People and Nature: Our Future is in the Balance

NATIONAL WILDLIFE FEDERATION

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January 6, 2004

Mr. Tom Gooch, Vice President
Freese & Nichols
4055 International Plaza, Ste. 200
Ft. Worth, TX 76109

Re: Response to your 'Comments on *Marvin Nichols Reservoir: Refocusing the Debate*'

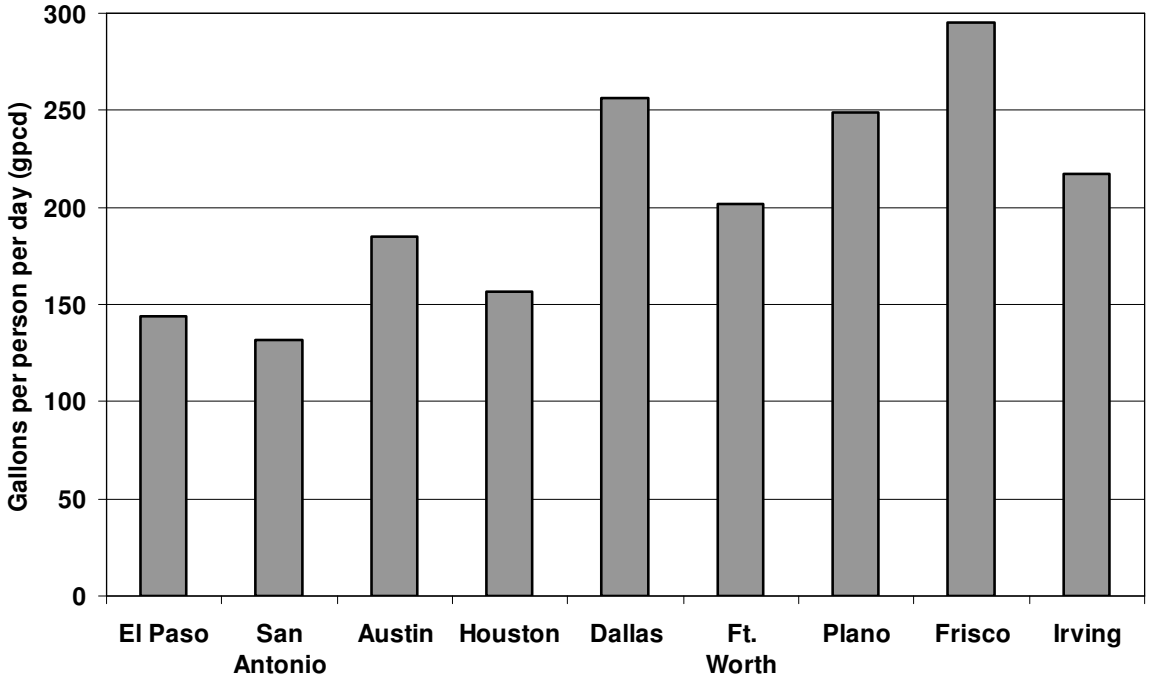
The National Wildlife Federation appreciates the input you have offered on the document *Marvin Nichols Reservoir: Refocusing the Debate* (hereinafter referred to simply as *Refocus*). However, we would like to respond to several points you make. The National Wildlife Federation contributed substantially to the preparation of the *Refocus* document, especially in the areas of water conservation potential and cost comparison information, hence that will be the subject matter we will deal with here. As you will see below, in our opinion, the main message of the *Refocus* document still stands: reasonable conservation measures in Region C could save enough water to delay by decades, if not eliminate altogether, the need for projects, such as the Marvin Nichols dam & reservoir.

Response to Specific Comments

Re: your section labeled **Population and Demand Projections for Region C**

Much of this section uses recently revised population and water demand projections for the Region in criticizing our calculations of municipal water savings potential summarized in the *Refocus* document. However, the fact remains that the newly revised municipal water use rates are still the highest in the state as shown below on Chart 1. Even with the upward revision in the population forecast for Region C, the potential for water conservation is still enormous especially in the DFW area.

Chart 1 – Water use rates for major Texas cities at year 2050 with new projections for Dallas/Ft. Worth area.



With the recently revised population and water demand figures for Region C, NWF has again performed calculations of municipal water savings potential, this time at the 2060 timeframe. As you may know, our calculations use the *real world* water conservation experience of San Antonio and El Paso as a guide in determining both what levels of water use are feasible. [1]. You also may know that San Antonio and El Paso are striving to achieve water use rates of 140 and 132 gallons per person per day (gpcd), respectively. The levels of water use analyzed here for Region C are not nearly that ambitious; specifically we have analyzed municipal water use rates of 175 gpcd and 150 gpcd for Region C entities. The calculations are detailed below in Tables 1 and 2.

We find that Region C, with the reasonable water use rates of 150 to 175 gpcd could realize municipal water conservation savings ranging between **451,000 to 690,000** ac-ft/yr. Again, this is a substantial savings potential given that the Region was proposing to import, at great expense, 495,300 ac-ft/yr of water from the Marvin Nichols dam & reservoir in the last round of regional planning.

Your section concludes with the statement "Marvin Nichols is one of many additional sources of supply needed for the region." The "need" for that particular project is a statement of opinion that, in fairness, should at least be qualified as such.

[1] A full description of our methodology is available either in the NWF Report *Save Water, Rivers, and Money* published in Sept. 2002 or available in the Proceedings of the 2003 Texas Section of the American Water Works Assoc. Annual Conference.

Table 1 - Potential for municipal conservation of Top 50 Region C water users groups with projected 2060 population and demands. Max. reduction to 175 gallons per person per day.

Region / City		new 2007 State Water Plan (SWP) Projections for Year 2060				NWF Proposed Additional Savings	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
no.	Major Cities / Entities	2060 City / Entity Population	Portion of Region pop. (%)	Projected 2060 Water Use Volume (ac-ft/yr)	2060 Net Water Use Rate (gpcd)	Achieved Water Use Rate (gpcd)	Add-itional Savings Possible (ac-ft/yr)
1	DALLAS	2,058,767	15.7%	590,366	256	175	186,772
2	FORT WORTH	1,848,759	14.1%	418,317	202	175	55,907
3	ARLINGTON	515,000	3.9%	100,376	174	174	-
4	DENTON	498,488	3.8%	98,275	176	175	559
5	MCKINNEY	400,000	3.1%	108,430	242	175	30,016
6	GRAND PRAIRIE	393,743	3.0%	62,188	141	141	-
7	PLANO	305,000	2.3%	85,069	249	175	25,278
8	GARLAND	300,000	2.3%	52,087	155	155	-
9	FRISCO	300,000	2.3%	99,133	295	175	40,320
10	IRVING	283,521	2.2%	68,916	217	175	13,337
11	MESQUITE	250,610	1.9%	42,670	152	152	-
12	LEWISVILLE	185,002	1.4%	35,229	170	170	-
13	CELINA	150,000	1.1%	31,252	186	175	1,848
14	LANCASTER	146,000	1.1%	20,933	128	128	-
15	CARROLLTON	134,800	1.0%	27,632	183	175	1,208
16	FLOWER MOUND	130,089	1.0%	33,661	231	175	8,159
17	ALLEN	129,215	1.0%	36,330	251	175	10,999
18	MANSFIELD	127,675	1.0%	34,466	241	175	9,437
19	RICHARDSON	116,000	0.9%	35,343	272	175	12,602
20	WYLIE	100,000	0.8%	21,283	190	175	1,680
21	ROWLETT	98,747	0.8%	20,905	189	175	1,548
22	WAXAHACHIE	97,206	0.7%	21,341	196	175	2,286
23	BOLIVAR WSC	95,836	0.7%	14,707	137	137	-
24	CEDAR HILL	92,998	0.7%	15,417	148	148	-
25	DENTON CO.	88,612	0.7%	15,649	158	158	-
26	N. RICHLAND HILLS	87,751	0.7%	16,022	163	163	-
27	DE SOTO	85,400	0.7%	18,845	197	175	2,104
28	ROCKWALL	82,113	0.6%	22,075	240	175	5,978
29	SHERMAN	80,000	0.6%	21,238	237	175	5,555
30	PRINCETON	75,000	0.6%	11,509	137	137	-
31	PROSPER	75,000	0.6%	20,247	241	175	5,544
32	ENNIS	70,596	0.5%	11,308	143	143	-
33	GRAPEVINE	70,490	0.5%	18,713	237	175	4,895
34	THE COLONY	67,600	0.5%	7,648	101	101	-
35	EULESS	66,798	0.5%	11,448	153	153	-
36	ROCKETT SUD	66,139	0.5%	8,223	111	111	-
37	WESTON	60,000	0.5%	12,702	189	175	940
38	BEDFORD	58,713	0.4%	11,246	171	171	-
39	HALTOM CITY	55,456	0.4%	8,324	134	134	-
40	WEATHERFORD	54,799	0.4%	10,741	175	175	-
41	SOUTHLAKE	54,445	0.4%	17,930	294	175	7,256
42	PARKER	52,000	0.4%	19,338	332	175	9,144
43	BENBROOK	51,000	0.4%	11,254	197	175	1,257
44	MIDLOTHIAN	50,163	0.4%	10,170	181	175	337
45	ANNA	50,000	0.4%	10,473	187	175	672
46	MELISSA	50,000	0.4%	10,753	192	175	952
47	KELLER	48,097	0.4%	10,667	198	175	1,239
48	LITTLE ELM	47,477	0.4%	9,785	184	175	478
49	HURST	45,167	0.3%	8,247	163	163	-
50	FORNEY	42,803	0.3%	7,048	147	147	-
	Totals	**10,393,075**	**79%**	**2,415,929**			**450,463**

Table 2 - Potential for municipal conservation of Top 50 Region C water users groups with projected 2060 population and demands. Max. reduction to 150 gallons per person per day.

Region / City		new 2007 State Water Plan (SWP) Projections for Year 2060				NWF Proposed Additional Savings	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
no.	Major Cities / Entities	2060 City / Entity Population	Portion of Region pop. (%)	Projected 2060 Water Use Volume (ac-ft/yr)	2060 Net Water Use Rate (gpcd)	Achiev-able Water Use Rate (gpcd)	Add-itional Savings Possible (ac-ft/yr)
1	DALLAS	2,058,767	15.7%	590,366	256	150	244,417
2	FORT WORTH	1,848,759	14.1%	418,317	202	150	107,672
3	ARLINGTON	515,000	3.9%	100,376	174	150	13,843
4	DENTON	498,488	3.8%	98,275	176	150	14,516
5	MCKINNEY	400,000	3.1%	108,430	242	150	41,216
6	GRAND PRAIRIE	393,743	3.0%	62,188	141	141	-
7	PLANO	305,000	2.3%	85,069	249	150	33,818
8	GARLAND	300,000	2.3%	52,087	155	150	1,680
9	FRISCO	300,000	2.3%	99,133	295	150	48,720
10	IRVING	283,521	2.2%	68,916	217	150	21,276
11	MESQUITE	250,610	1.9%	42,670	152	150	562
12	LEWISVILLE	185,002	1.4%	35,229	170	150	4,144
13	CELINA	150,000	1.1%	31,252	186	150	6,048
14	LANCASTER	146,000	1.1%	20,933	128	128	-
15	CARROLLTON	134,800	1.0%	27,632	183	150	4,982
16	FLOWER MOUND	130,089	1.0%	33,661	231	150	11,802
17	ALLEN	129,215	1.0%	36,330	251	150	14,617
18	MANSFIELD	127,675	1.0%	34,466	241	150	13,012
19	RICHARDSON	116,000	0.9%	35,343	272	150	15,850
20	WYLIE	100,000	0.8%	21,283	190	150	4,480
21	ROWLETT	98,747	0.8%	20,905	189	150	4,313
22	WAXAHACHIE	97,206	0.7%	21,341	196	150	5,008
23	BOLIVAR WSC	95,836	0.7%	14,707	137	137	-
24	CEDAR HILL	92,998	0.7%	15,417	148	148	-
25	DENTON CO.	88,612	0.7%	15,649	158	150	760
26	N. RICHLAND	87,751	0.7%	16,022	163	150	1,278
27	DE SOTO	85,400	0.7%	18,845	197	150	4,495
28	ROCKWALL	82,113	0.6%	22,075	240	150	8,277
29	SHERMAN	80,000	0.6%	21,238	237	150	7,795
30	PRINCETON	75,000	0.6%	11,509	137	137	-
31	PROSPER	75,000	0.6%	20,247	241	150	7,644
32	ENNIS	70,596	0.5%	11,308	143	143	-
33	GRAPEVINE	70,490	0.5%	18,713	237	150	6,868
34	THE COLONY	67,600	0.5%	7,648	101	101	-
35	EULESS	66,798	0.5%	11,448	153	150	224
36	ROCKETT SUD	66,139	0.5%	8,223	111	111	-
37	WESTON	60,000	0.5%	12,702	189	150	2,620
38	BEDFORD	58,713	0.4%	11,246	171	150	1,381
39	HALTOM CITY	55,456	0.4%	8,324	134	134	-
40	WEATHERFORD	54,799	0.4%	10,741	175	150	1,533
41	SOUTHLAKE	54,445	0.4%	17,930	294	150	8,781
42	PARKER	52,000	0.4%	19,338	332	150	10,600
43	BENBROOK	51,000	0.4%	11,254	197	150	2,685
44	MIDLOTHIAN	50,163	0.4%	10,170	181	150	1,741
45	ANNA	50,000	0.4%	10,473	187	150	2,072
46	MELISSA	50,000	0.4%	10,753	192	150	2,352
47	KELLER	48,097	0.4%	10,667	198	150	2,585
48	LITTLE ELM	47,477	0.4%	9,785	184	150	1,808
49	HURST	45,167	0.3%	8,247	163	150	658
50	FORNEY	42,803	0.3%	7,048	147	147	-
	Totals	**10,393,075**	**79%**	**2,415,929**			**690,292**

Re: your section labeled **Demand Projections for Region C** and **Figures 1, 2, and 3**

Your use of calculations that determine total per person water use for geographically and economically diverse regions of the State may serve to deflect attention from high municipal use rates in Region C, but they are otherwise not particularly helpful. Surely, you do not contend that agriculture activity in other regions does not benefit everyone, including those in Region C, who eats?. Frankly, useful comparisons of water efficiency occur within user categories. That is the basis of our calculations. For instance in text and in your Figure 1, Region C is compared to rural agricultural Regions A and O which are shown as having extremely high overall per capita water use. This reveals very little except that it takes considerable amounts of water to support the agricultural economies of those regions and that agriculturally based regions have low population densities. It does not provide any useful information from a water resources planning point of view. Is the agricultural water use in Regions O or A inefficient? Similarly, other regions with a low population density, such as D, but with a substantial industrial base also have overall higher per capita water use. Based on our polling, we have found that citizens across Texas strongly support efficient use within all categories of uses. The failure to achieve such efficiency can not be excused simply by comparing per capita water use across user categories.

Figure 3, which is more meaningful, compares per capita usage rates just in the municipal category across the state. Again, we believe all municipal users should achieve reasonable efficiency. In terms of the impact on water resources planning though, comparing large urban areas and low population, largely rural areas is not very meaningful. Region C should be compared to others which are dominated by urban centers such as E (El Paso), H (Houston), L (San Antonio), and K (Austin).

Re: your section labeled **Water Conservation for Region C**

You correctly note in your comments that some of the reductions that San Antonio and El Paso are enjoying are based on plumbing fixture replacements and that these are built-in to the recently revised water use projections for Region C entities. Although this is true, a complete water conservation program would include many more elements and this is what is envisioned in our calculations of water savings potential as discussed above and in Tables 1 and 2.

You state here that "The only way the Metroplex can achieve the kind of reductions in per capita municipal water use … is by rationing water to customers in times of drought." No basis for that statement is given. In addition, it is quite unclear what is meant by "rationing". Utilities do routinely include restrictions on lawn watering based on day of week and time of day. We are not aware of other "rationing" on a routine basis. Your discussion seems to treat "rationing" as a terrible concept. If, by that term, you do mean restrictions on nonessential water use, such restrictions are required by law. The rules of the Texas Commission on Environmental Quality require holders of large surface water rights, like many Region C cities, for municipal purposes to have procedures for "curtailment of non-essential water uses" as part of mandated drought contingency plans. That requirement is spelled out at 30 TAC Section 288.20 (a)(1)(F)(i). If you mean something else, we would be very interested in learning the basis for your contention that such measures are necessary to achieve the reasonable reductions in per capita municipal water use we have proposed.

We would appreciate the opportunity to have a good dialogue on water conservation. Please feel free to contact me if you have any questions or would like to discuss the points made in our original document or this letter.

Sincerely,

Norman D. Johns, PhD
Water Resources Scientist