
Appendix F

Loadings Summary

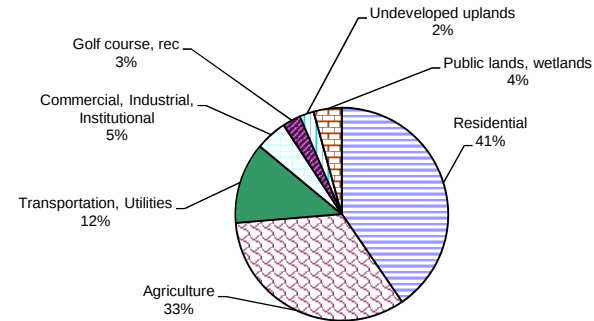
Appendix F. Loading Summary

Wekiva River Basin Nitrate Sourcing Study

Table 1. Loadings Inputs by Land Use and Source Type

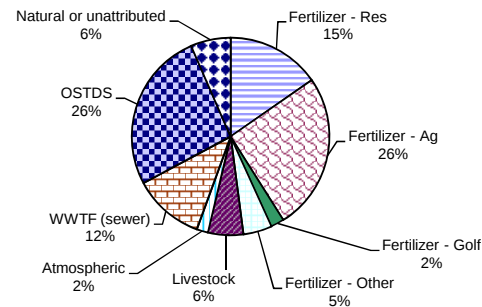
LAND USE		
Land Use Description		Nitrate in GW mg/L
Feeding operations		18
Row crops		23
Golf courses		8
Improved pastures, unimproved pastures, woodland pastures, horse farms, cropland and pastureland		5.5
Tree crops		15
Nurseries, vineyards, ornamentals, floriculture, specialty farms		6
Field crops, sod farms		4
Low, medium and high density residential, commercial, institutional, recreational, transportation		2
Industrial, open land, rural areas, upland nonforested, upland forests, water, wetlands, barren land, extractive		0.1
SOURCE TYPE		
OSTDS	Loading Rate lb N/year	16.3
Livestock Waste	Pasture Cattle/acre	0.3
	Nitrate from Cattle kg/year	56
Pasture Fertilizer	Loading Rate kg/ha/year	63
Atmospheric Deposition	"Natural" groundwater concentration mg/L	0.1
Domestic Wastewater - Disposed		
	to Ground Water MT/year	205
	to Surface Water MT/year	10
	Loading %	88%
Domestic Wastewater - Reused		
	MT/year	124
	Reused Water Loading Percent	20%

Loadings by Land Use*



* - same figure as Figure 3.4 in Section 3.2.

Loading by Source Type*



* - same figure as Figure 3.2 in Section 3.2.

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 Checked by: JAT 2/8/10

Appendix F. Loading Summary

Wekiva River Basin Nitrate Sourcing Study

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Table 2. Loadings Results by Land Use and Source Type

Loadings by Land Use															Loadings by Source Type																	
Land Use Type	Nitrate in GW (mg/L) (see Table 1)	Recharge Rates (MT/year)						Subtotal (excluding No Data areas)		Concentration Total (including	Weighted Average Recharge Rate	OSTDS		Domestic Wastewater ^(a)		Stormwater		WMTF to Surface Water (MT/yr)	GRAND TOTAL	Fertilizer				Livestock	Atmospheric Deposition	Domestic Wastewater ^(a)	OSTDS	Natural or unattributed	GRAND TOTAL			
		No data	Discharge Area	0 to 4 in	4 to 8 in/yr	8 to 12 in/yr	12 to 20 in/yr	more than 20 in/yr	MT/yr	MT/acre/yr	MT/yr	kg/ha/yr	in/yr	# Tanks	Loading from OMTS (MT/yr)	Reused (MT/yr)	Disposed (MT/yr)			Stormwater - Diffuse (MT/yr)	Stormwater - Direct (MT/yr)	(MT/yr)	(MT/yr)	(MT/yr)	(MT/yr)	(MT/yr)	(MT/yr)	(MT/yr)	(MT/yr)	(MT/yr)		
1100: Residential, low density - less than 2 dwelling units/acre	2.0	0.30	0.00	2.31	10.87	11.92	21.74	22.86	69.70	2.19E-03	70.00	5.4	10.6	7,610	56.32	0.91		34.64	0.00		161.87	94.17						3.50		56.32	6.97	160.95
1200: Residential, medium density - 2-5 dwelling units/acre	2.0	1.12	0.00	2.40	15.92	24.65	39.09	27.30	109.35	2.19E-03	110.48	5.4	10.7	42,894	317.42	5.34		31.81	28.75		493.81	153.34						5.52		317.42	12.18	488.47
1300: Residential, high density - 6 or more dwelling units/acre	2.0	0.01	0.00	0.51	2.83	3.94	7.46	5.22	19.96	2.24E-03	19.98	5.5	10.9	6,464	47.83	1.54		10.06	8.24		87.64	35.02						1.00		47.83	2.25	86.10
1400: Commercial and services	2.0	1.71	0.00	0.26	2.65	5.55	9.86	2.52	20.85	2.30E-03	22.56	5.7	11.2	1,725	12.77	2.04		6.67	14.28		58.32				40.28			1.13		12.77	2.10	56.28
1500: Industrial	0.1	0.02	0.00	0.01	0.04	0.08	0.17	0.06	0.36	1.17E-04	0.38	0.3	11.4	329	2.43	0.12		1.85	2.11		6.89							0.38		2.43	3.96	6.77
1600: Extractive	0.1	0.02	0.00	0.00	0.04	0.06	0.08	0.04	0.22	1.10E-04	0.24	0.3	10.7	28	0.20	0.02		2.17	0.00		2.64							0.24		0.20	2.17	2.62
1700: Institutional	2.0	0.22	0.00	0.09	1.17	1.79	3.68	1.73	8.45	2.41E-03	8.67	6.0	11.7	206	1.53	0.25		4.92	4.94		20.31				17.37			0.43		1.53	0.73	20.06
1800: Recreational	2.0	0.49	0.00	0.17	0.78	1.32	1.15	1.92	5.32	2.08E-03	5.82	5.1	10.1	70	0.52	0.32		0.12	0.30		7.07				5.53			0.29		0.52	0.42	6.75
1820: Golf courses	8.0	0.00	0.00	1.17	2.43	5.71	11.76	17.81	38.88	9.61E-03	38.88	23.7	11.7	118	0.87	1.35		2.02	0.82		43.95			39.99				0.49		0.87	1.24	42.60
1900: Open land	0.1	0.01	0.00	0.01	0.09	0.06	0.06	0.03	0.25	8.29E-05	0.26	0.2	8.1	394	2.92	0.39		2.56	2.08		8.21							0.26		2.92	4.64	7.82
2100: Cropland and pastureland	6.0	0.00	0.00	0.00	0.03	0.22	0.14	0.00	0.40	6.67E-03	0.40	16.5	10.8	0	0.00	0.00					0.40							0.01		0.00	0.00	0.40
2110: Improved pastures (monocult, planted forage crops)	5.5	0.15	0.00	8.48	23.77	25.89	42.62	39.34	140.09	4.97E-03	140.24	12.3	8.8	969	7.17	0.61		11.30	5.69		165.01		90.92				54.68	2.55		7.17	9.08	164.40
2120: Unimproved pastures	5.5	5.83	0.00	2.72	9.18	8.11	15.07	42.14	77.22	6.62E-03	83.05	16.4	11.7	146	1.08	0.06					84.19		49.16				32.38	1.51		1.08	0.00	84.13
2130: Woodland pastures	5.5	0.64	0.00	1.26	4.92	3.44	7.61	8.39	25.62	5.23E-03	26.26	12.9	9.2	100	0.74	0.30					27.30		15.54				10.24	0.48		0.74	0.00	27.00
2140: Row crops	23.0	0.00	0.00	0.66	9.56	0.01	0.00	0.40	10.64	1.30E-02	10.64	32.0	5.5	1	0.01	0.00		0.10			10.74		10.64					0.05		0.01	0.05	10.74
2150: Field crops	4.0	0.15	0.00	0.89	1.81	1.21	5.65	5.39	14.93	4.13E-03	15.08	10.2	10.0	67	0.50	0.55		0.97	0.32		17.42		15.31					0.38		0.50	0.69	16.87
2200: Tree crops	15.0	17.97	0.00	5.19	30.03	30.00	72.64	62.92	200.77	1.74E-02	218.74	42.9	11.3	313	2.32	0.35		2.89	0.24		224.54		218.74					1.46		2.32	1.67	224.19
2300: Feeding operations	18.0	0.00	0.00	0.05	0.63	0.41	1.75	0.20	3.04	1.88E-02	3.04	46.4	10.1	3	0.02	0.02		0.04	0.03		3.15					3.03	0.02		0.02	0.07	3.13	
2400: Nurseries and vineyards	6.0	0.00	0.00	0.05	0.03	0.12	0.58	0.41	1.20	7.61E-03	1.20	18.8	12.3	12	0.09	0.01		2.17	0.52		3.98		2.43					0.02		0.09	1.44	3.97
2410: Tree nurseries	6.0	0.02	0.00	0.08	0.19	0.20	0.37	1.21	2.06	7.54E-03	2.09	18.6	12.2	9	0.06	0.00					2.15		2.05					0.03		0.06	0.00	2.15
2420: Sod farms	4.0	0.00	0.00	0.30	1.69	0.24	0.00	0.00	2.23	2.01E-03	2.23	5.0	4.9	0	0.00	0.00					2.23		2.17					0.06		0.00	0.00	2.23
2430: Ornamentals	6.0	0.14	0.00	0.60	4.31	6.33	19.12	15.99	46.34	8.15E-03	46.48	20.1	13.2	537	3.98	0.19					50.65		45.70					0.77		3.98	0.00	50.45
2450: Floriculture	6.0	0.00	0.00	0.01	0.00	0.00	0.10	0.00	0.11	5.36E-03	0.11	13.3	8.7	3	0.02	0.01					0.15		0.11					0.00		0.02	0.00	0.14
2500: Specialty farms	6.0	0.00	0.00	0.01	0.13	0.01	0.31	0.79	1.25	9.73E-03	1.25	24.0	15.8	6	0.04	0.00		0.92	0.32		2.52		1.80					0.02		0.04	0.66	2.52
2510: Horse farms	5.5	0.07	0.00	0.98	2.90	3.28	4.80	4.22	16.18	5.14E-03	16.25	12.7	9.1	159	1.18	0.09					17.51		9.62			6.34	0.30		1.18	0.00	17.43	
2540: Aquaculture*														0																		
2600: Other open lands - rural	0.1	0.00	0.00	0.00	0.01	0.01	0.01	0.00	0.02	8.75E-05	0.02	0.2	8.5	2	0.02	0.05					0.09							0.02		0.02	0.00	0.04
3000: Upland Nonforested	0.1	0.01	0.00	0.15	0.28	0.25	0.56	0.38	1.62	7.67E-05	1.63	0.2	7.5	468	3.46	1.02					6.11							1.63		3.46	0.00	5.09
4000: Upland Forests (25% forested cover)	0.1	0.06	0.00	0.32	1.07	1.11	2.25	2.28	7.04	9.38E-05	7.10	0.2	9.1	1,407	10.41	2.80		6.97	9.41		36.69						7.10		10.41	16.38	33.89	
5000: Water	0.1	0.03	0.00	0.45	0.40	0.21	0.22	0.03	1.32	3.89E-05	1.35	0.1	3.8	532	3.94	0.87		3.07	2.94		12.17							1.35		3.94	6.01	11.30
6000: Wetlands	0.1	0.01	0.00	0.48	0.62	0.24	0.27	0.09	1.71	2.36E-05	1.72	0.1	2.3	678	5.02	1.17		13.63	32.19		53.72							1.72		5.02	45.82	52.55
7000: Barren land	0.1	0.00	0.00	0.17	0.05	0.03	0.07	0.05	0.38	3.70E-05	0.38	0.1	3.6	17	0.12	0.37		0.29	0.14		1.31							0.38		0.12	0.43	0.94
8000: Transportation, Communication, and Utilities	2.0	0.70	0.00	0.36	2.52	3.56	5.84	3.45	15.72	2.19E-03	16.42	5.4	10.7	133	0.98	1.07	189.20	6.56	3.11	8.80	226.14				23.73		0.82		0.98	1.54	241.07	
TOTALS										873				65,399	484	21.82	189	146	116		1839	283	473	40	87	107	34		214	484	120	1842

Notes:
* Aquaculture row here is a place holder. No loadings were calculated for aquaculture land use, which is less than 0.005% of total acres.
(a) - Calculated from data in Appendix E, Table 2.

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