
Appendix C: Sensitivity Analysis for the Floyds Fork Watershed

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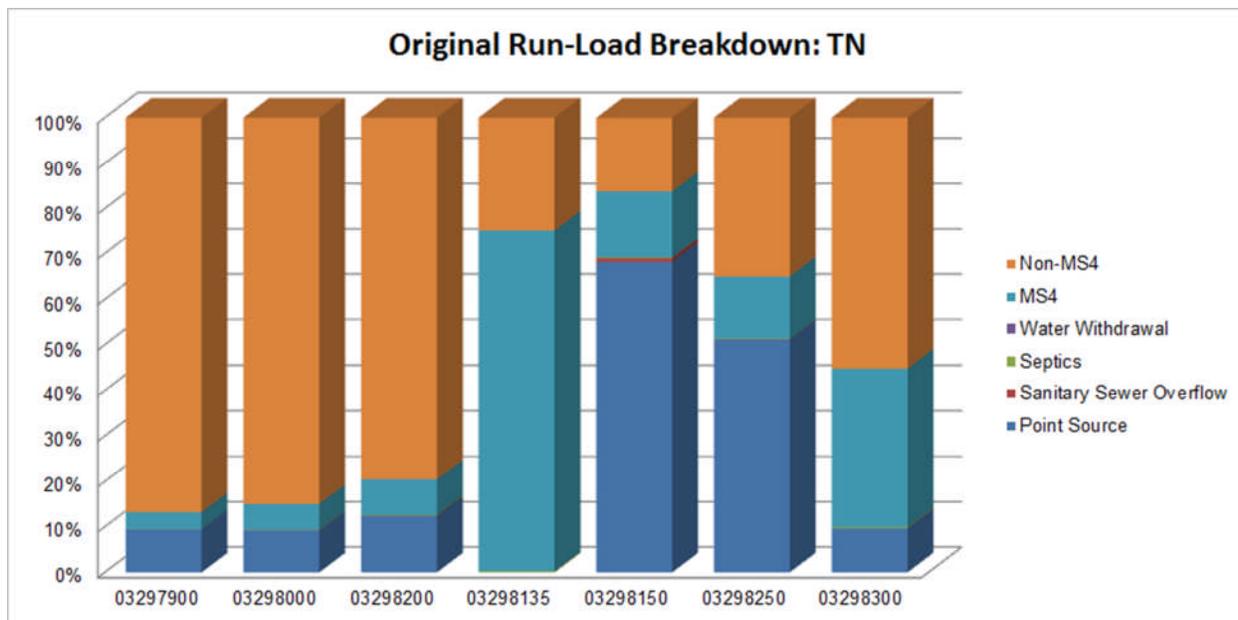


Figure C-1 Sensitivity Analysis of in-stream TN loads of the final calibrated model at the 7 USGS Flow Stations

Table C-1 Sensitivity Analysis of in-stream TN loads of the final calibrated model at the 7 USGS Flow Stations

Original Run

Station	03297900	03298000	03298200	03298135	03298150	03298250	03298300
Point Source	9%	9%	12%	0%	68%	51%	10%
Sanitary Sewer Overflow	0%	0%	0%	0%	1%	0%	0%
Septics	0%	0%	0%	0%	0%	0%	0%
Water Withdrawal	0%	0%	0%	0%	0%	0%	-2%
MS4	4%	6%	8%	75%	15%	14%	35%
Non-MS4	87%	85%	80%	25%	16%	35%	57%
Total	100%	100%	100%	100%	100%	100%	100%

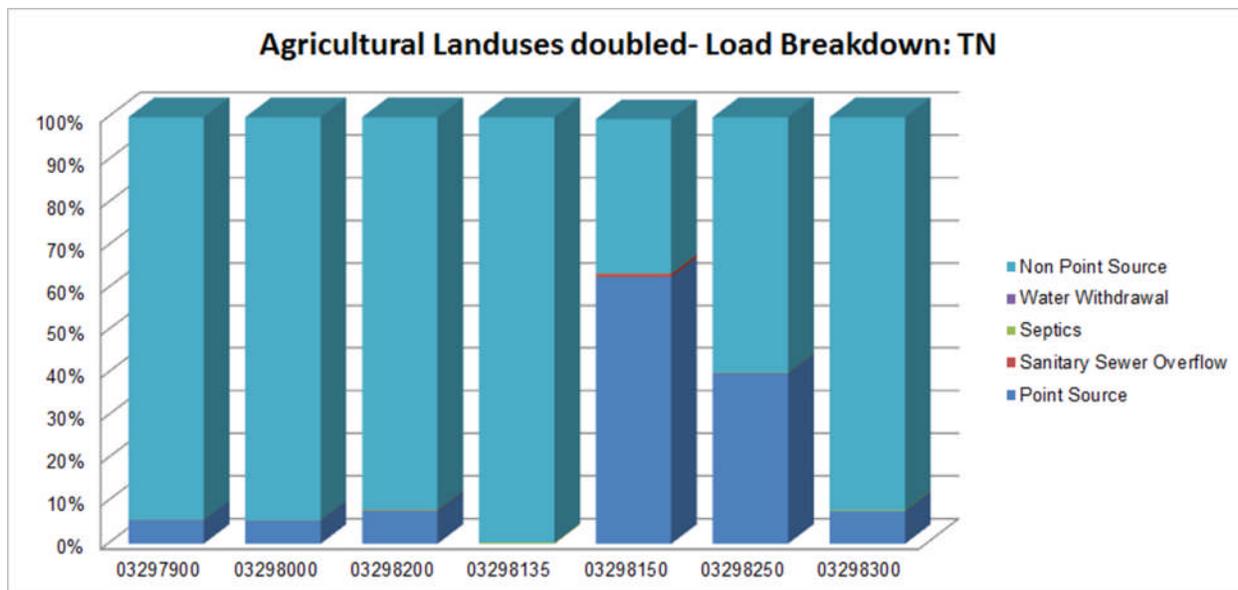


Figure C-2 Sensitivity Analysis of in-stream TN loads at the 7 USGS Flow Stations with the Build-up rates for Agricultural landuses doubled

Table C-2 Sensitivity Analysis of in-stream TN loads at the 7 USGS Flow Stations with the Build-up rates for Agricultural landuses doubled

Agricultural Landuses doubled

Station	03297900	03298000	03298200	03298135	03298150	03298250	03298300
Point Source	5%	5%	8%	0%	63%	40%	8%
Sanitary Sewer Overflow	0%	0%	0%	0%	1%	0%	0%
Septics	0%	0%	0%	0%	0%	0%	0%
Water Withdrawal	0%	0%	0%	0%	0%	0%	-1%
Non Point Source	95%	95%	92%	100%	36%	60%	93%
Total	100%	100%	100%	100%	100%	100%	100%

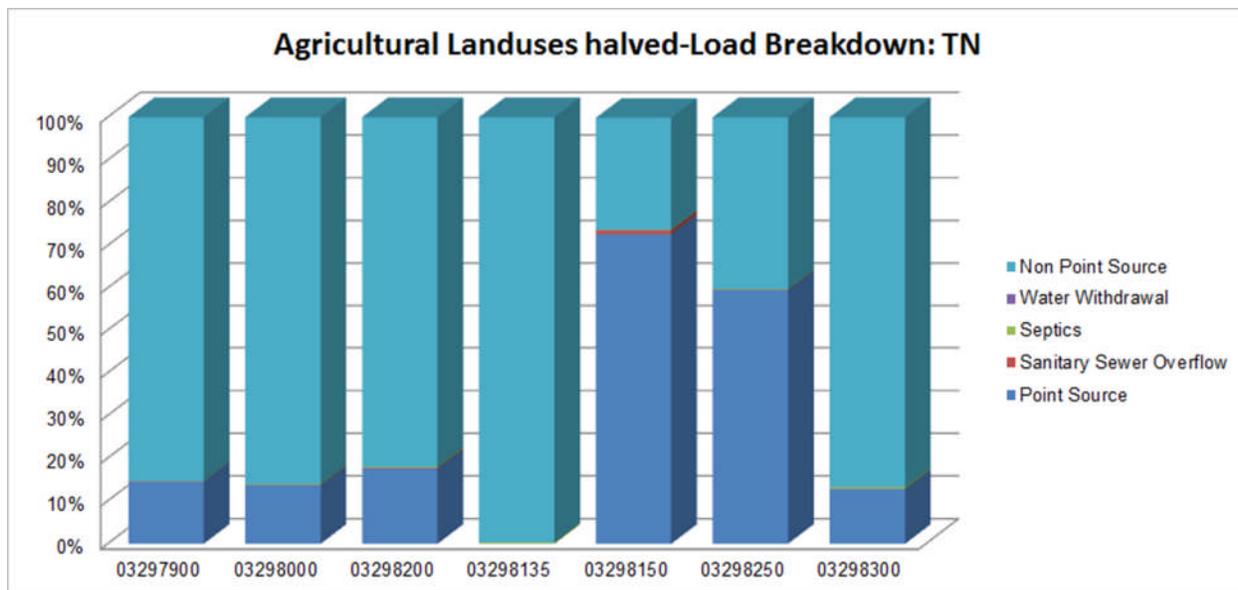


Figure C-3 Sensitivity Analysis of in-stream TN loads at the 7 USGS Flow Stations with the Build-up rates for Agricultural landuses halved

Table C-3 Sensitivity Analysis of in-stream TN loads at the 7 USGS Flow Stations with the Build-up rates for Agricultural landuses halved

Agricultural Landuses halved

Station	03297900	03298000	03298200	03298135	03298150	03298250	03298300
Point Source	15%	14%	18%	0%	73%	60%	13%
Sanitary Sewer Overflow	0%	0%	0%	0%	1%	0%	0%
Septics	0%	0%	0%	0%	0%	0%	0%
Water Withdrawal	0%	0%	0%	0%	0%	0%	-2%
Non Point Source	85%	86%	82%	100%	26%	40%	89%
Total	100%	100%	100%	100%	100%	100%	100%

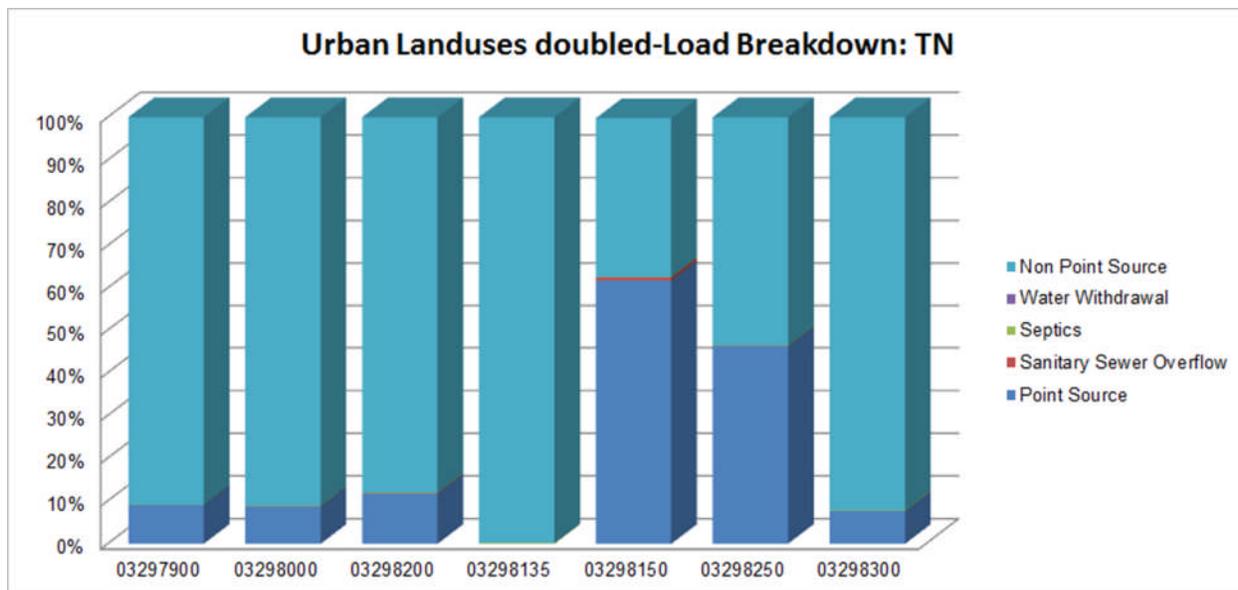


Figure C-4 Sensitivity Analysis of in-stream TN loads at the 7 USGS Flow Stations with the Build-up rates for Urban landuses doubled

Table C-4 Sensitivity Analysis of in-stream TN loads at the 7 USGS Flow Stations with the Build-up rates for Urban landuses doubled

Urban Landuses doubled

Station	03297900	03298000	03298200	03298135	03298150	03298250	03298300
Point Source	9%	9%	12%	0%	62%	46%	8%
Sanitary Sewer Overflow	0%	0%	0%	0%	1%	0%	0%
Septics	0%	0%	0%	0%	0%	0%	0%
Water Withdrawal	0%	0%	0%	0%	0%	0%	-1%
Non Point Source	91%	91%	88%	100%	37%	54%	93%
Total	100%	100%	100%	100%	100%	100%	100%

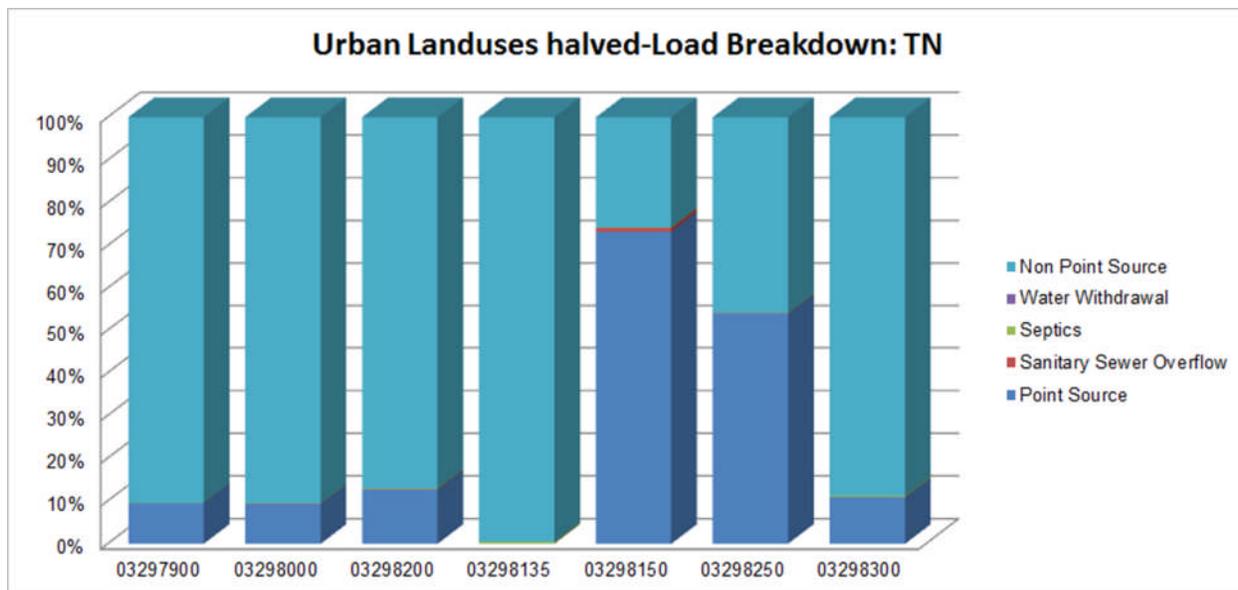


Figure C-5 Sensitivity Analysis of in-stream TN loads at the 7 USGS Flow Stations with the Build-up rates for Urban landuses halved

Table C-5 Sensitivity Analysis of in-stream TN loads at the 7 USGS Flow Stations with the Build-up rates for Urban landuses halved

Urban Landuses halved

Station	03297900	03298000	03298200	03298135	03298150	03298250	03298300
Point Source	10%	9%	13%	0%	73%	54%	11%
Sanitary Sewer Overflow	0%	0%	0%	0%	1%	0%	0%
Septics	0%	0%	0%	0%	0%	0%	0%
Water Withdrawal	0%	0%	0%	0%	0%	0%	-1%
Non Point Source	90%	91%	87%	100%	26%	46%	90%
Total	100%	100%	100%	100%	100%	100%	100%

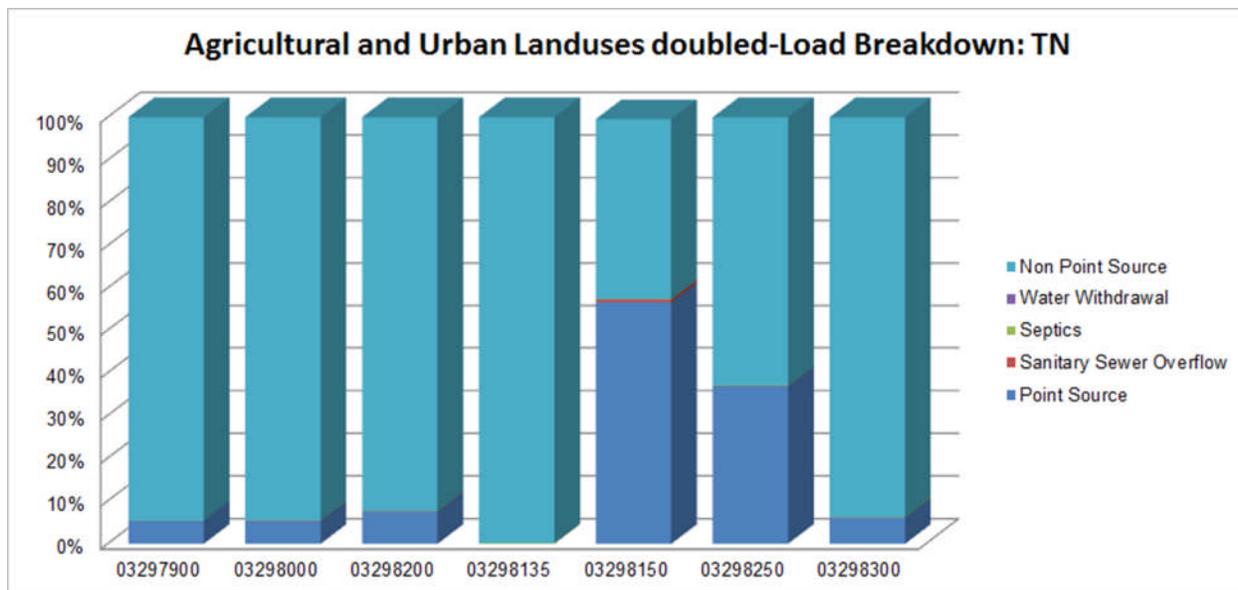


Figure C-6 Sensitivity Analysis of in-stream TN loads at the 7 USGS Flow Stations with the Build-up rates for Agricultural and Urban landuses doubled

Table C-6 Sensitivity Analysis of in-stream TN loads at the 7 USGS Flow Stations with the Build-up rates for Agricultural and Urban landuses doubled

Agricultural and Urban Landuses doubled

Station	03297900	03298000	03298200	03298135	03298150	03298250	03298300
Point Source	5%	5%	7%	0%	57%	37%	6%
Sanitary Sewer Overflow	0%	0%	0%	0%	1%	0%	0%
Septics	0%	0%	0%	0%	0%	0%	0%
Water Withdrawal	0%	0%	0%	0%	0%	0%	-1%
Non Point Source	95%	95%	93%	100%	42%	63%	95%
Total	100%	100%	100%	100%	100%	100%	100%

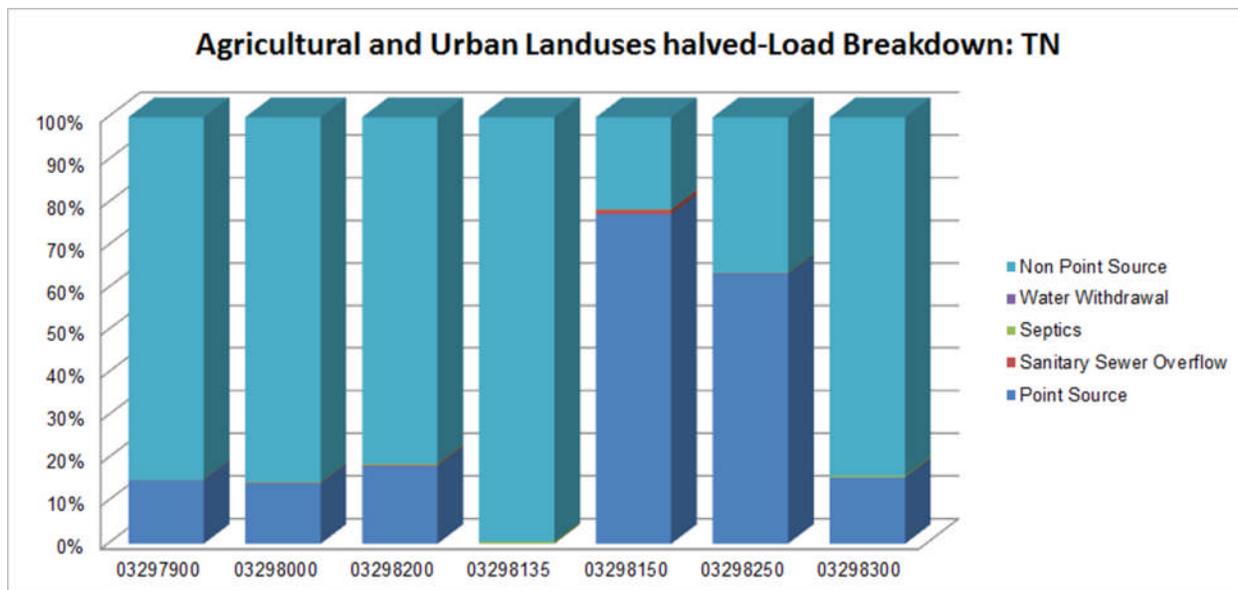


Figure C-7 Sensitivity Analysis of in-stream TN loads at the 7 USGS Flow Stations with the Build-up rates for Agricultural and Urban landuses halved

Table C-7 Sensitivity Analysis of in-stream TN loads at the 7 USGS Flow Stations with the Build-up rates for Agricultural and Urban landuses halved

Agricultural and Urban Landuses halved

Station	03297900	03298000	03298200	03298135	03298150	03298250	03298300
Point Source	15%	14%	18%	0%	77%	63%	15%
Sanitary Sewer Overflow	0%	0%	0%	0%	1%	0%	0%
Septics	0%	0%	0%	0%	0%	0%	0%
Water Withdrawal	0%	0%	0%	0%	0%	0%	-2%
Non Point Source	85%	86%	82%	100%	22%	37%	87%
Total	100%	100%	100%	100%	100%	100%	100%

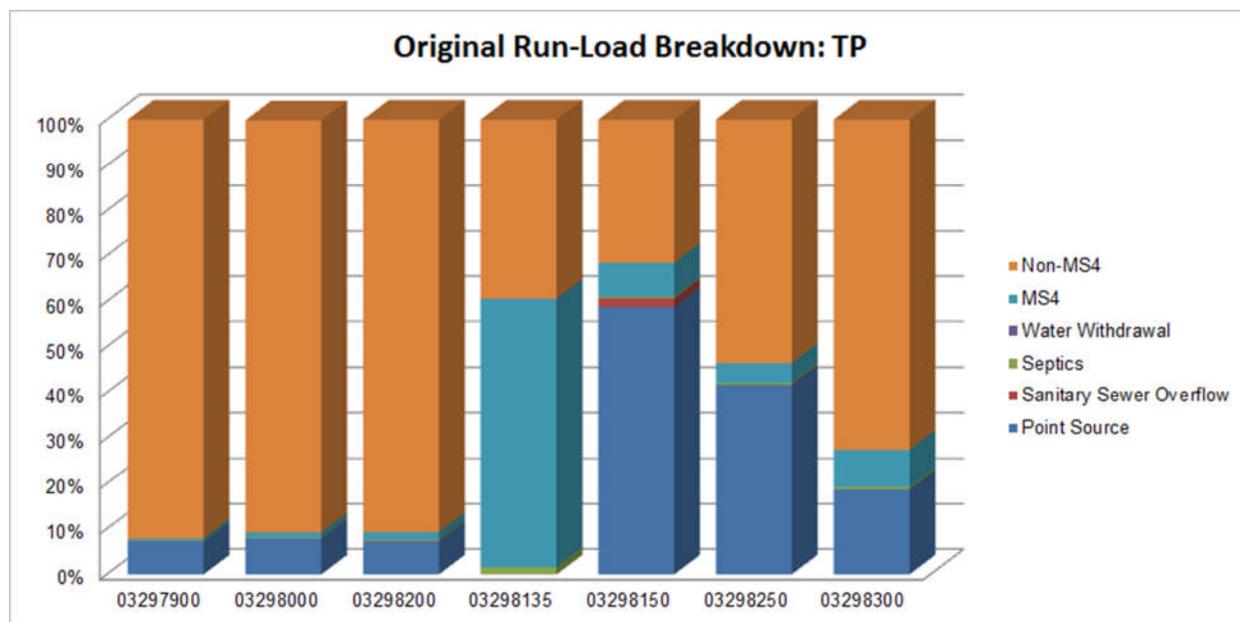


Figure C-8 Sensitivity Analysis of in-stream TP loads of the final calibrated model at the 7 USGS Flow Stations

Table C-8 Sensitivity Analysis of in-stream TP loads of the final calibrated model at the 7 USGS Flow Stations

Original Run

Station	03297900	03298000	03298200	03298135	03298150	03298250	03298300
Point Source	7%	8%	7%	0%	59%	42%	19%
Sanitary Sewer Overflow	0%	0%	0%	0%	2%	0%	0%
Septics	0%	0%	0%	2%	0%	0%	1%
Water Withdrawal	0%	0%	0%	0%	0%	0%	-1%
MS4	1%	1%	2%	59%	7%	4%	8%
Non-MS4	92%	91%	91%	39%	32%	54%	73%
Total	100%	100%	100%	100%	100%	100%	100%

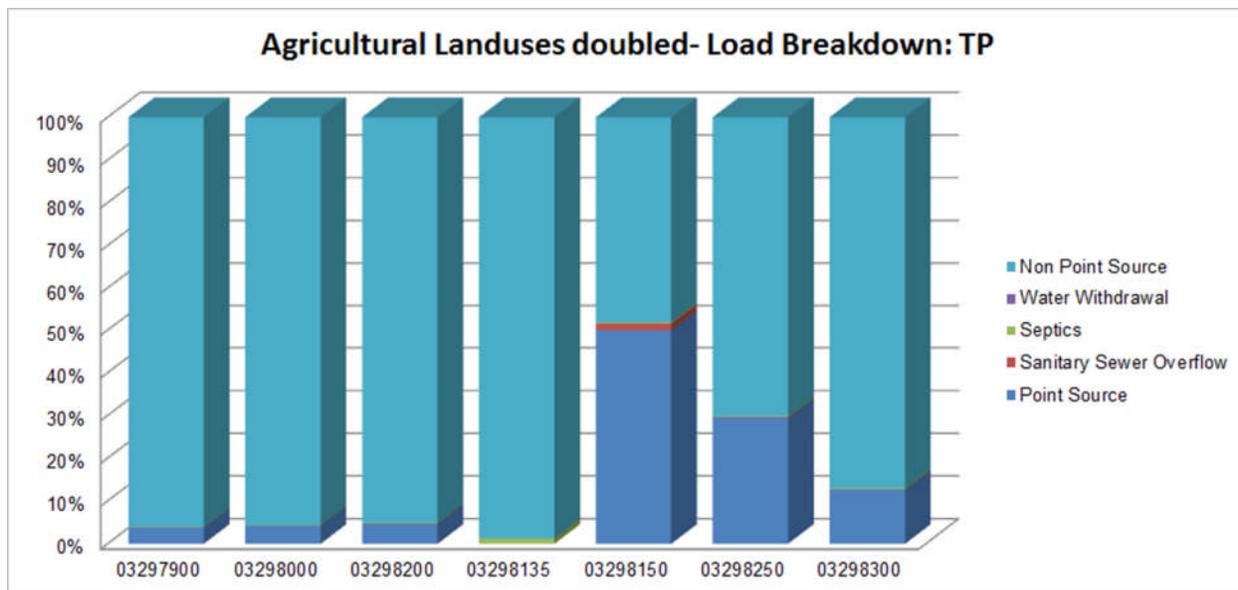


Figure C-9 Sensitivity Analysis of in-stream TP loads at the 7 USGS Flow Stations with the Build-up rates for Agricultural landuses doubled

Table C-9 Sensitivity Analysis of in-stream TP loads at the 7 USGS Flow Stations with the Build-up rates for Agricultural landuses doubled

Agricultural Landuses doubled

Station	03297900	03298000	03298200	03298135	03298150	03298250	03298300
Point Source	4%	4%	5%	0%	50%	30%	13%
Sanitary Sewer Overflow	0%	0%	0%	0%	2%	0%	0%
Septics	0%	0%	0%	1%	0%	0%	0%
Water Withdrawal	0%	0%	0%	0%	0%	0%	0%
Non Point Source	96%	96%	95%	99%	48%	70%	87%
Total	100%	100%	100%	100%	100%	100%	100%

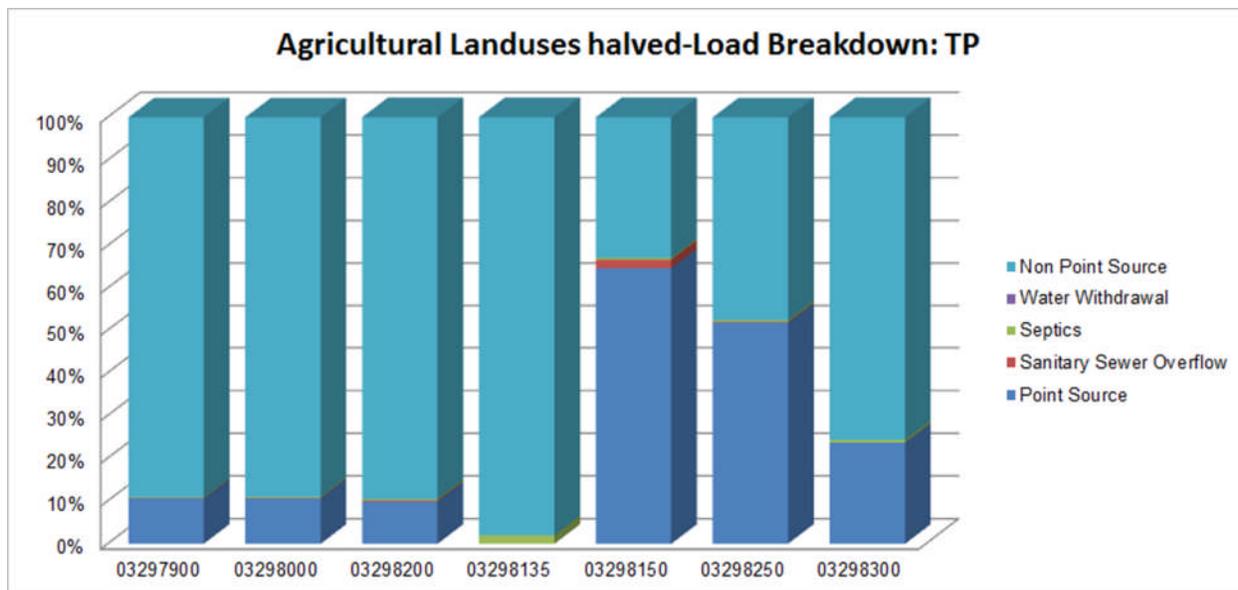


Figure C-10 Sensitivity Analysis of in-stream TP loads at the 7 USGS Flow Stations with the Build-up rates for Agricultural landuses halved

Table C-10 Sensitivity Analysis of in-stream TP loads at the 7 USGS Flow Stations with the Build-up rates for Agricultural landuses halved

Agricultural Landuses halved

Station	03297900	03298000	03298200	03298135	03298150	03298250	03298300
Point Source	11%	11%	10%	0%	65%	52%	24%
Sanitary Sewer Overflow	0%	0%	0%	0%	2%	0%	0%
Septics	0%	0%	0%	2%	0%	0%	1%
Water Withdrawal	0%	0%	0%	0%	0%	0%	-1%
Non Point Source	89%	89%	90%	98%	33%	48%	76%
Total	100%	100%	100%	100%	100%	100%	100%

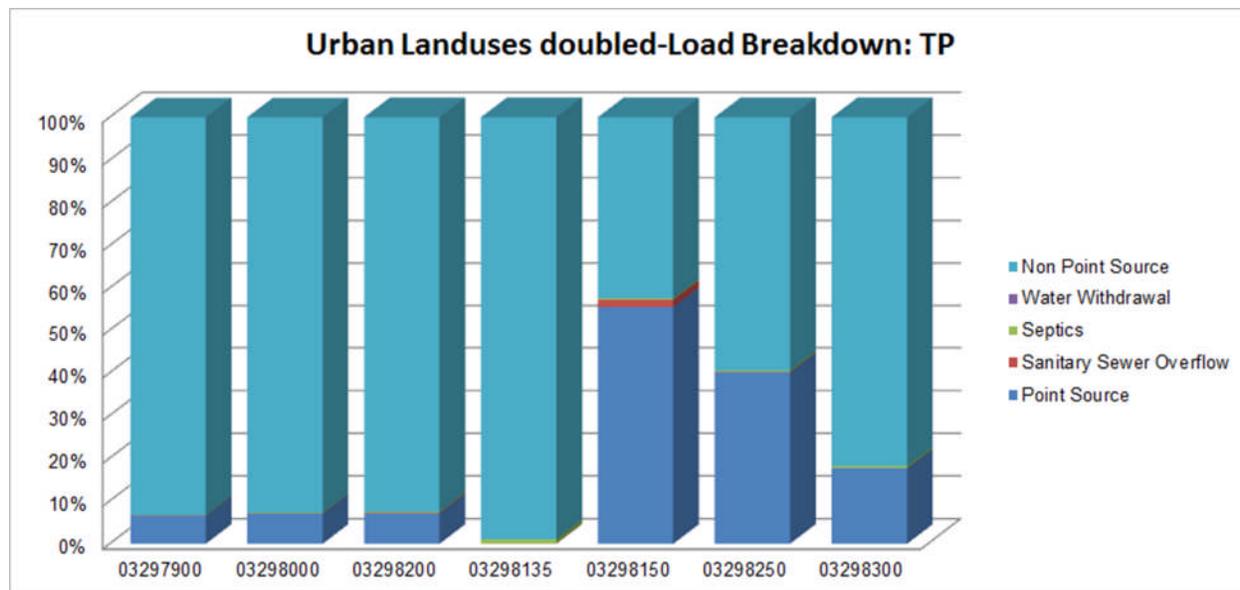


Figure C-11 Sensitivity Analysis of in-stream TP loads at the 7 USGS Flow Stations with the Build-up rates for Urban landuses doubled

Table C-11 Sensitivity Analysis of in-stream TP loads at the 7 USGS Flow Stations with the Build-up rates for Urban landuses doubled

Urban Landuses doubled

Station	03297900	03298000	03298200	03298135	03298150	03298250	03298300
Point Source	7%	7%	7%	0%	55%	40%	18%
Sanitary Sewer Overflow	0%	0%	0%	0%	2%	0%	0%
Septics	0%	0%	0%	1%	0%	0%	0%
Water Withdrawal	0%	0%	0%	0%	0%	0%	-1%
Non Point Source	93%	93%	93%	99%	43%	60%	83%
Total	100%	100%	100%	100%	100%	100%	100%

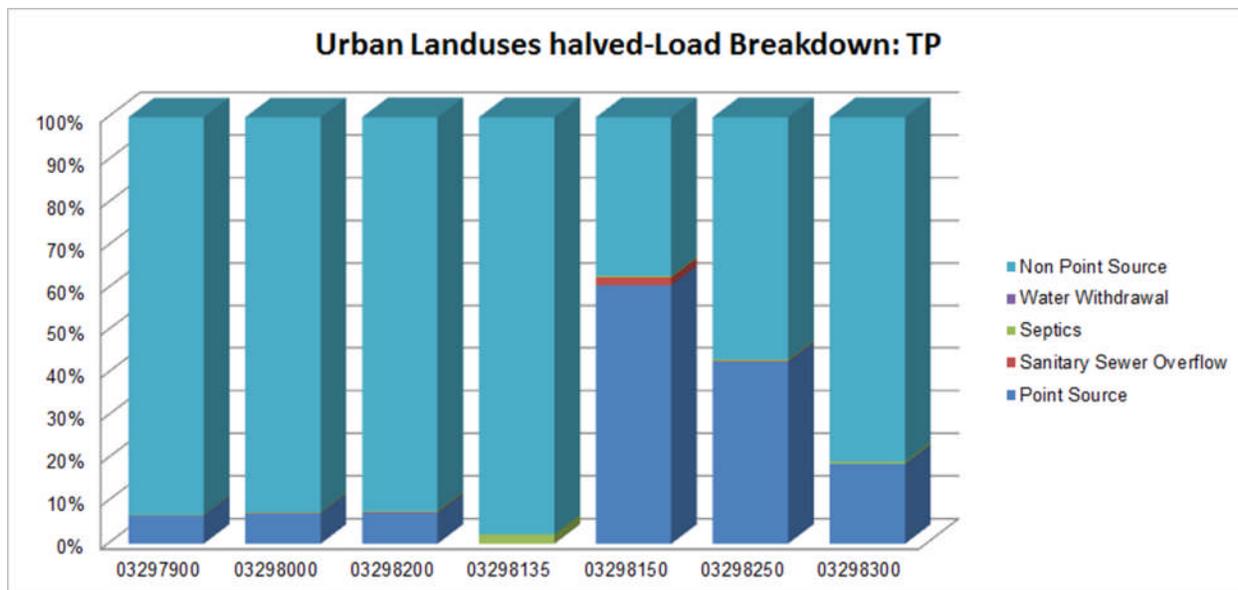


Figure C-12 Sensitivity Analysis of in-stream TP loads at the 7 USGS Flow Stations with the Build-up rates for Urban landuses halved

Table C-12 Sensitivity Analysis of in-stream TP loads at the 7 USGS Flow Stations with the Build-up rates for Urban landuses halved

Urban Landuses halved

Station	03297900	03298000	03298200	03298135	03298150	03298250	03298300
Point Source	7%	7%	7%	0%	61%	43%	19%
Sanitary Sewer Overflow	0%	0%	0%	0%	2%	0%	0%
Septics	0%	0%	0%	2%	0%	0%	1%
Water Withdrawal	0%	0%	0%	0%	0%	0%	-1%
Non Point Source	93%	93%	93%	98%	37%	57%	81%
Total	100%	100%	100%	100%	100%	100%	100%

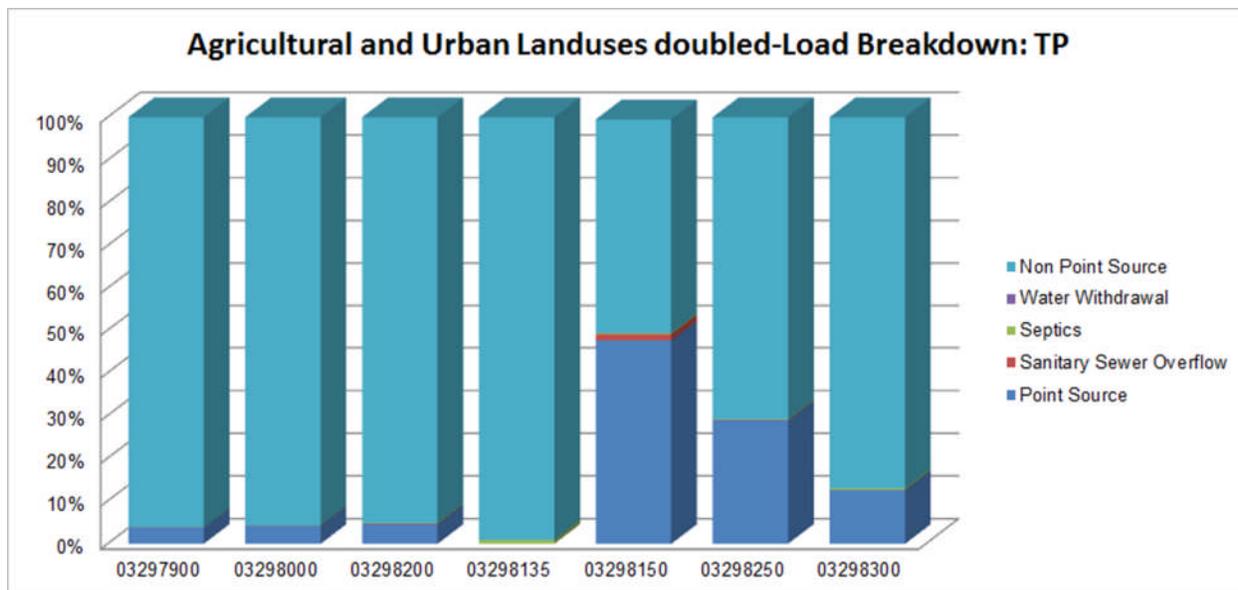


Figure C-13 Sensitivity Analysis of in-stream TP loads at the 7 USGS Flow Stations with the Build-up rates for Agricultural and Urban landuses doubled

Table C-13 Sensitivity Analysis of in-stream TP loads at the 7 USGS Flow Stations with the Build-up rates for Agricultural and Urban landuses doubled

Agricultural and Urban Landuses doubled

Station	03297900	03298000	03298200	03298135	03298150	03298250	03298300
Point Source	4%	4%	5%	0%	48%	29%	13%
Sanitary Sewer Overflow	0%	0%	0%	0%	2%	0%	0%
Septics	0%	0%	0%	1%	0%	0%	0%
Water Withdrawal	0%	0%	0%	0%	0%	0%	0%
Non Point Source	96%	96%	95%	99%	50%	71%	87%
Total	100%	100%	100%	100%	100%	100%	100%

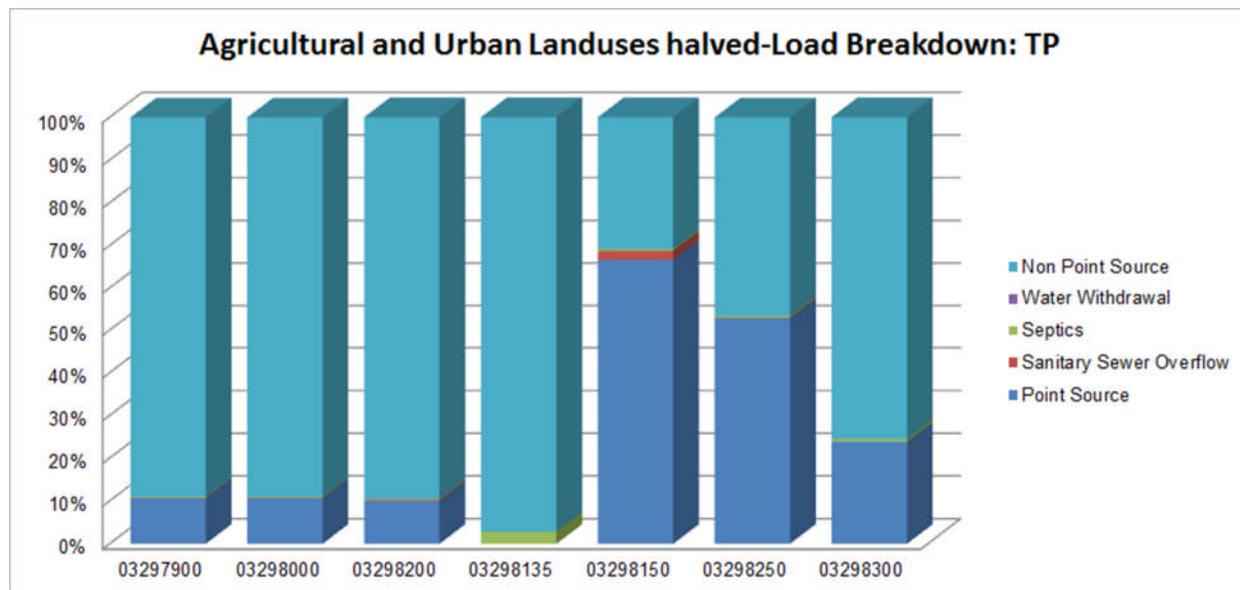


Figure C-14 Sensitivity Analysis of in-stream TP loads at the 7 USGS Flow Stations with the Build-up rates for Agricultural and Urban landuses halved

Table C-14 Sensitivity Analysis of in-stream TP loads at the 7 USGS Flow Stations with the Build-up rates for Agricultural and Urban landuses halved

Agricultural and Urban Landuses halved

Station	03297900	03298000	03298200	03298135	03298150	03298250	03298300
Point Source	11%	11%	10%	0%	67%	53%	24%
Sanitary Sewer Overflow	0%	0%	0%	0%	2%	0%	0%
Septics	0%	0%	0%	3%	0%	0%	1%
Water Withdrawal	0%	0%	0%	0%	0%	0%	-1%
Non Point Source	89%	89%	90%	97%	31%	47%	76%
Total	100%	100%	100%	100%	100%	100%	100%