty level	
	Estimate	Margin of Error +/-	Estimate	Margin of Error +/-	Estimate	Margin of Error +/-	Estimate	Margin of Error +/-	Estimate	Margin of Error +/-	Estimate	Margin of Error +/-
Population for whom poverty status is determined	9,881,292	1,522	1,523,949	15,319	15.4%	0.2	58382	253	14,056	1,394	<b>24.1%</b>	2.4
AGE												
Under 18 years	2,258,876	1,607	498,013	7,632	22.0%	0.3	14,023	193	5,260	716	<b>37.5%</b>	5
18 to 64 years	6,092,009	1,103	884,618	9,282	14.5%	0.2	34,336	161	7,431	809	<b>21.6%</b>	2.4
65 years and over	1,530,407	995	141,318	2,705	9.2%	0.2	10,023	171	1,365	284	<b>13.6%</b>	2.8
SEX												
Male	4,779,533	2,237	669,307	8,648	14.0%	0.2	28,491	161	6,434	830	<b>22.6%</b>	2.9
Female	5,101,759	2,244	854,642	8,676	16.8%	0.2	29,891	194	7,622	778	<b>25.5%</b>	2.6
RACE/ETHNICITY												
White	6,829,742	8,193	823,258	11,150	12.1%	0.2	41,366	454	8,964	1,275	<b>21.7%</b>	3
Black or African American	2,096,490	5,812	493,496	8,392	23.5%	0.4	14,158	373	3,842	618	<b>27.1%</b>	4.2
American Indian and Alaska Native	117,702	1,595	29,577	1,585	25.1%	1.3	131	117	0	29	0.0%	23.2
Asian	275,301	1,983	32,712	2,356	11.9%	0.9	160	72	7	11	4.4%	6.7
Native Hawaiian and Other Pacific Islander	6,414	671	1,246	264	19.4%	4.2	46	53	0	29	0.0%	45.4
Some other race	302,934	7,911	89,305	5,371	29.5%	1.5	1,551	472	902	423	<b>58.2%</b>	18.4
Two or more races	252,709	6,223	54,355	2,369	21.5%	0.8	970	364	341	208	<b>35.2%</b>	17.3
Hispanic or Latino origin (of any race)	915,426	901	260,607	5,682	28.5%	0.6	12,871	29	5,805	1,024	<b>45.1%</b>	7.9
All individuals below:												
50 percent of poverty level	663,550	10,829					5,254	932				
125 percent of poverty level	2,034,827	19,447					19,381	1,727				
150 percent of poverty level	2,526,688	21,681					24,374	1,483				
185 percent of poverty level	3,227,889	24,339					29,218	1,609				
200 percent of poverty level	3,513,670	25,035					31,004	1,650				

Subject	North Carolina						Sampson County					
	Total		Below poverty level		Percent below poverty level		Total		Below poverty level		Percent below poverty level	
	Estimate	Margin of Error +/-	Estimate	Margin of Error +/-	Estimate	Margin of Error +/-	Estimate	Margin of Error +/-	Estimate	Margin of Error +/-	Estimate	Margin of Error +/-
Population for whom poverty status is determined	9,881,292	1,522	1,523,949	15,319	15.4%	0.2	62,674	313	15,084	1,262	<b>24.1%</b>	2.0
AGE												
Under 18 years	2,258,876	1,607	498,013	7,632	22.0%	0.3	15,366	169	5,607	642	<b>36.5%</b>	4.1
18 to 64 years	6,092,009	1,103	884,618	9,282	14.5%	0.2	36,772	233	8,300	756	<b>22.6%</b>	2.0
65 years and over	1,530,407	995	141,318	2,705	9.2%	0.2	10,536	170	1,177	270	<b>11.2%</b>	2.6
SEX												
Male	4,779,533	2,237	669,307	8,648	14.0%	0.2	30,696	278	6,912	660	<b>22.5%</b>	2.1
Female	5,101,759	2,244	854,642	8,676	16.8%	0.2	31,978	137	8,172	864	<b>25.6%</b>	2.7
RACE/ETHNICITY												
White	6,829,742	8,193	823,258	11,150	12.1%	0.2	40,561	877	7,928	1,090	<b>19.5%</b>	2.6
Black or African American	2,096,490	5,812	493,496	8,392	23.5%	0.4	15,692	420	5,473	720	<b>34.9%</b>	4.4
American Indian and Alaska Native	117,702	1,595	29,577	1,585	25.1%	1.3	1,198	272	187	103	15.6%	9.0
Asian	275,301	1,983	32,712	2,356	11.9%	0.9	372	18	101	91	<b>27.2%</b>	24.0
Native Hawaiian and Other Pacific Islander	6,414	671	1,246	264	19.4%	4.2	0	29	0	29	-	**
Some other race	302,934	7,911	89,305	5,371	29.5%	1.5	3,020	780	992	509	<b>32.8%</b>	12.3
Two or more races	252,709	6,223	54,355	2,369	21.5%	0.8	1,831	495	403	237	22.0%	9.9
Hispanic or Latino origin (of any race)	915,426	901	260,607	5,682	28.5%	0.6	12,187	92	4,790	817	<b>39.3%</b>	6.7
All individuals below:												
50 percent of poverty level	663,550	10,829					5,598	887				
125 percent of poverty level	2,034,827	19,447					18,830	1,385				
150 percent of poverty level	2,526,688	21,681					23,188	1,278				
185 percent of poverty level	3,227,889	24,339					28,055	1,293				
200 percent of poverty level	3,513,670	25,035					30,086	1,314				

Source: American Community Survey 5-year Estimates (2014-2018)  
All **bolded and orange** cells indicate a difference that is greater than 5% when compared to the state.

**Table 5a. Poverty Status – Local Setting; Duplin County**

Subject	Census Tract 902, Duplin County, North Carolina						Census Tract 908.01, Duplin County, North Carolina					
	Total		Below poverty level		Percent below poverty level		Total		Below poverty level		Percent below poverty level	
	Estimate	Margin of Error +/-	Estimate	Margin of Error +/-	Estimate	Margin of Error +/-	Estimate	Margin of Error +/-	Estimate	Margin of Error +/-	Estimate	Margin of Error +/-
Population for whom poverty status is determined	4,493	565	1,116	383	<b>24.8%</b>	7.5	3,035	455	899	480	<b>29.6%</b>	13.2
AGE												
Under 18 years	1,280	335	513	244	<b>40.1%</b>	13.4	932	306	460	315	<b>49.4%</b>	21.9
18 to 64 years	2,533	362	513	172	<b>20.3%</b>	6.8	1,796	263	381	194	<b>21.2%</b>	10.3
65 years and over	680	114	90	48	<b>13.2%</b>	7.3	307	94	58	33	<b>18.9%</b>	11.1
SEX												
Male	2,204	304	557	220	<b>25.3%</b>	8.7	1,421	229	350	212	<b>24.6%</b>	13.4
Female	2,289	354	559	228	<b>24.4%</b>	8.5	1,614	323	549	317	<b>34.0%</b>	14.7
RACE/ETHNICITY												
White	1,740	237	112	61	6.4%	3.4	1,914	424	658	435	<b>34.4%</b>	17.1
Black or African American	1,315	468	620	338	<b>47.1%</b>	19.2	805	200	213	148	<b>26.5%</b>	15.6
American Indian and Alaska Native	29	51	0	12	0.0%	57.1	91	114	-	12	0.0%	30.9
Asian	-	12	0	12	-	-	-	12	-	12	-	-
Native Hawaiian and Other Pacific Islander	-	12	0	12	-	-	-	12	-	12	-	-
Some other race	135	96	37	44	27.4%	29.8	158	145	21	28	13.3%	20.9
Two or more races	60	46	2	6	3.3%	11.8	67	84	7	10	10.4%	21.8
Hispanic or Latino origin (of any race)	1,376	447	382	220	27.8%	13.5	1,446	477	684	470	<b>47.3%</b>	20.6
All individuals below:												
50 percent of poverty level	698	322					407	365				
125 percent of poverty level	1,713	571					1,159	509				
150 percent of poverty level	1,951	608					1,390	515				
185 percent of poverty level	2,361	581					1,614	527				
200 percent of poverty level	2,475	583					1,785	523				

Source: American Community Survey 5-year Estimates (2014-2018)  
All **bolded and orange** cells indicate a difference that is greater than 5% when compared to the state.  
All **bolded and blue** cells indicate a difference that is greater than 5% when compared to the state and the county.

**Table 5a. Poverty Status – Local Setting; Sampson County**

Subject	Census Tract 9701, Sampson County, North Carolina						Census Tract 9710, Sampson County, North Carolina					
	Total		Below poverty level		Percent below poverty level		Total		Below poverty level		Percent below poverty level	
	Estimate	Margin of Error +/-	Estimate	Margin of Error +/-	Estimate	Margin of Error +/-	Estimate	Margin of Error +/-	Estimate	Margin of Error +/-	Estimate	Margin of Error +/-
Population for whom poverty status is determined	7,069	600	1,823	596	<b>25.8%</b>	8	4941	506	1279	503	<b>25.9%</b>	8.6
AGE												
Under 18 years	1,794	320	581	264	<b>32.4%</b>	15	1,144	313	382	287	<b>33.4%</b>	20.3
18 to 64 years	4,185	442	1,220	414	<b>29.2%</b>	9	2877	412	741	284	<b>25.8%</b>	8.0
65 years and over	1,090	207	22	25	2.0%	2.4	920	174	156	93	17.0%	9.4
SEX												
Male	3,656	411	881	352	<b>24.1%</b>	9	2700	374	680	327	<b>25.2%</b>	9.9
Female	3,413	406	942	366	<b>27.6%</b>	10	2241	283	599	262	<b>26.7%</b>	10.1
RACE/ETHNICITY												
White	4,664	661	898	615	<b>19.3%</b>	12	2483	393	699	393	<b>28.2%</b>	13.1
Black or African American	1,692	296	605	287	<b>35.8%</b>	16	2168	280	564	340	26.0%	14.0
American Indian and Alaska Native	1	3	0	17	0.0%	100	97	113	0	12	0.0%	29.4
Asian	16	19	0	17	0.0%	77	0	12	0	12	-	-
Native Hawaiian and Other Pacific Islander	0	17	0	17	-	**	0	12	0	12	-	-
Some other race	502	341	305	272	<b>60.8%</b>	39	120	165	0	12	0.0%	24.9
Two or more races	194	188	15	22	7.7%	14	73	70	16	31	21.9%	35.9
Hispanic or Latino origin (of any race)	1,848	457	823	432	<b>44.5%</b>	21	1197	371	392	334	<b>32.7%</b>	22.4
All individuals below:												
50 percent of poverty level	996	450					277	202				
125 percent of poverty level	2667	618					1421	507				
150 percent of poverty level	2911	619					1717	568				
185 percent of poverty level	3564	598					2044	616				
200 percent of poverty level	3723	640					2361	597				

Source: American Community Survey 5-year Estimates (2014-2018)  
All **bolded and orange** cells indicate a difference that is greater than 5% when compared to the state.  
All **bolded and blue** cells indicate a difference that is greater than 5% when compared to the state and the county.

**Table 6. Per Capita Income**

Location	Subject		Per Capita Income in Last 12 Months (Dollars)
North Carolina	Per Capita Income	Estimate	\$29,456
		Margin of Error +/-	143
Duplin County	Per Capita Income	Estimate	\$19,455
		Margin of Error +/-	737
Sampson County	Per Capita Income	Estimate	\$21,950
		Margin of Error +/-	1,130
Census Tract 902 Duplin County	Per Capita Income	Estimate	\$17,484
		Margin of Error +/-	2,195
Census Tract 908.01 Duplin County	Per Capita Income	Estimate	\$16,033
		Margin of Error +/-	2,425
Census Tract 9701 Sampson County	Per Capita Income	Estimate	\$21,059
		Margin of Error +/-	4,453
Census Tract 9710 Sampson County	Per Capita Income	Estimate	\$19,851
		Margin of Error +/-	2,284
Waters Farm Project Area- 1 Mile Buffer	Per Capita Income	Estimate	\$16,970
		Margin of Error +/-	*****
Benson Farm Project Area- 1 Mile Buffer	Per Capita Income	Estimate	\$17,126
		Margin of Error +/-	*****
Kilpatrick Farm Project Area- 1 Mile Buffer	Per Capita Income	Estimate	\$17,525
		Margin of Error +/-	*****
Farms 2037 and 2038 Project Area- 1 Mile Buffer	Per Capita Income	Estimate	\$18,285
		Margin of Error +/-	*****



### 5 Limited English Proficiency (LEP)

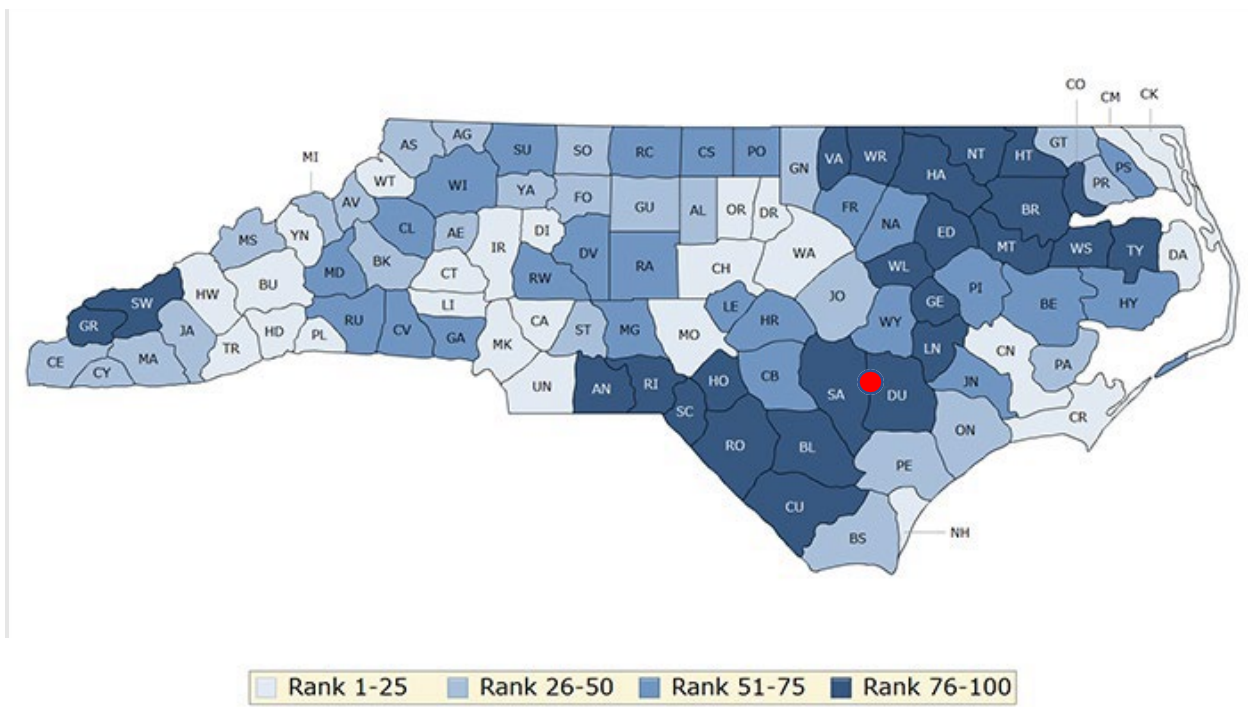
Per the Safe Harbor Guidelines, should an LEP Group be identified during the permit application process, written translations of vital documents for each eligible LEP language group that constitutes 5% or includes 1,000 members (whichever is less) of the population of persons eligible to be served or likely to be affected or encountered. If there are fewer than 50 persons in a language group that reaches the 5% trigger, then DEQ will not translate vital written materials, but instead will provide written notice in the primary language of the LEP language group of the right to receive competent oral interpretation of those written materials, free of cost. The safe harbor provisions apply to the translation of written documents only. Safe harbor guidelines are per the US EPA guidance for LEP persons, and implemented by DEQ when deemed appropriate. The population of Spanish-speakers that speak English “less than very well” is greater than 5% in all four census tracts analyzed (Table 7).

**Table 7. Limited English Proficiency**

Language Spoken at Home	Census Tract 902, Duplin County			Census Tract 908.01, Duplin County			Census Tract 9701, Sampson County			Census Tract 9710, Sampson County		
	Estimate	Margin of Error	Percent	Estimate	Margin of Error	Percent	Estimate	Margin of Error	Percent	Estimate	Margin of Error	Percent
Total:	3,969	424	100	2,729	381	100	6,755	635	100	4,702	591	100
Speak only English	2,668	314	67.2%	1,602	319	58.7%	5,352	507	79.2%	3,635	443	77.3%
Spanish or Spanish Creole:	1,288	444	32.5%	1,106	368	40.5%	1,396	454	20.7%	1,067	516	22.7%
Speak English "very well"	486	240	12.2%	500	279	18.3%	539	196	8.0%	445	309	9.5%
Speak English less than "very well"	802	266	<b>20.2%</b>	606	180	<b>22.2%</b>	857	336	<b>12.7%</b>	622	297	<b>13.2%</b>

## 6 County Health

The University of Wisconsin Population Health Institute, in collaboration with the Robert Wood Johnson Foundation, calculated a County Health Rankings system for all the States in the United States ([www.countyhealthrankings.org](http://www.countyhealthrankings.org)). This ranking is based on health outcomes (such as lifespan and self-reported health status) and health factors (such as environmental, social and economic conditions). According to this 2020 report, out of all 100 counties in North Carolina (with 1 indicating the healthiest), Sampson County ranks 82<sup>nd</sup> in health factors and 77<sup>th</sup> in health outcomes. Duplin County ranks 87<sup>th</sup> in health factors and 56<sup>th</sup> in health outcomes.



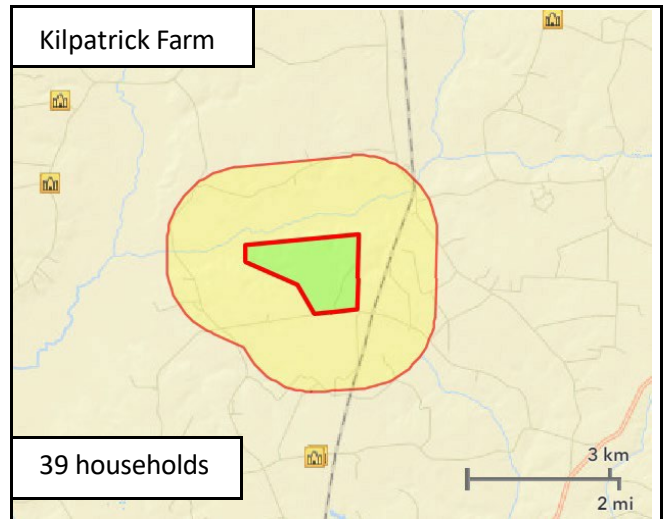
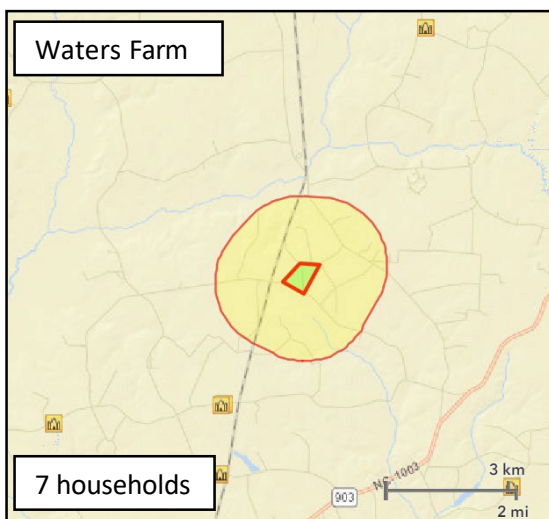
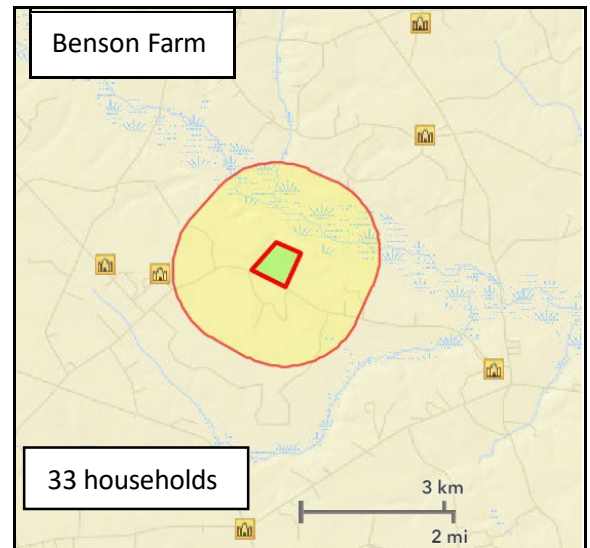
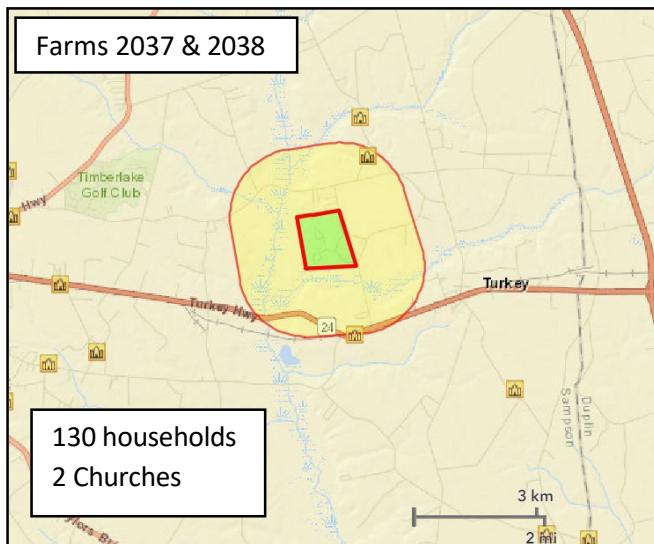
**Figure 3. County Health Rankings for Health Factors in North Carolina provided by University of Wisconsin Public Health Institute.**

## 7 Local Sensitive Receptors

The Environmental Protection Agency suggests that sensitive receptors include, but are not limited to, hospitals, schools, daycare facilities, elderly housing, and convalescent facilities. These are areas where the occupants may be more susceptible to the adverse effects of exposure to toxic chemicals, pesticides, and other pollutants. Extra care must be taken when dealing with contaminants and pollutants in close proximity to areas recognized as sensitive receptors. For instance, children and the elderly may have a higher risk of developing asthma from elevated levels of certain air pollutants than a healthy individual aged between 18 and 64. Within a one-mile radius of each of the four swine facilities, the following potential sensitive receptors were identified through EJSCREEN and Google Maps:

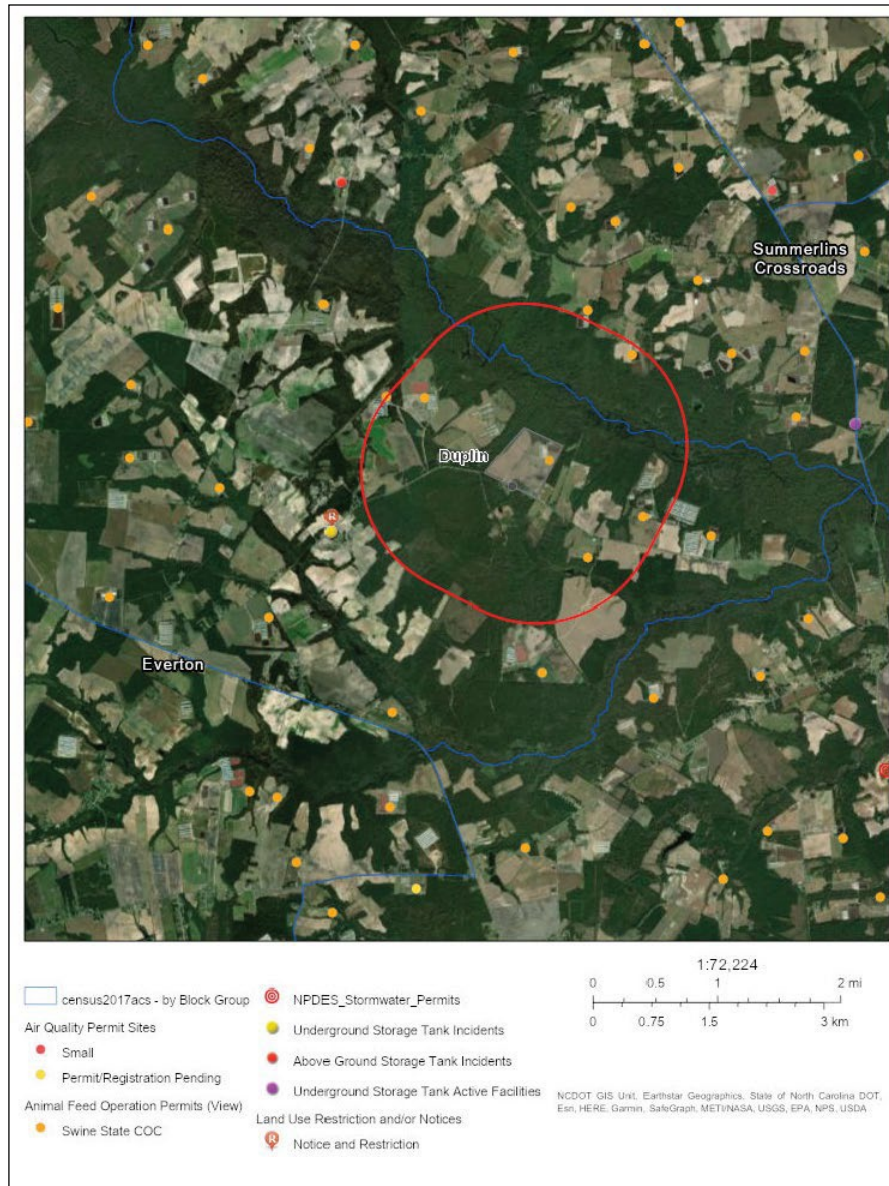
- Mount Pleasant Baptist Church
- Six Runs Baptist Church
- A total of 209 households

Additional sensitive receptors may be identified during the permit application process, such as through receipt of public comment.



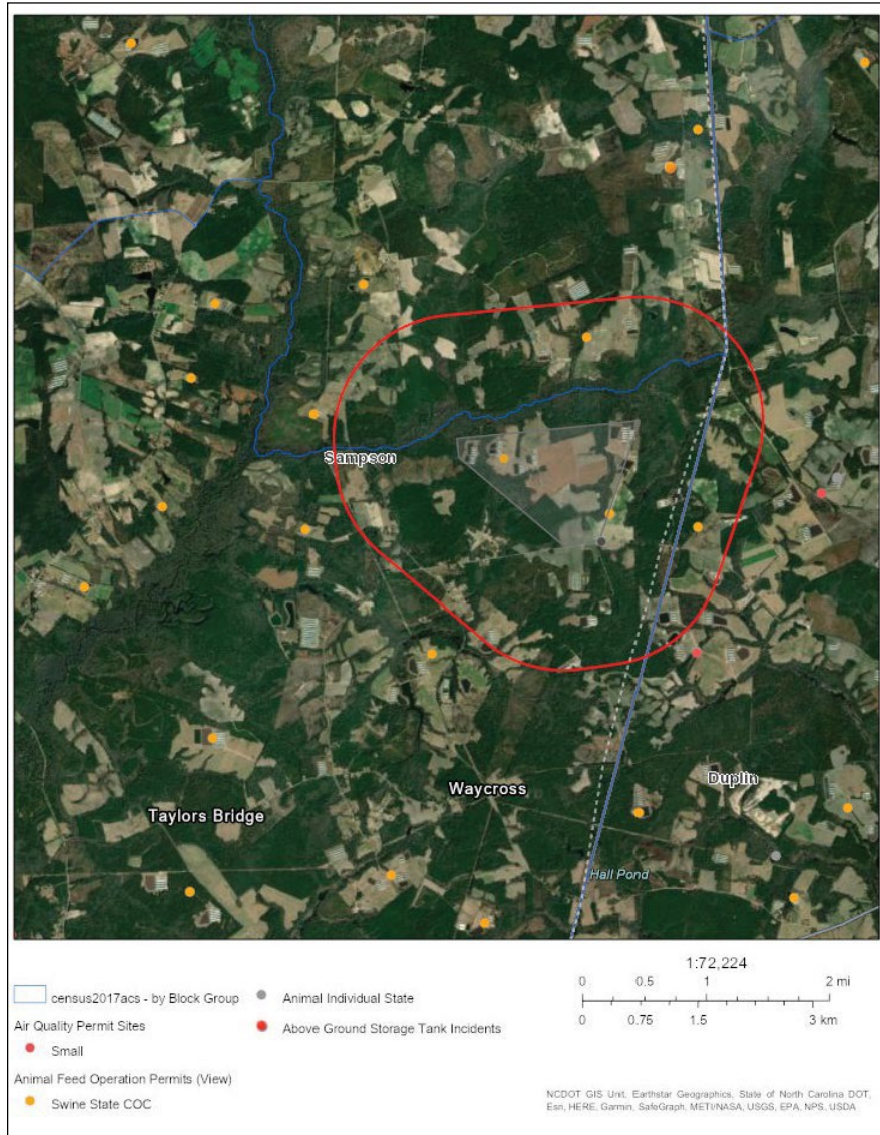
### 8 Local Industrial Sites

Within the one-mile buffer of Benson Farm (in Duplin County, Census Tract 902), there are 7 permitted animal feeding operations (as of December 21, 2020).



**Figure 5. Permitted facilities and incidents with the one-mile radius surrounding Benson Farm.**

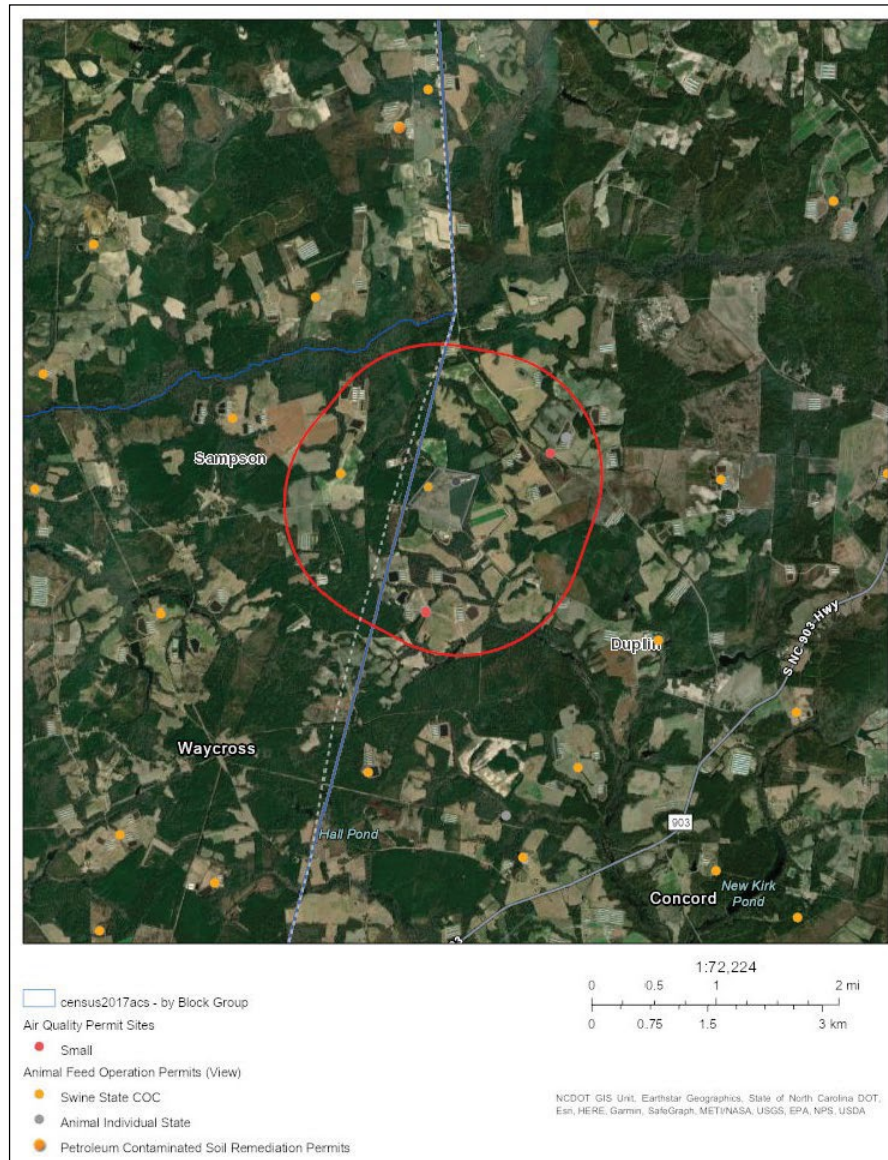




**Figure 6. Permitted facilities and incidents with the one-mile radius surrounding Kilpatrick Farm**

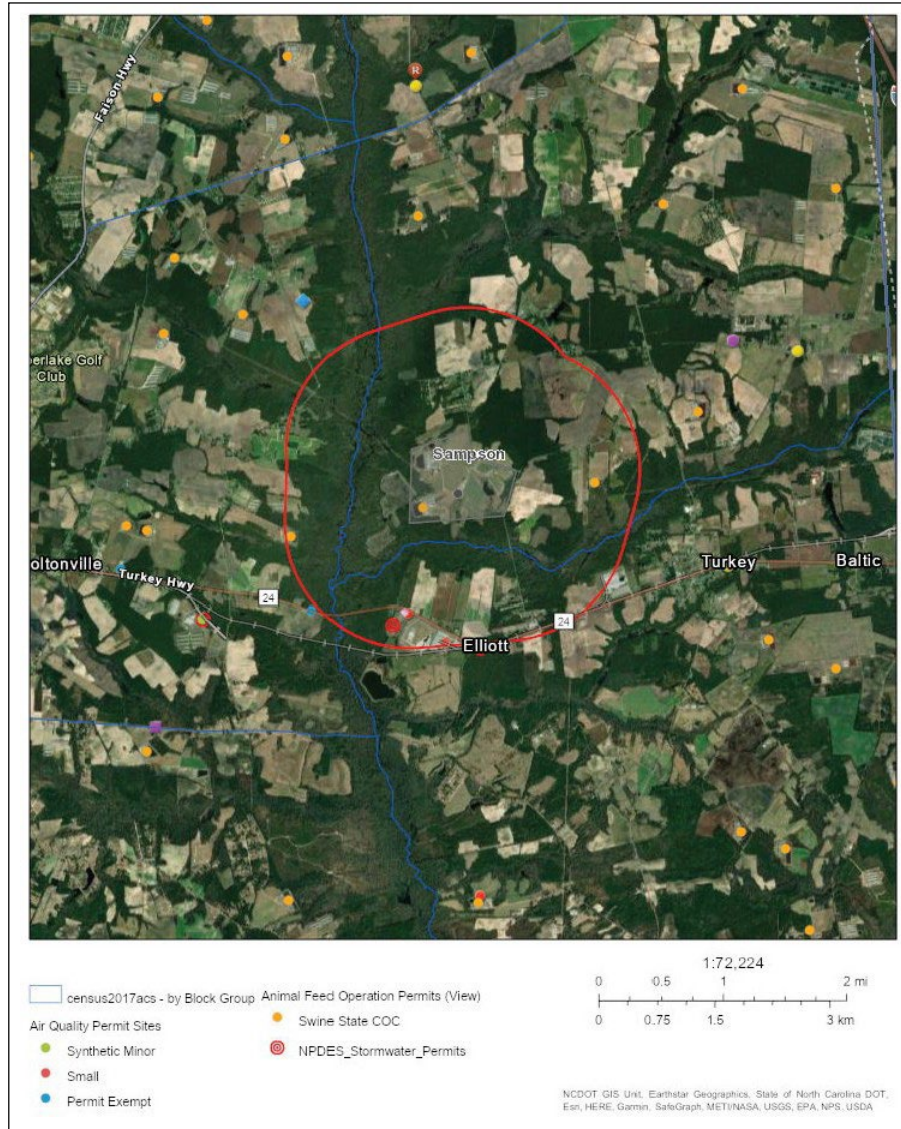
Within the one-mile buffer of Kilpatrick Farm (in Sampson County/Census Tract 9710), there are 4 permitted animal feeding operations (as of December 21, 2020).





**Figure 7. Permitted facilities and incidents with the one-mile radius surrounding Waters Farm**

Within the one-mile buffer of Waters Farm (in Duplin County, Census Tract 908.01), there are 2 air quality permit sites, and 10 permitted animal feeding operations (as of December 21, 2020).



**Figure 8. Permitted facilities and incidents with the one-mile radius surrounding Farms 2037 and 2038.**

Within the one-mile buffer of Farms 2037 and 2038 (in Sampson County, Census Tract 9701), there are 3 permitted animal feeding operations, 1 air quality permitted facility, 1 permitted NPDES waste water treatment facility, 1 hazardous waste site, and 1 reported above ground storage tank incident (as of December 21, 2020).

## 9 Conclusion

The EJ Report is an initial evaluation of the demographics and socioeconomics of the community area surrounding a proposed facility or permit modification. This includes information within a one-mile radius on race and ethnicity (decennial census year), poverty, per capita income, and ability to speak English (most current ACS census range), current NC Department of Commerce county tier designation, and presence or absence of American Indian Tribal areas. This EJ Report does not include a reconnaissance of the community. The proposed Align RNG, LLC [gathering (or however it is described in the AQ EJ report)] facility and four farms reviewed in this report are located in an area designated with moderate health factors and outcomes in comparison to other areas of the state.

The study area displays higher percentages of African-American and Hispanic residents as compared to the state, and in some cases, the county as well. The study area also exhibits higher poverty levels than the state, and the county in some instances. One potential LEP language group (Spanish) meets the 5% threshold for Safe Harbor Guidelines. Extra attention will also be given to ensure language data is accurate and translation or interpretation services will be considered for essential documents and for the planned public meeting. Finally, the list of sensitive receptors will be consulted while considering additional outreach options that may best fit this community's needs.

Based on this EJ Report, DEQ provided the following outreach and opportunities for meaningful involvement:

- 1) Published the notice for soliciting public comments and information on the scheduled public meeting in newspapers in both Sampson and Duplin counties
- 2) Translated the public notice into Spanish and publish the notice on the DEQ Website
- 3) Created a one-page flyer describing the project using language that is easy-to-understand
- 4) Created both an English and Spanish dedicated voicemail line to receive public comments by phone
- 5) Evaluated and implemented, as appropriate, alternative methods to reach the Spanish-speaking community, such as advertising on Spanish language radio stations and social media
- 6) Consulted with local community organizations on best outreach methods
- 7) Provided project information to the Coharie Indian Tribe
- 8) Announced reminders through social media