Missouri Department of Natural Resources
Missouri River - WBID 0356
Water Chemistry Data, 2006

Org	Site	Site Name	Yr	Mo	Dy	Time	H	Flow	C	DO	pH	SC	TRB FNUs
USGS	356/53.7	Missouri R. @ Waverly	2006	3	3		9	28800	7.1	11.6	8.3	759	31
USGS	356/53.7	Missouri R. @ Waverly	2006	3	4		9	27400	7	11.5	8.3	753	31
USGS	356/53.7	Missouri R. @ Waverly	2006	3	5		9	26400	7.4	11.1	8.3	754	33
USGS	356/53.7	Missouri R. @ Waverly	2006	3	6		9	26300	8.4	11	8.3	766	29
USGS	356/53.7	Missouri R. @ Waverly	2006	3	7		9	25500	8.4	11.2	8.3	775	28
USGS	356/53.7	Missouri R. @ Waverly	2006	3	8		9	25200	9	10.7	8.3	776	30
USGS	356/53.7	Missouri R. @ Waverly	2006	3	9		9	25200	9.9	10.2	8.3	767	41
USGS	356/53.7	Missouri R. @ Waverly	2006	3	10		9	25600	9.7	10.2	8.3	773	36
USGS	356/53.7	Missouri R. @ Waverly	2006	3	11		9	25900	10.5	10.1	8.3	782	35
USGS	356/53.7	Missouri R. @ Waverly	2006	3	12		9	25100	10.7	10.4	8.3	792	29
USGS	356/53.7	Missouri R. @ Waverly	2006	3	13		9	25700	10.1	9.7	8.3	783	73
USGS	356/53.7	Missouri R. @ Waverly	2006	3	14		9	28600	9.4	9.4	8.2	689	280
USGS	356/53.7	Missouri R. @ Waverly	2006	3	15		9	25800	9.5	10.4	8.3	745	59
USGS	356/53.7	Missouri R. @ Waverly	2006	3	16		9	25300	10.1	10.7	8.3	756	42
USGS	356/53.7	Missouri R. @ Waverly	2006	3	17		9	24800	10	10.7	8.3	760	37
USGS	356/53.7	Missouri R. @ Waverly	2006	3	18		9	24500	9.3	10.9	8.4	755	34
USGS	356/53.7	Missouri R. @ Waverly	2006	3	19		9	24100	8.3	11.2	8.4	760	32
USGS	356/53.7	Missouri R. @ Waverly	2006	3	20		9	23900	7.4	11.4	8.4	773	33
USGS	356/53.7	Missouri R. @ Waverly	2006	3	21		9	24300	6.5	11.6	8.4	764	35
USGS	356/53.7	Missouri R. @ Waverly	2006	3	22		9	25000	6.4	11.6	8.4	764	28
USGS	356/53.7	Missouri R. @ Waverly	2006	3	23		9	25800	6.6	12.1	8.4	758	28
USGS	356/53.7	Missouri R. @ Waverly	2006	3	24		9	26500	6.4	12.4	8.4	743	30
USGS	356/53.7	Missouri R. @ Waverly	2006	3	25		9	27600	6.9	12.3	8.4	737	35
USGS	356/53.7	Missouri R. @ Waverly	2006	3	26		9	29200	7.6	12.2	8.4	742	34
USGS	356/53.7	Missouri R. @ Waverly	2006	3	27		9	32200	8	11.8	8.4	763	41
USGS	356/53.7	Missouri R. @ Waverly	2006	3	28		8	34400	7.9	11.5	8.3	722	52
USGS	356/53.7	Missouri R. @ Waverly	2006	3	29		9	34500	7.7	11.7	8.3	686	50
USGS	356/53.7	Missouri R. @ Waverly	2006	3	30		9	34100	8.8	11.4	8.3	674	49
USGS	356/53.7	Missouri R. @ Waverly	2006	3	31		9	34100	10.2	11.2	8.4	674	55
USGS	356/53.7	Missouri R. @ Waverly	2006	4	1		9	34700	11.3	10.9	8.4	686	52
USGS	356/53.7	Missouri R. @ Waverly	2006	4	2		9	36200	12.3	10.8	8.4	696	54
USGS	356/53.7	Missouri R. @ Waverly	2006	4	3		8	41700	12.6	10.1	8.3	702	81
USGS	356/53.7	Missouri R. @ Waverly	2006	4	4		8	51000	12.6	9.1	8.3	688	130
USGS	356/53.7	Missouri R. @ Waverly	2006	4	5		7	59400	12.6	8.6	8	670	230
USGS	356/53.7	Missouri R. @ Waverly	2006	4	6		5	57100	13.1	8	8	625	310
USGS	356/53.7	Missouri R. @ Waverly	2006	4	7		5	52800	13.9	8	7.9	609	300
USGS	356/53.7	Missouri R. @ Waverly	2006	4	8		5	50300	13.6	8.3	8	652	230
USGS	356/53.7	Missouri R. @ Waverly	2006	4	9		6	49000	13.6	8.5	8	680	200
USGS	356/53.7	Missouri R. @ Waverly	2006	4	10		6	48300	14.2	8.5	8	689	180
USGS	356/53.7	Missouri R. @ Waverly	2006	4	11		6	48700	14.6	8.6	8	693	170
USGS	356/53.7	Missouri R. @ Waverly	2006	4	12		6	49600	15.2	8.6	8	717	160
USGS	356/53.7	Missouri R. @ Waverly	2006	4	13		6	50200	16.2	8.4	8.1	731	170
USGS	356/53.7	Missouri R. @ Waverly	2006	4	14		6	49900	17.6	8.1	8.1	723	170
USGS	356/53.7	Missouri R. @ Waverly	2006	4	15		6	50500	18.2	7.8	8	724	170
USGS	356/53.7	Missouri R. @ Waverly	2006	4	16		6	52900	18.6	7.6	8	735	170
USGS	356/53.7	Missouri R. @ Waverly	2006	4	17		6	53100	18.6	7.3	8	716	220
USGS	356/53.7	Missouri R. @ Waverly	2006	4	18		6	51800	18.5	7	8	680	260

Org	Site	Site Name	Yr	Mo	Dy	Time	H	Flow	C	DO	pH	SC	FNUs
USGS	356/53.7	Missouri R. @ Waverly	2006	4	19		6	49800	18.5	7.4	8	702	210
USGS	356/53.7	Missouri R. @ Waverly	2006	4	20		9	46900	18.6	7.6	8	740	160
USGS	356/53.7	Missouri R. @ Waverly	2006	4	21		9	45500	18.6	7.6	8.1	752	130
USGS	356/53.7	Missouri R. @ Waverly	2006	4	22		9	45000	18.7	7.9	8.2	760	110
USGS	356/53.7	Missouri R. @ Waverly	2006	4	23		9	44300	18.6	8	8.2	767	100
USGS	356/53.7	Missouri R. @ Waverly	2006	4	24		9	42900	18.5	8	8.2	769	100
USGS	356/53.7	Missouri R. @ Waverly	2006	4	25		9	42600	18	7.7	8.1	764	140
USGS	356/53.7	Missouri R. @ Waverly	2006	4	26		9	41900	17	7.8	8.1	770	120
USGS	356/53.7	Missouri R. @ Waverly	2006	4	27		9	40500	16.7	8.2	8.2	779	93
USGS	356/53.7	Missouri R. @ Waverly	2006	4	28		9	39000	16.5	8.6	8.2	774	83
USGS	356/53.7	Missouri R. @ Waverly	2006	4	29		9	39500	16	8.5	8.2	768	80
USGS	356/53.7	Missouri R. @ Waverly	2006	4	30		9	45400	16.2	8.1	8.2	745	98
USGS	356/53.7	Missouri R. @ Waverly	2006	5	1		8	66300	16.1	6.8	8.1	658	260
USGS	356/53.7	Missouri R. @ Waverly	2006	5	2		7	70100	16.1	7	8	581	400
USGS	356/53.7	Missouri R. @ Waverly	2006	5	3		5	67700	16.3	7	7.9	573	400
USGS	356/53.7	Missouri R. @ Waverly	2006	5	4		5	65100	16.4	7.2	7.9	571	370
USGS	356/53.7	Missouri R. @ Waverly	2006	5	5		5	59300	16.5	7.5	8	597	210
USGS	356/53.7	Missouri R. @ Waverly	2006	5	6		5	57300	16.4	7.8	8	619	190
USGS	356/53.7	Missouri R. @ Waverly	2006	5	7		6	54000	16.4	8.2	8.1	647	150
USGS	356/53.7	Missouri R. @ Waverly	2006	5	8		6	52100	16.5	8.3	8.1	669	120
USGS	356/53.7	Missouri R. @ Waverly	2006	5	9		6	51400	17	8.4	8.2	702	110
USGS	356/53.7	Missouri R. @ Waverly	2006	5	10		6	50500	17.7	8.2	8.2	721	100
USGS	356/53.7	Missouri R. @ Waverly	2006	5	11		6	49300	17.5	8.4	8.2	736	95
USGS	356/53.7	Missouri R. @ Waverly	2006	5	12		6	48100	17.2	8.6	8.3	738	91
USGS	356/53.7	Missouri R. @ Waverly	2006	5	13		9	46100	17.4	8.3	8.3	734	150
USGS	356/53.7	Missouri R. @ Waverly	2006	5	14		9	44300	17.4	8.5	8.3	749	100
USGS	356/53.7	Missouri R. @ Waverly	2006	5	15		9	42100	17.4	8.8	8.3	763	78
USGS	356/53.7	Missouri R. @ Waverly	2006	5	16		9	40700	17.6	8.9	8.3	765	72
USGS	356/53.7	Missouri R. @ Waverly	2006	5	17		9	39800	18.2	8.8	8.4	766	69
USGS	356/53.7	Missouri R. @ Waverly	2006	5	18		9	39400	18.8	8.9	8.4	779	65
USGS	356/53.7	Missouri R. @ Waverly	2006	5	19		9	393000	19.4	9	8.4	784	61
USGS	356/53.7	Missouri R. @ Waverly	2006	5	20		9	41600	19.8	8.8	8.4	783	61
USGS	356/53.7	Missouri R. @ Waverly	2006	5	21		9	43200	20.1	8.5	8.4	783	63
USGS	356/53.7	Missouri R. @ Waverly	2006	5	22		9	42100	20.5	8.5	8.4	761	63
USGS	356/53.7	Missouri R. @ Waverly	2006	5	23		9	40300	21.3	8.4	8.4	750	59
USGS	356/53.7	Missouri R. @ Waverly	2006	5	24		9	39100	22.5	8.2	8.4	754	53
USGS	356/53.7	Missouri R. @ Waverly	2006	5	25		9	39000	23.2	8.1	8.4	756	51
USGS	356/53.7	Missouri R. @ Waverly	2006	5	26		9	38200	23.7	8	8.5	757	51
USGS	356/53.7	Missouri R. @ Waverly	2006	5	27		9	36700	24.5	7.8	8.5	762	48
USGS	356/53.7	Missouri R. @ Waverly	2006	5	28		9	37300	25.3	7.3	8.5	762	50
USGS	356/53.7	Missouri R. @ Waverly	2006	5	29		9	38600	25.6	6.6	8.3	749	59
USGS	356/53.7	Missouri R. @ Waverly	2006	5	30		9	37400	25.3	6.4	8.3	759	59
USGS	356/53.7	Missouri R. @ Waverly	2006	5	31		9	38600	25.3	6.2	8.3	753	61
USGS	356/53.7	Missouri R. @ Waverly	2006	6	1		9	41400	25.5	6	8.2	739	81
USGS	356/53.7	Missouri R. @ Waverly	2006	6	2		9	42100	25.9	6.1	8.2	736	84
USGS	356/53.7	Missouri R. @ Waverly	2006	6	3		9	40900	26.3	5.4	8	728	250
USGS	356/53.7	Missouri R. @ Waverly	2006	6	4		9	39200	26.4	5.6	8	713	190
USGS	356/53.7	Missouri R. @ Waverly	2006	6	5		9	37300	26.2	6.1	8.1	727	120
USGS	356/53.7	Missouri R. @ Waverly	2006	6	6		9	36900	26.2	6.1	8.1	734	96
USGS	356/53.7	Missouri R. @ Waverly	2006	6	7		9	39600	26.4	5.4	8.1	734	110
USGS	356/53.7	Missouri R. @ Waverly	2006	6	8		9	38200	26.5	5.5	8.1	734	110

Org	Site	Site Name	Yr	Mo	Dy	Time	H	Flow	C	DO	pH	SC	FNUs
USGS	356/53.7	Missouri R. @ Waverly	2006	6	9		9	36900	27.4	5.5	8.1	736	110
USGS	356/53.7	Missouri R. @ Waverly	2006	6	10		9	36700	27.9	6.1	8.2	757	66
USGS	356/53.7	Missouri R. @ Waverly	2006	6	11		9	35700	27.5	6	8.2	771	56
USGS	356/53.7	Missouri R. @ Waverly	2006	6	12		9	35600	26.8	6	8.2	772	50
USGS	356/53.7	Missouri R. @ Waverly	2006	6	13		9	36700	26.1	6.2	8.2	758	48
USGS	356/53.7	Missouri R. @ Waverly	2006	6	14		9	37400	26.1	6.4	8.1	753	60
USGS	356/53.7	Missouri R. @ Waverly	2006	6	15		9	37500	26.2	6.1	8.1	735	78
USGS	356/53.7	Missouri R. @ Waverly	2006	6	16		9	36600	26.2	6.2	8.1	735	100
USGS	356/53.7	Missouri R. @ Waverly	2006	6	17		9	35900	26.2	6.8	8.3	753	72
USGS	356/53.7	Missouri R. @ Waverly	2006	6	18		9	35600	25.9	6.7	8.3	759	61
USGS	356/53.7	Missouri R. @ Waverly	2006	6	19		9	36200	26.5	7.2	8.4	760	55
USGS	356/53.7	Missouri R. @ Waverly	2006	6	20		9	35900	27	7.4	8.6	755	51
USGS	356/53.7	Missouri R. @ Waverly	2006	6	21		9	35900	27.2	6.8	8.6	755	49
USGS	356/53.7	Missouri R. @ Waverly	2006	6	22		9	37300	27.3	6.1	8.4	762	48
USGS	356/53.7	Missouri R. @ Waverly	2006	6	23		9	38700	27	6.1	8.4	758	53
USGS	356/53.7	Missouri R. @ Waverly	2006	6	24		9	39900	27.1	6	8.3	748	70
USGS	356/53.7	Missouri R. @ Waverly	2006	6	25		9	42600	26.8	4.9	8.1	703	160
USGS	356/53.7	Missouri R. @ Waverly	2006	6	26		9	41300	26.2	4.9	8.1	696	140
USGS	356/53.7	Missouri R. @ Waverly	2006	6	27		9	39400	26.2	6.3	8.2	737	87
USGS	356/53.7	Missouri R. @ Waverly	2006	6	28		9	38800	26.8	6.4	8.3	751	79
USGS	356/53.7	Missouri R. @ Waverly	2006	6	29		9	38100	27.3	6.5	8.3	755	75
USGS	356/53.7	Missouri R. @ Waverly	2006	6	30		9	37500	27.5	6.7	8.4	757	69
USGS	356/53.7	Missouri R. @ Waverly	2006	7	1		9	37200	27.7	6.8	8.4	756	64
USGS	356/53.7	Missouri R. @ Waverly	2006	7	2		9	36600	28	7	8.4	759	56
USGS	356/53.7	Missouri R. @ Waverly	2006	7	3		9	36000	28.3	7.3	8.5	765	52
USGS	356/53.7	Missouri R. @ Waverly	2006	7	4		9	36000	28.4		8.5	768	48
USGS	356/53.7	Missouri R. @ Waverly	2006	7	5		9	38000	28.1		8.4	744	61
USGS	356/53.7	Missouri R. @ Waverly	2006	7	6		9	36200	27.8		8.4	743	50
USGS	356/53.7	Missouri R. @ Waverly	2006	7	7		9	35500	27.9		8.5	754	46
USGS	356/53.7	Missouri R. @ Waverly	2006	7	8		9	34900	27.9		8.6	757	47
USGS	356/53.7	Missouri R. @ Waverly	2006	7	9		9	34500	28.1		8.6	760	46
USGS	356/53.7	Missouri R. @ Waverly	2006	7	10		9	34600	27.4		8.5	762	44
USGS	356/53.7	Missouri R. @ Waverly	2006	7	11		9	35700	27.4	6.8	8.4	755	41
USGS	356/53.7	Missouri R. @ Waverly	2006	7	12		9	36100	27.8	7.3	8.5	747	44
USGS	356/53.7	Missouri R. @ Waverly	2006	7	13		9	38500	28.3	5.9	8.3	713	84
USGS	356/53.7	Missouri R. @ Waverly	2006	7	14		9	37700	29	6.6	8.4	723	53
USGS	356/53.7	Missouri R. @ Waverly	2006	7	15		9	37800	29.8	5.6	8.3	726	74
USGS	356/53.7	Missouri R. @ Waverly	2006	7	16		9	36700	30.3	5.7	8.3	728	60
USGS	356/53.7	Missouri R. @ Waverly	2006	7	17		9	36600	31.1	6.2	8.4	748	45
USGS	356/53.7	Missouri R. @ Waverly	2006	7	18		9	36300	31.7	6.3	8.4	745	47
USGS	356/53.7	Missouri R. @ Waverly	2006	7	19		9	35600	31.7	5.9	8.3	727	51
USGS	356/53.7	Missouri R. @ Waverly	2006	7	20		9	35400	32	5.8	8.3	751	45
USGS	356/53.7	Missouri R. @ Waverly	2006	7	21		9	35000	31.3	5.8	8.3	767	43
USGS	356/53.7	Missouri R. @ Waverly	2006	7	22		9	35400	30.1	5.2	8.3	746	43
USGS	356/53.7	Missouri R. @ Waverly	2006	7	23		9	36100	29.7	6	8.4		41
USGS	356/53.7	Missouri R. @ Waverly	2006	7	24		9	35900	29.5	6.5	8.4		44
USGS	356/53.7	Missouri R. @ Waverly	2006	7	25		9	35000	29.7	6.3	8.4		42
USGS	356/53.7	Missouri R. @ Waverly	2006	7	26		9	34400	29.6	6.4	8.5		38
USGS	356/53.7	Missouri R. @ Waverly	2006	7	27		9	34700	29.6	5.8	8.5		38
USGS	356/53.7	Missouri R. @ Waverly	2006	7	28		9	34300	29.8	5.7	8.4	755	39
USGS	356/53.7	Missouri R. @ Waverly	2006	7	29		9	33900	30.4	6.2	8.5	746	37

Org	Site	Site Name	Yr	Mo	Dy	Time	H	Flow	C	DO	pH	SC	FNUs
USGS	356/53.7	Missouri R. @ Waverly	2006	7	30		9	33000	30.7	6.5	8.5	741	36
USGS	356/53.7	Missouri R. @ Waverly	2006	7	31		9	33500	30.7	6.5	8.6	746	35
USGS	356/53.7	Missouri R. @ Waverly	2006	8	1		9	34100		6			35
USGS	356/53.7	Missouri R. @ Waverly	2006	8	2		9	33500		6.7			36
USGS	356/53.7	Missouri R. @ Waverly	2006	8	3		9	33700	30.1	6.8	8.5	754	37
USGS	356/53.7	Missouri R. @ Waverly	2006	8	4		9	34600	29.9	6.6	8.5	756	45
USGS	356/53.7	Missouri R. @ Waverly	2006	8	5		9	34900	29.5	7.4	8.6	761	77
USGS	356/53.7	Missouri R. @ Waverly	2006	8	6		9	35100	30.1	7	8.6	763	68
USGS	356/53.7	Missouri R. @ Waverly	2006	8	7		9	35800	30.4	6.6	8.5	762	43
USGS	356/53.7	Missouri R. @ Waverly	2006	8	8		9	36100	29.8	6.4	8.5	767	44
USGS	356/53.7	Missouri R. @ Waverly	2006	8	9		9	36200	30.1	6.5	8.5	757	62
USGS	356/53.7	Missouri R. @ Waverly	2006	8	10		9	37000	30.5	6.6	8.5	756	47
USGS	356/53.7	Missouri R. @ Waverly	2006	8	11		8	41100	30.1	6	8.4	753	50
USGS	356/53.7	Missouri R. @ Waverly	2006	8	12		7	46600	29	4.7	8.2	732	90
USGS	356/53.7	Missouri R. @ Waverly	2006	8	13		5	42400	28.4	4.6	8	643	170
USGS	356/53.7	Missouri R. @ Waverly	2006	8	14		5	40200	28.8	5.2	8.1	706	100
USGS	356/53.7	Missouri R. @ Waverly	2006	8	15		9	40800	28.4	5.8	8.2	716	74
USGS	356/53.7	Missouri R. @ Waverly	2006	8	16		9	40000	27.9	6.6	8.3	709	64
USGS	356/53.7	Missouri R. @ Waverly	2006	8	17		9	39800	27.7	6.2	8.3	711	62
USGS	356/53.7	Missouri R. @ Waverly	2006	8	18		9	39100	28.2	5.8	8.2	700	87
USGS	356/53.7	Missouri R. @ Waverly	2006	8	19		9	39000	28.1	5.8	8.2	710	67
USGS	356/53.7	Missouri R. @ Waverly	2006	8	20		9	40200	27.9	6.1	8.2	724	56
USGS	356/53.7	Missouri R. @ Waverly	2006	8	21		9	40700	27.8	6.2	8.2	731	52
USGS	356/53.7	Missouri R. @ Waverly	2006	8	22		9	42000	27.8	6.1	8.1	706	65
USGS	356/53.7	Missouri R. @ Waverly	2006	8	23		9	42400	27.9	5.9	8	705	80
USGS	356/53.7	Missouri R. @ Waverly	2006	8	24		9	40600	28.1	5.9	8	730	74
USGS	356/53.7	Missouri R. @ Waverly	2006	8	25		9	38700	28.2	6	8.3	706	74
USGS	356/53.7	Missouri R. @ Waverly	2006	8	26		9	38800	28.3	6.2	8.3	707	61
USGS	356/53.7	Missouri R. @ Waverly	2006	8	27		9	44900	28.2	5.3	8.3	687	85
USGS	356/53.7	Missouri R. @ Waverly	2006	8	28		7	62300	26.8	4	7.9	570	420
USGS	356/53.7	Missouri R. @ Waverly	2006	8	29		5	55100	25.9	4.1	7.9	568	350
USGS	356/53.7	Missouri R. @ Waverly	2006	8	30		5	52000	25.9	5.1	8	587	240
USGS	356/53.7	Missouri R. @ Waverly	2006	8	31		6	52500	25.6	5.5	8	603	300
USGS	356/53.7	Missouri R. @ Waverly	2006	9	1		6	50400	25.3	5.5	8	582	320
USGS	356/53.7	Missouri R. @ Waverly	2006	9	2		5	44500	25.4	5.9	8.1	594	200
USGS	356/53.7	Missouri R. @ Waverly	2006	9	3		5	39700	25.5	6.6	8.3	664	98
USGS	356/53.7	Missouri R. @ Waverly	2006	9	4		5	37300	25.5	7.6	8.4	705	65
USGS	356/53.7	Missouri R. @ Waverly	2006	9	5		9	35800	25.2	8	8.6	710	55
USGS	356/53.7	Missouri R. @ Waverly	2006	9	6		9	35800	24.9	8.4	8.6	715	52
USGS	356/53.7	Missouri R. @ Waverly	2006	9	7		9	36100	25	8.5	8.7	726	54
USGS	356/53.7	Missouri R. @ Waverly	2006	9	8		9	36300	24.9	8.3	8.7	729	54
USGS	356/53.7	Missouri R. @ Waverly	2006	9	9		9	36700	24.7	8.3	8.7	735	54
USGS	356/53.7	Missouri R. @ Waverly	2006	9	10		9	36700	24	7.9	8.6	733	51
USGS	356/53.7	Missouri R. @ Waverly	2006	9	11		9	37000	23.4	7.5	8.6	722	51
USGS	356/53.7	Missouri R. @ Waverly	2006	9	12		9	37400	23.3	7.8	8.6	724	50
USGS	356/53.7	Missouri R. @ Waverly	2006	9	13		9	39500	23	7.7	8.5	727	52
USGS	356/53.7	Missouri R. @ Waverly	2006	9	14		9	42100	23	7.7	8.5	714	62
USGS	356/53.7	Missouri R. @ Waverly	2006	9	15		9	42800	22.7	7.5	8.3	693	70
USGS	356/53.7	Missouri R. @ Waverly	2006	9	16		9	42900	22.7	7.6	8.3	702	68
USGS	356/53.7	Missouri R. @ Waverly	2006	9	17		9	42500	22.7	7.6	8.3	692	59
USGS	356/53.7	Missouri R. @ Waverly	2006	9	18		9	40800	22	7.5	8.3	660	62

Org	Site	Site Name	Yr	Mo	Dy	Time	H	Flow	C	DO	pH	SC	FNUs
USGS	356/53.7	Missouri R. @ Waverly	2006	9	19		9	40800	21.4	7.8	8.4	660	62
USGS	356/53.7	Missouri R. @ Waverly	2006	9	20		9	46200	21	7.6	8.4	671	81
USGS	356/53.7	Missouri R. @ Waverly	2006	9	21		7	50700	20.5	7	8.2	666	120
USGS	356/53.7	Missouri R. @ Waverly	2006	9	22		5	47500	20	6.8	8.1		210
USGS	356/53.7	Missouri R. @ Waverly	2006	9	23		5	43900	19.6	6.7	8		190
USGS	356/53.7	Missouri R. @ Waverly	2006	9	24		9	42000	19.2	7.4	8.1		120
USGS	356/53.7	Missouri R. @ Waverly	2006	9	25		9	43500	18.9	7.8	8.2		90
USGS	356/53.7	Missouri R. @ Waverly	2006	9	26		9	45000	16.6	8.3	8.3		
USGS	356/53.7	Missouri R. @ Waverly	2006	9	27		9	44200	18.4	8.2	8.2	664	
USGS	356/53.7	Missouri R. @ Waverly	2006	9	28		9	41900	18.3	8.2	8.2	658	
USGS	356/53.7	Missouri R. @ Waverly	2006	9	29		9	41000	17.7	8.5	8.3	656	
USGS	356/53.7	Missouri R. @ Waverly	2006	9	30		9	40600	17.8	8.8	8.3	669	

The water quality standard for the protection of aquatic life for dissolved oxygen is 5mg/L. For dissolved oxygen, the Listing Methodology Document allows a water to be judged as impaired if measurements on 10 percent of the monitored days fail to meet the water quality standard. Six of 205 days exceeded the standard, or 2.9 percent. The z calculation is -3.04. Since this is less than the tabular z value of 1.382, the Missouri River at Waverly is judged to be **unimpaired** by low dissolved oxygen.

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3/19/08 LAT

Missouri Department of Natural Resources
Missouri River - WBID 0356
Missouri Department of Conservation Fish Egg Data, 2004

Org	Site Name	year	Species	# in sample	Preparation	Length, in.	Weight, lbs.	sum of chlordane isomers (mg/kg)	PCBs (mg/kg)
MDC	Missouri R. @ Napoleon	2004	shovelnose sturgeon	6	eggs	23.6	0.9	0.39	4.01

The chlordane fish tissue criterion value now in use by the Missouri Department of Health and Senior Services or MDHSS is 0.1 mg/kg, based on an internal MDHSS memo ("New Trigger Level for Chlordane in Fish--Revised Memo", J. Crellin, June 16, 1989). This memo documents an MDHSS risk assessment process that improves on the assumptions and methods previously used to develop the old Food and Drug Administration fish tissue criterion value. The chosen criterion was estimated to result in an increased lifetime cancer rate of eight people per one million consuming fish.

The purpose of the memo was to set a criterion value that would allow the MDHSS to write fish advisories specifically for the Missouri and Mississippi rivers. Thus, the fish consumption rate used in the development of the 0.1 mg/kg criterion is the rate for fish caught only in the Missouri and Mississippi rivers. This rate was estimated at 4.3 grams per person per day, far less than the median consumption rate of 50 grams per person per day in McKee, 2002 ("Sport-Caught Fish Consumption in Missouri--2002 Mail Survey", Missouri Dept. of Conservation, Columbia, Mo.). Since fish in waters other than the Missouri and Mississippi rivers contain some chlordane, the MDHSS criterion is believed to underestimate human health risk.

Historically, most states adhered to the Food and Drug Administration guidance to prohibit fish consumption if PCB levels in fillets exceeded 2 mg/kg. More recently, the U.S. Environmental Protection Agency and Food and Drug Administration have recommended that states no longer use this value. In response to this recommendation, MDHSS conducted a human health risk assessment for consumption of fish contaminated with PCBs to use for its annual fish consumption advisory. Its recommendations are shown in the table below.
Information on the number of fish meals consumed bysport fishermen is shown in the middle column of the table. This information is from Sport-Caught Fish Consumption in Missouri--2002 Mail Survey" by McKee, et al., Missouri Department of Conservation.

Number of Fish Meals	Percent of Missouri Anglers Eating at Least This Number of Fish Meals	PCBs in Fish Fillets (mg/kg)
Unlimited	5% (3 or more per week)	<0.04
2 per week	25%	0.04-0.10
1 per week	50%	0.10-0.37
1 per month		0.37-0.75
Do not eat		>0.75

The mean level of chlordane (sum of isomers) for fish eggs in this segment of the Missouri River is 0.39 mg/kg. This value exceeds the 0.1 mg/kg criterion value. The mean level for PCBs is 4.01 mg/kg. Based on the MDHSS advisory levels, this mean represents a level of PCBs that prohibits fish consumption. However, these criteria were developed based on estimated consumption rates of fish fillets. There is no

known available data on the consumption rates of fish eggs, either in Missouri or the United States in general. Although the existing criteria may not be appropriate to apply to fish eggs, and consumption within Missouri may not be great enough for chlordane and PCBs to constitute an impairment of the fish consumption use, it is important that the public be aware of the potential risks involved in eating fish eggs from this portion of the Missouri River. Given that there is no available data on fish egg data consumption by Missourians, this data is judged not to constitute scientifically defensible evidence of impairment of the Fish Consumption beneficial use. Also, given the small amount of data that would not normally be sufficient to make an assessment, this segment of the Missouri River will be prioritized for the collection of additional fish egg data.

The Missouri Department of Health and Senior Services has issued a "Do Not Eat" advisory for all consumers on sturgeon eggs collected from the Missouri River, due to PCBs and chlordane.

Missouri Department of Natural Resources, Water Protection Program, 573-751-1300, www.dnr.mo.gov
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