

If the Upper Big Blue NRD had imposed water allocation for calendar year how does your City or Village measure up?

The NRD rules and regulations that apply are:

Rule 5 - Upper Big Blue Natural Resources District Ground Water Management
Ground Water Quantity Regulations for Ground Water Management /

Chapter 16 - Allocation to Municipal Users

01 Allocation for municipal user -

A municipal user shall limit ground water use to 274,000 gallons per capita for 1/3 of the non-agricultural lands within the municipal jurisdictional limits

01.01 - A municipal user shall receive an allocation of 48 inches per acre for irrigated agricultural lands that it serves. This allocation shall be added to

Chapter 4 - Definitions

Ground Water Use Period -

Ground water use period means a period of 3 consecutive calendar years commencing

which an allocation is set.

Acre Inch -

Acre Inch (1 inch of water over 1 acre of land) is equal to 27,154 gallons

Fill in your data in the outlined blanks:

City or Village	<input type="text"/>	Date	<input type="text"/>
Population - 2000 Census	<input type="text"/>		
Total area within City or Village Limits	<input type="text"/>	acres	
Enter square miles if acres unknown	<input type="text"/>	x 640 = total acres	
Acres of irrigated Ag Lands served by municipal system	<input type="text"/>		
- Ag lands include			
Irrigated Cropland			
Golf Courses			
Nurseries	<input type="text"/>		
Total Acres of Irrigated Lands served	<input type="text"/>		
Actual Water Use			Exemptions for fire protection, water
	Calendar Year	Gallons	Calendar Year
	2001	<input type="text"/>	2001
	2002	<input type="text"/>	2002
	2003	<input type="text"/>	2003
Total for Ground Water Use Period			Total Gallons Exempted from Use

ANSWERS	ALLOCATION	AC

	Gallons per capita per day allocation	250
274,000	Gallons per capita allocation for ground water use period	-
48	Inches per acre for 1/3 of non ag lands	-
27,154	gallons per acre inch x total acre inches for non ag lands	-
48	Inches per acre for Ag lands	-
27,154	Gallons per acre inch x total acre inches for ag lands	-
Total gallons for ground water use period		-
Add exempted gallons used for fire protection, etc.		-
Grand Total gallons for ground water use period		-
Gallons over (under) allocation		
1,095	Days in ground water use period	
Average total daily water use in gallons		-
-	City or Village population	
Average gallons per capita per day		#DIV/0!

ars 2001, 2002, and 2003,

ent Area Rules and Regulations
Area # 1

served plus 48 inches per acre
for the ground water use period.

for the ground water use period
to the municipal user's total allocation.

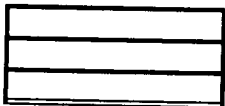
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TUAL USE

-
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If the Upper Big Blue NRD had imposed water allocation for calendar years 2001, 2002, and 2003, how does your City or Village measure up?

The NRD rules and regulations that apply are:

Rule 5 - Upper Big Blue Natural Resources District Ground Water Management Area Rules and Regulations
Ground Water Quantity Regulations for Ground Water Management Area # 1

Chapter 16 - Allocation to Municipal Users

01 Allocation for municipal user -

A municipal user shall limit ground water use to 274,000 gallons per capita served plus 48 inches per acre for 1/3 of the non-agricultural lands within the municipal jurisdictional limits for the ground water use period.

01.01 - A municipal user shall receive an allocation of 48 inches per acre for the ground water use period for irrigated agricultural lands that it serves. This allocation shall be added to the municipal user's total allocation.

Chapter 4 - Definitions

Ground Water Use Period -

Ground water use period means a period of 3 consecutive calendar years designated by the Board for which an allocation is set.

Acre Inch -

Acre Inch (1 inch of water over 1 acre of land) is equal to 27,154 gallons



Fill in your data in the outlined blanks:

City or Village **Aurora** Date **March 11, 2004**

Population - 2000 Census **3,810**

Total area within City or Village Limits **1,354.6** acres 1,354.6
Enter square miles if acres unknown x 640 = total acres

Acres of irrigated Ag Lands served by municipal system

- Ag lands include
Irrigated Cropland
Golf Courses 40.0
Nurseries
Total Acres of Irrigated Lands served **40.0**

Non Agricultural Lands within corporate limits

- Non Ag lands include parks and unimproved property
Total Acres of Non Ag Lands **1,314.6**
1/3 of Non Ag Lands Acreage **438.2**

Actual Water Use

Calendar Year	Gallons
2002	428,826,800
2003	365,471,800
2004	355,932,600

Exemptions for fire protection, water & sewer maint.

Calendar Year	
2001	<input type="text"/>
2002	<input type="text"/>
2003	<input type="text"/>

Total for Ground Water Use Period **1,150,231,200**

Total Gallons Exempted from Use **-**



ANSWERS	ALLOCATION	Aurora ACTUAL USE
	Gallons per capita per day allocation	250
274,000 Gallons per capita allocation for ground water use period	1,043,940,000	
48 Inches per acre for 1/3 of non ag lands	21,034	
27,154 gallons per acre inch x total acre inches for non ag lands	571,146,374	
48 Inches per acre for Ag lands	1,920	
27,154 Gallons per acre inch x total acre inches for ag lands	52,135,680	
Total gallons for ground water use period	1,667,222,054	
Add exempted gallons used for fire protection, etc.	-	
Grand Total gallons for ground water use period	1,667,222,054	1,150,231,200
Gallons over (under) allocation		(516,990,854)
1,095 Days in ground water use period		
Average total daily water use in gallons	1,522,577	1,050,439
3,810 City or Village population		
Average gallons per capita per day	400	276



SUMMARY OF ALLOCATION compared to ACTUAL WATER USE

City/Village	Aurora	Henderson	Stromsburg	Osceola	Fairmont	Gilmer	McCool Jct	Ulysses
Population	3,810	999	1,241	879	708	367	372	276
Total Area (acres)	1,354.5	397.6	646.5	615.0	376.0	120.0	331.0	120.0
Irrigated Crop Lands (golf course on City Water)	40.0							
Total Non-Ag Lands	1,314.5	397.6	646.5	615.0	376.0	120.0	331.0	120.0
1/3 of Non-Ag Lands	438.2	132.5	215.5	205.0	125.3	40.0	110.3	40.0
Actual Water Use (gallons)								
2001	408,132,600	176,217,160	88,973,000	126,363,365	59,797,000	49,000,000	25,189,111	29,000,000
2002	428,826,800	179,602,800	92,681,000	126,491,115	47,324,000	49,000,000	24,114,030	30,000,000
2003	365,471,800	157,962,900	90,503,000	120,709,880	37,411,000	39,000,000	25,279,040	30,000,000
Actual Water Use (gallons) Total	1,202,431,200	513,782,860	272,157,000	373,564,360	144,532,000	137,000,000	74,582,181	89,000,000
Allocation for 3 years (if there had been an Allocation)								
250 gallons per capita for 3 years	1,043,940,000	273,726,000	340,034,000	240,846,000	193,992,000	100,558,000	101,928,000	75,624,000
Gallons for 1/3 of Non-Ag lands for 3 years	571,146,374	172,721,163	280,880,976	267,195,360	163,358,464	52,135,680	143,807,584	52,135,680
Gallons for Ag lands for 3 years	52,135,680							
Exempt Fire Protection, Water & Sewer Maint.								
Total Allocation	1,667,222,054	446,447,163	620,914,976	508,041,360	357,350,464	152,693,680	245,735,584	127,759,680
Gallons per capita per day Allocation	400	408	457	528	461	380	603	423

Actual Water Use								
Total Gallons Used	1,202,431,200	513,782,860	272,157,000	373,564,360	144,532,000	137,000,000	74,582,181	89,000,000
Gallons per capita per day Actual	288	470	200	388	186	341	183	294
Population Density per Acre	2.81	2.51	1.92	1.43	1.88	3.06	1.12	2.30
Water Meters	Meters	No Meters	Meters	No Meters	Meters installed in May 2002	No Meters	Meters	No Meters
Comments					231 gals per Capita per day in 2001	Installing Meters in 2004		

UPPER BIG BLUE NRD

MUNICIPAL AVERAGE ANNUAL WATER USE - PER ACRE BASIS										
2001 thru 2003 Data	Aurora	Henderson	Stromsburg	Osceola	Fairmont	Gilmer	McCool	J.C.T.	Ulysses	Total
Population	3,810	999	1,241	879	708	367	372	276	8,652	
Average Annual Water Use - Gallons	400,810,400	171,260,953	90,719,000	124,521,453	48,177,333	45,666,667	24,860,727	29,666,667	935,683,200	
Avg Gallons per Capita per Day	288	470	200	388	186	341	183	294	296	
Avg Annual Water Use - Acre Feet	1,230.0	525.6	278.4	382.1	147.9	140.1	76.3	91.0	2,872	
Corporate Area - Acres	1,354.5	397.6	646.5	615.0	376.0	120.0	331.0	120.0	3,961	
Avg Annual Water Use per Acre - Ac. Ft.	0.91	1.32	0.43	0.62	0.39	1.17	0.23	0.76	0.73	
Avg Annual Water Use per Acre - Ac. in.	10.9	15.9	5.2	7.5	4.7	14.0	2.8	9.1	8.7	
	Meters	No Meters	Meters	No Meters	Meters installed in May 2002	No Meters	Meters	No Meters		

Upper Big Blue NRD			
2001 - 2003 Crop Irrigation from Water pumping reports			
	Acres	# of Reports	Acres
Corn - Center Pivots	10.7	223	24,123
Soybeans - Center Pivots	9.4	96	10,042
Corn - Gravity Irrigation	16.3	28	1,876
Soybeans - Gravity Irrigation	12.9	19	1,201

April 1 - Sept 1 Rainfall	2001	2002	2003
Aurora	15.2	14.3	19.2
Geneva	18.5	13.5	13.2
Osceola	16.5	14.7	13.4
Seward	17.0	18.0	16.1
York	17.7	15.1	11.9

Average Rainfall	2001 - 2003	1949 - 2003	Difference from 1949 - 2003
Aurora	27.6	27.5	0.14
Geneva	27.1	28.8	(1.64)
Osceola	24.1	27.0	(2.84)
Seward	26.2	27.2	(0.97)
York	23.1	28.1	(4.95)