

County-Level Economic Losses for Florida Agriculture Resulting from Hurricane Michael

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Source: UF-IFAS

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Hurricane Michael made landfall near Mexico Beach, FL on October 10, 2018 as a category four hurricane with peak sustained winds of 155 miles per hour, making it the strongest hurricane on record to make landfall in the Florida panhandle. Hurricane Michael significantly impacted Florida agriculture, causing widespread crop, livestock, and timber losses across Northwest Florida. This report provides estimates of agricultural losses in Florida at the county level, as an update to a previous report on statewide estimates, titled “Economic Losses for Florida Agriculture resulting from Hurricane Michael.”¹ Note that the crop loss estimates were revised from the previous report based on additional information received from field surveys conducted by the University of Florida Institute of Food and Agricultural Sciences (UF-IFAS), the Florida Department of Agriculture and Consumer Services (FDACS), and regional offices of the United States Department of Agriculture – Farm Service Agency (USDA-FSA). The FDACS – Florida Forest Service did not estimate timber losses at the county level, therefore annual timber losses have not been estimated or reported at the county level.

Hurricane and tropical storm force winds from Hurricane Michael were mapped according to information from the National Oceanic and Atmospheric Administration’s National Hurricane Center, as shown in Figure 1. The windspeed zones were overlaid on geospatial data compiled from the Cropland Data Layer (CDL) from United States Department of Agriculture National Agricultural Statistics Service (USDA-NASS) and the Florida Statewide Agricultural Irrigation Demand Geodatabase (FSAID) available from FDACS to determine the area of various field and row crops within each windspeed zone.² In addition, county-level data on sales revenues by product group for the 25 counties that were significantly impacted by Hurricane Michael³ from the 2016 IMPLAN[®] database (Implan Group, LLC) and data on the proportion of total county area within each windspeed zone were used to allocate losses by county and windspeed zone for specialty crops such as vegetables, fruits, tree nuts, and nursery/greenhouse, and animal product sectors that are not represented well for this region in the geodatabases.

Estimated loss values for field and row crops were based on the area affected (acres) together with average values per acre and commodity prices from USDA-NASS crop surveys for the past three years⁴, seasonal factors derived from crop conditions reports and Florida’s typical planting seasons, and

¹ Economic Losses for Florida Agriculture Resulting from Hurricane Michael. A. Hodges, C. Court, and C. Stair. University of Florida, Food and Resource Economics Department. Oct. 26, 2018. Available at: <https://fred.ifas.ufl.edu/economicimpactanalysis/DisasterImpactAnalysis/>.

² CDL data available at <https://nassgeodata.gmu.edu/CropScape/> and FSAID data available at <https://www.freshfromflorida.com/Business-Services/Water/Agricultural-Water-Supply-Planning>. Valuable assistance in the preparation of the geospatial databases for field and row crops were provided by Kyle Ferris (FDACS), Daniel Dourte (Balmoral Group), and Avery Sandborn (USDA-NASS).

³ The 25 counties significantly impacted by Hurricane Michael were: Baker, Bay, Calhoun, Columbia, Dixie, Escambia, Franklin, Gadsden, Gulf, Hamilton, Holmes, Jackson, Jefferson, Lafayette, Leon, Liberty, Madison, Nassau, Okaloosa, Santa Rosa, Suwannee, Taylor, Wakulla, Walton, and Washington.

⁴ Value per acre data retrieved from USDA-NASS Quick Stats website: <https://quickstats.nass.usda.gov/>.

percentage loss estimates collected via an online survey of UF-IFAS Extension faculty within the region and surveys conducted by FDACS and USDA-FSA. Seasonal factors represent the approximate share of annual production that was likely disrupted by hurricane damages. Losses for annual winter vegetable crops that were early in their season at the time of the storm reflected 30 percent of the average annual value to account for a shortened production season and expected market distortions due to later production dates. Loss estimates were not included for crops not generally in production at the time of the storm.

State-Wide Results

Total crop area, average value per acre, and seasonal factors for field and row crops in the affected region of Northwest Florida are shown in Table 1. Within the 25 county region, the total field and row crop area impacted by Hurricane Michael was 706,284 acres, comprised of roughly 230,000 acres of peanuts, 230,000 acres of hay, 150,000 acres of cotton, 56,000 acres of field corn, 30,000 acres of oats, and 11,000 acres of soybeans.

Revenues for specialty crop, animal, and animal product industries in the affected area along with seasonal factors are shown in Table 2. In 2016, total sales revenues in the 25 county region were \$250 million for specialty crops including vegetables and melons, fruits, tree nuts, and greenhouse/nursery, and \$467 million for animals and animal products, including beef and dairy cattle, milk, poultry, eggs, deer, equines, fish, honeybees, etc.

Percentage losses of agricultural commodities in each hurricane windzone were informed by an online survey of UF-IFAS Extension faculty within the region and surveys conducted by FDACS and USDA-FSA as shown in Table 3.

Estimated annual crop and animals/products losses are summarized in Table 4. Total losses for crops and animals/animal products were estimated at \$138 million, including \$80 million for field crops, \$32 million for specialty crops, and \$26 million for animals/animal products. Note that these loss estimates are lower than previously reported on October 26, 2018 due to adjustments in loss percentages that reflect additional survey information received.

A study conducted by the FDACS – Florida Forest Service estimated damages to timber stands in Florida using a similar methodology, based on wind maps, together with forestland area of pine, hardwood, cypress, and other species from the USDA-Forest Inventory and Analysis. According to their analysis, a total of 2.809 million acres of forest land area was damaged, including 347,000 acres in the catastrophic category (95%+ damaged), 1.043 million acres in the severe category (75-94% damaged), and 1.419 million acres in the moderate category (15-74% damaged). The value of damage was estimated at \$1.289 billion at current average timber stumpage prices for each timber product category, as reported by Timber Mart South. This value represents timber that would normally be harvested over 8.8 years, based on the ratio of damaged volume to annual harvest volume, as estimated by UF-IFAS. Adjusting for average

annual harvest levels and assuming a 10 percent timber salvage rate, the average annual loss of timber was determined to be \$147 million.

County-Level Results

County-level acreage estimates for field and row crops in Northwest Florida are shown in Table 5. The counties with the largest field and row crop acreage were Jackson (182,736), Suwannee (85,741), Madison (65,473), Santa Rosa (63,170), and Holmes (42,794). Field and row crop losses, shown in Table 6, were estimated at \$80 million with the highest losses for Jackson (\$44 million), Calhoun (\$9 million), and Santa Rosa (\$5 million) Counties. Cotton and peanuts represented over 90% of the total field and row crop losses. Cotton losses were estimated at \$53 million, and were highest in Jackson (\$34 million), Calhoun (\$7 million), and Santa Rosa (\$4 million) Counties. Peanut losses were estimated at \$19 million, and were highest in Jackson (\$8 million), Suwannee (\$2 million), Calhoun (\$1 million), Madison (\$1 million), Santa Rosa (\$1 million), and Gadsden (\$1 million) Counties.

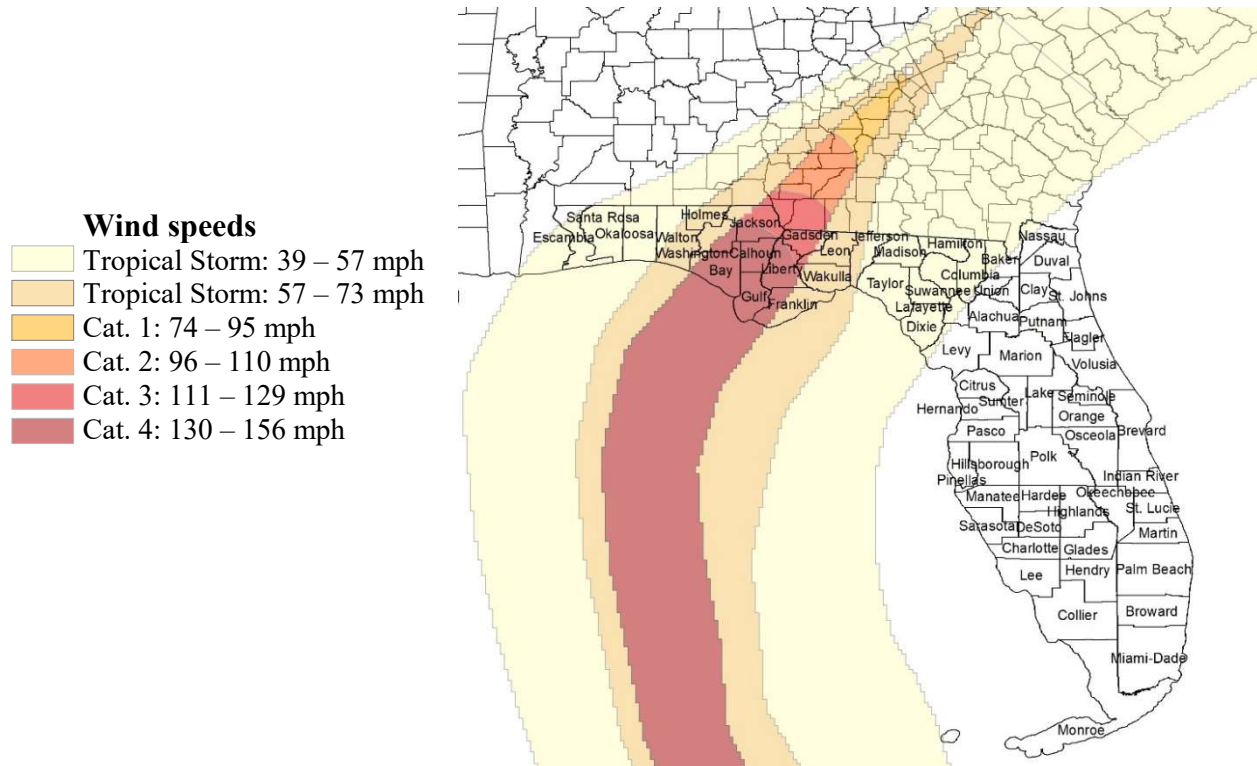
The shares of the area in each county affected by hurricane or tropical storm force winds were used to allocate sales revenues and losses for specialty crop, animal, and animal product categories, as summarized in Table 7.

County-level sales revenue estimates for specialty crops in Northwest Florida in 2016 are shown in Table 8. The counties with the largest sales revenues for specialty crops were Suwannee (\$62 million), Gadsden (\$47 million), and Hamilton (\$22 million), expressed in 2018 dollars using the GDP Implicit Price Deflator (U.S. Commerce Department). Estimated specialty crop losses in each county are summarized in Table 9. Specialty crop losses were estimated at \$32 million with the highest losses in Gadsden (\$12 million), Jackson (\$6 million), and Suwannee (\$2 million) Counties. Nearly 80% of the specialty crop losses were for vegetables and melons and greenhouse, nursery, and floriculture products. Vegetable and melon losses were estimated at \$9 million, and were highest in Jackson (\$4 million), Gadsden (\$2 million), and Suwannee (\$1 million) Counties. Greenhouse, nursery, and floriculture losses were estimated at \$15 million, and were highest in Gadsden (\$10 million), Bay (\$1 million), and Calhoun (\$1 million) Counties.

County-level sales revenue estimates for animals and animal products in Northwest Florida in 2016 are shown in Table 10. The counties with the largest sales revenues for animals and animal products were Suwannee (\$173 million), Lafayette (\$73 million), and Madison (\$41 million). Estimated animal and animal product losses in each county are summarized in Table 11. Animal and animal products losses were estimated at \$26 million, with the highest losses in Suwannee (\$9 million), Lafayette (\$4 million), and Madison (\$2 million) Counties. Poultry and eggs comprised nearly half of these losses. Poultry and egg losses were estimated at \$11 million, and were highest in Suwannee (\$5 million), Columbia (\$1 million), and Madison (\$1 million) Counties.

A summary of all agricultural losses by major product group in Northwest Florida counties is shown in Table 12. The top five counties in terms of agricultural losses were Jackson (\$51 million), Gadsden (\$15 million), Suwannee (\$14 million), Calhoun (\$11 million), and Santa Rosa (\$6 million). Losses were generally higher in inland counties where reliance on agriculture is high and in areas where hurricane winds were strongest.

Figure 1. Map of wind speed zones for Hurricane Michael, October, 2018



Source: National Oceanic and Atmospheric Administration, National Hurricane Center

Table 1. Florida field and row crop production area, value per acre, and seasonal production factors

Crop	Production Area (Acres)	Average Value Per Acre (2018 Dollars)	Seasonal Production Factor
Peanuts	231,158	\$762	40%
Cotton	147,834	\$622	93%
Corn	56,226	\$614	30%
Oats	30,155	\$170	60%
Soybeans	10,963	\$319	60%
Hay	229,948	\$432	10%
Total	<u>706,284</u>		

Sources: USDA-NASS, Cropland Data Layer, and 2012 Census of Agriculture

Table 2. Northwest Florida total sales revenue for 2016 and seasonal production factors for specialty crops and animals/animal products

Product Group	Product	Sales Revenue (\$millions)	Seasonal Production Factor
Specialty Crops	Vegetables and melons	\$117.249	30%
	Fruits	\$22.4601	100%
	Tree nuts	\$10.2226	100%
	Greenhouse, nursery, and floriculture	\$99.9676	90%
	Total	<u>\$249.899</u>	
Animals and Animal Products	Beef cattle	\$107.574	100%
	Dairy cattle and milk	\$132.646	100%
	Poultry and eggs	\$213.151	100%
	Animals, except cattle and poultry and eggs	\$13.4398	100%
	Total	<u>\$466.811</u>	

Source: IMPLAN Group, LLC, IMPLAN data for northwest Florida counties, 2016

Table 3. Agricultural product percentage losses to Hurricane Michael, by product group and windspeed zone

Product Group	Product	Category 4: 130-156 mph	Category 3: 111-129 mph	TS 2: 57-73 mph	TS 1: 39-57 mph
Field and Row Crops	Peanuts	45%	45%	29%	18%
	Cotton	99%	95%	50%	23%
	Corn	100%	100%	100%	30%
	Oats	90%	90%	30%	10%
	Soybeans	87%	83%	49%	10%
	Hay	50%	28%	20%	10%
Specialty Crops	Vegetables and melons	100%	99%	30%	10%
	Fruits	90%	90%	30%	10%
	Tree nuts	100%	90%	54%	10%
	Greenhouse, nursery, and floriculture	50%	30%	10%	5%
Animals and Animal Products	Beef cattle	10%	10%	5%	5%
	Dairy cattle and milk	10%	10%	5%	5%
	Poultry and egg	50%	30%	10%	5%
	Animals, except cattle and poultry and eggs	40%	30%	20%	10%

Source: Survey of UF-IFAS Extension faculty and surveys conducted by FDACS and USDA-FSA.

Table 4. Estimated annual agricultural losses for the state of Florida from Hurricane Michael

Product Group	Product	Estimated Loss Value (\$millions)
Field and Row Crops	Peanuts	\$19.249
	Cotton	\$52.941
	Corn	\$4.091
	Oats	\$0.772
	Soybeans	\$0.681
	Hay	\$1.740
	Total	<u>\$79.476</u>
Specialty Crops	Vegetables and melons	\$8.823
	Fruits	\$4.524
	Tree nuts	\$3.163
	Greenhouse, nursery and floriculture	\$15.208
	Total	<u>\$31.718</u>
Total Crops		<u>\$111.193</u>
Animals/Products	Beef cattle	\$6.000
	Dairy cattle and milk	\$6.707
	Poultry and eggs	\$11.435
	Animals, except cattle and poultry and eggs	\$2.169
	Total	<u>\$26.311</u>
Total Crops and Animals/Products		<u>\$137.504</u>

Source: Authors' estimates based on data available as of November 12, 2018

Table 5. Production area of major field and row crop types in Florida counties significantly affected by Hurricane Michael, 2016-2017

County	Peanuts	Cotton	Corn	Oats	Soybeans	Hay	Total
	----- Acres -----						
Baker	-	-	-	63	1	543	606
Bay	54	56	137	659	180	1,342	2,429
Calhoun	10,055	12,387	126	144	103	5,639	28,454
Columbia	10,003	-	1,001	1,713	175	15,004	27,896
Dixie	6,999	-	3,659	15	35	4,475	15,183
Escambia	3,177	1,483	136	247	192	3,878	9,114
Franklin	-	-	-	0	0	6	6
Gadsden	8,421	2,176	575	8	147	9,086	20,413
Gulf	322	-	68	117	44	101	653
Hamilton	11,352	1,095	5,319	1,482	228	11,232	30,708
Holmes	9,916	6,952	968	7,036	1,339	16,583	42,794
Jackson	63,923	70,997	2,741	2,557	1,691	40,826	182,736
Jefferson	3,856	371	4,823	1,569	1,360	6,499	18,480
Lafayette	11,440	1,838	3,142	288	168	12,974	29,851
Leon	-	16	762	131	63	1,743	2,715
Liberty	624	115	-	25	29	1,041	1,834
Madison	24,514	2,807	16,357	2,321	1,564	17,910	65,473
Nassau	-	-	-	0	1	218	219
Okaloosa	2,215	7,234	598	173	405	11,779	22,404
Santa Rosa	21,075	28,240	357	398	1,742	11,359	63,170
Suwannee	30,906	516	14,345	2,379	153	37,441	85,741
Taylor	-	-	171	52	26	1,906	2,155
Wakulla	24	-	15	51	5	600	695
Walton	7,378	5,587	296	5,417	230	7,990	26,899
Washington	4,903	5,964	628	3,306	1,082	9,773	25,656
Total	<u>231,158</u>	<u>147,834</u>	<u>56,226</u>	<u>30,155</u>	<u>10,963</u>	<u>229,948</u>	<u>706,284</u>

Source: USDA-NASS, 2017, Cropland Data Layer and FDACS-Florida Statewide Agricultural Irrigation Database, 2016

Table 6. Summary of field and row crop losses to Hurricane Michael in Florida counties, 2018-19 season

County	Peanuts	Cotton	Corn	Oats	Soybeans	Hay	Total
	----- Thousands of 2018 Dollars -----						
Baker	-	-	-	1	0	2	3
Bay	7	32	25	59	30	29	182
Calhoun	1,379	7,092	23	13	17	122	8,647
Columbia	549	-	55	17	3	65	690
Dixie	384	-	202	0	1	19	606
Escambia	174	197	8	3	4	17	402
Franklin	-	-	-	0	0	0	0
Gadsden	1,152	1,156	106	1	23	108	2,545
Gulf	44	-	13	11	7	2	77
Hamilton	623	146	294	15	4	48	1,131
Holmes	811	1,895	174	188	109	138	3,314
Jackson	7,969	34,223	505	165	219	542	43,623
Jefferson	213	49	468	29	49	38	846
Lafayette	628	244	174	3	3	56	1,108
Leon	-	9	140	4	6	15	174
Liberty	86	65	-	2	5	22	179
Madison	1,345	373	904	24	30	77	2,754
Nassau	-	-	-	0	0	1	1
Okaloosa	122	962	33	2	8	51	1,177
Santa Rosa	1,156	3,756	20	4	33	49	5,019
Suwannee	1,696	69	793	24	3	162	2,746
Taylor	-	-	9	1	1	8	19
Wakulla	2	-	3	2	0	5	12
Walton	410	744	26	81	12	41	1,314
Washington	500	1,926	116	124	115	124	2,905
Total	<u>19,249</u>	<u>52,941</u>	<u>4,091</u>	<u>772</u>	<u>681</u>	<u>1,740</u>	<u>79,476</u>

Source: Authors' estimates based on data available as of November 12, 2018

Table 7. Percentage of county area affected by hurricane force or tropical storm windspeed zones from Hurricane Michael

County	Category 4 Hurricane	Category 3 Hurricane	Tropical Storm winds 51-63 k	Tropical Storm winds 34-50 k	Total
Baker				57.6%	57.6%
Bay	91.6%		8.4%		100.0%
Calhoun	100.0%				100.0%
Columbia				95.0%	95.0%
Dixie				100.0%	100.0%
Escambia				73.9%	73.9%
Franklin	36.8%		63.2%		100.0%
Gadsden	0.7%	83.8%	15.5%		100.0%
Gulf	100.0%				100.0%
Hamilton				100.0%	100.0%
Holmes			87.9%	12.1%	100.0%
Jackson	32.4%	46.3%	21.3%		100.0%
Jefferson			51.1%	48.9%	100.0%
Lafayette				100.0%	100.0%
Leon		7.5%	92.5%		100.0%
Liberty	84.8%	9.4%	5.9%		100.0%
Madison				100.0%	100.0%
Nassau				21.8%	21.8%
Okaloosa			0.2%	99.8%	100.0%
Santa Rosa				99.7%	99.7%
Suwannee				100.0%	100.0%
Taylor			0.1%	99.9%	100.0%
Wakulla	0.0%	4.5%	95.5%		100.0%
Walton			56.7%	43.3%	100.0%
Washington	38.3%		61.7%		100.0%

Source: Authors' estimates based on data from U.S. Census Bureau and National Hurricane Center

Table 8. Total sales revenue for specialty crop types in Florida counties significantly affected by Hurricane Michael, 2016

County	Vegetables and Melons	Fruits	Tree Nuts	Greenhouse, Nursery, and Floriculture	Total
----- Thousands of 2018 Dollars -----					
Baker	695	349	84	1,182	2,310
Bay	13	291	34	2,825	3,163
Calhoun	889	154	181	2,390	3,614
Columbia	983	1,194	508	7,922	10,607
Dixie	10,067	115	45	36	10,263
Escambia	2,776	797	1,090	5,666	10,328
Franklin	-	18	-	-	18
Gadsden	6,265	379	543	39,618	46,805
Gulf	-	-	-	-	-
Hamilton	19,915	468	45	1,964	22,392
Holmes	382	714	336	266	1,698
Jackson	15,562	1,012	622	832	18,029
Jefferson	1,532	1,854	1,943	12,726	18,055
Lafayette	5,013	92	46	217	5,369
Leon	331	720	85	1,412	2,548
Liberty	-	50	-	-	50
Madison	1,482	324	297	817	2,920
Nassau	142	2,784	149	312	3,388
Okaloosa	561	2,493	651	718	4,424
Santa Rosa	429	371	614	3,301	4,715
Suwannee	49,218	4,039	1,068	7,675	62,000
Taylor	68	802	23	3,149	4,041
Wakulla	126	476	57	3,927	4,586
Walton	669	2,127	1,698	2,608	7,101
Washington	132	836	103	404	1,475
Total	<u>117,249</u>	<u>22,460</u>	<u>10,223</u>	<u>99,968</u>	<u>249,899</u>

Source: IMPLAN[®] 2016 Databases for Florida counties

Table 9. Summary of specialty crop losses in Florida counties significantly affected by Hurricane Michael, 2018-19 season

County	Vegetables and Melons	Fruits	Tree Nuts	Greenhouse, Nursery, and Floriculture	Total
----- Thousands of 2018 Dollars -----					
Baker	12	20	5	31	68
Bay	4	248	33	1,186	1,470
Calhoun	267	139	181	1,076	1,662
Columbia	28	113	48	339	528
Dixie	302	11	5	2	320
Escambia	62	59	81	188	389
Franklin	-	9	-	-	9
Gadsden	1,660	306	459	9,645	12,069
Gulf	-	-	-	-	-
Hamilton	597	47	5	88	737
Holmes	32	197	164	22	415
Jackson	3,950	782	532	241	5,505
Jefferson	93	375	631	865	1,963
Lafayette	150	9	5	10	174
Leon	35	248	48	146	478
Liberty	-	43	-	-	43
Madison	44	32	30	37	143
Nassau	1	61	3	3	68
Okaloosa	17	251	66	32	366
Santa Rosa	13	37	61	148	259
Suwannee	1,477	404	107	345	2,333
Taylor	2	80	2	142	226
Wakulla	13	156	31	385	585
Walton	43	454	594	184	1,275
Washington	22	443	74	92	632
Total	<u>8,823</u>	<u>4,524</u>	<u>3,163</u>	<u>15,208</u>	<u>31,718</u>

Source: Authors' estimates based on data available as of November 12, 2018

Table 10. Total sales revenue for animal and animal product industries in Florida counties significantly affected by Hurricane Michael, 2016

County	Beef Cattle	Dairy Cattle and Milk	Poultry and Eggs	Other Animals and Animal Products	Total
----- Thousands of 2018 Dollars -----					
Baker	1,667	-	9,002	96	10,765
Bay	274	-	267	238	779
Calhoun	1,723	-	211	147	2,081
Columbia	12,054	-	26,433	429	38,917
Dixie	2,630	3,775	4,341	490	11,237
Escambia	1,577	1,137	238	663	3,615
Franklin	21	-	175	342	538
Gadsden	1,436	-	260	65	1,761
Gulf	-	-	-	-	-
Hamilton	2,918	-	6,660	268	9,846
Holmes	6,807	4,389	5,610	1,165	17,971
Jackson	16,386	5,049	226	283	21,944
Jefferson	5,226	7,550	165	618	13,560
Lafayette	4,842	50,317	17,118	437	72,715
Leon	1,801	-	18	1,513	3,333
Liberty	418	-	241	851	1,510
Madison	10,138	7,550	23,429	302	41,419
Nassau	4,622	3,775	416	334	9,147
Okaloosa	2,227	-	1,514	85	3,826
Santa Rosa	1,604	-	62	1,499	3,164
Suwannee	15,520	47,112	108,129	2,521	173,281
Taylor	1,528	-	192	270	1,990
Wakulla	367	-	190	491	1,048
Walton	8,849	-	7,691	93	16,633
Washington	2,939	1,990	564	239	5,732
Total	107,574	132,646	213,151	13,440	466,811

Source: IMPLAN[®] 2016 Databases for Florida counties

Table 11. Summary of animal and animal product losses in Florida counties significantly affected by Hurricane Michael, 2018-19 season

County	Beef Cattle	Dairy Cattle and Milk	Poultry and Eggs	Other Animals and Animal Products	Total
----- Thousands of 2018 Dollars -----					
Baker	48	-	259	6	313
Bay	26	-	125	91	242
Calhoun	172	-	105	59	336
Columbia	573	-	1,256	41	1,869
Dixie	132	189	217	49	586
Escambia	58	42	9	49	158
Franklin	1	-	43	94	138
Gadsden	132	-	70	19	221
Gulf	-	-	-	-	-
Hamilton	146	-	333	27	506
Holmes	340	219	527	219	1,306
Jackson	1,464	451	73	88	2,076
Jefferson	261	378	12	93	745
Lafayette	242	2,516	856	44	3,658
Leon	97	-	2	314	413
Liberty	41	-	110	323	473
Madison	507	378	1,171	30	2,086
Nassau	50	41	5	7	103
Okaloosa	111	-	76	8	196
Santa Rosa	80	-	3	149	232
Suwannee	776	2,356	5,406	252	8,790
Taylor	76	-	10	27	113
Wakulla	19	-	21	100	140
Walton	442	-	603	15	1,060
Washington	203	138	143	66	550
Total	<u>6,000</u>	<u>6,707</u>	<u>11,435</u>	<u>2,169</u>	<u>26,311</u>

Source: Authors' estimates based on data available as of November 12, 2018

Table 12. Summary of agricultural losses in Florida counties significantly affected by Hurricane Michael, 2018-19 season

County	Row and Field Crops	Specialty Crops	Animals and Animal Products	Total
	----- Thousands of 2018 Dollars -----			
Baker	3	68	313	383
Bay	182	1,470	242	1,895
Calhoun	8,647	1,662	336	10,646
Columbia	690	528	1,869	3,088
Dixie	606	320	586	1,512
Escambia	402	389	158	950
Franklin	0	9	138	148
Gadsden	2,545	12,069	221	14,836
Gulf	77	-	-	77
Hamilton	1,131	737	506	2,373
Holmes	3,314	415	1,306	5,035
Jackson	43,623	5,505	2,076	51,204
Jefferson	846	1,963	745	3,554
Lafayette	1,108	174	3,658	4,940
Leon	174	478	413	1,065
Liberty	179	43	473	696
Madison	2,754	143	2,086	4,983
Nassau	1	68	103	172
Okaloosa	1,177	366	196	1,739
Santa Rosa	5,019	259	232	5,511
Suwannee	2,746	2,333	8,790	13,869
Taylor	19	226	113	358
Wakulla	12	585	140	738
Walton	1,314	1,275	1,060	3,648
Washington	2,905	632	550	4,086
Total	<u>79,476</u>	<u>31,718</u>	<u>26,311</u>	<u>137,504</u>

Source: Authors' estimates based on data available as of November 12, 2018