

**Appendix 5.9 - Summary of Treated Water Quality
Barrett Reservoir 2011-2015**

Parameters	Units	DLR*/MD L	Drinking Water Standards ¹		No. of Samples	Raw Water Quality**			
			MCL	SMCL		Min	Max	Mean	Median
General Physical									
Alkalinity, (Total) (as CaCO ₃ equivalents)	MG/L	10			20	154	322	210	178
Calcium Hardness (CaCO ₃)	MG/L	10			20	67.6	117	87.7	87.4
Color, Apparent (Unfiltered)	COLOR	4		15	20	10	97	36.8	31
Corrosivity ²	.				12	-0.08	1.51	0.878	1.06
Hydroxide Alkalinity	MG/L				12	0	0	0	0
pH	PH				20	7.55	9.06	8.51	8.72
Specific Conductance (E.C.)	UMHO/CM			1600	20	544	1030	779	737
Total Filterable Residue @ 180 C (TDS)	MG/L	10		1000	20	371	681	474	453
Total Hardness (CaCO ₃)	MG/L	10			20	159	292	211	196
Turbidity, Laboratory	NTU	0.07		5	20	0.88	9	3.77	3.24
			MCL	SMCL		Min	Max	Mean	Median
Metals									
Aluminum (Al)	UG/L	50	1000	200	20	ND	233	ND	ND
Antimony	UG/L	6	6		20	ND	ND	ND	ND
Arsenic	UG/L	2	10		20	ND	5.5	ND	ND
Barium (Ba)	UG/L	100	1000		20	ND	ND	ND	ND
Beryllium	UG/L	1	4		18	ND	ND	ND	ND
Boron	UG/L	100			20	ND	138	ND	ND
Cadmium (Cd)	UG/L	1	5		20	ND	ND	ND	ND
Calcium	MG/L				13	29.9	46.8	37.2	36.7
Chromium (Total Cr)	UG/L	10	50		20	ND	ND	ND	ND
Chromium, Hexavalent	UG/L	1			2	ND	ND	ND	ND
Copper (Cu)	UG/L	50	1300	1000	20	ND	ND	ND	ND
Iron (Fe)	UG/L	100		300	19	ND	301	ND	ND
Lead (Pb)	UG/L	5	15		20	ND	ND	ND	ND
Magnesium (Mg)	MG/L				13	20.2	45.1	30.2	24.9
Manganese (Mn)	UG/L	20		50	20	ND	199	76.5	65.8
Mercury (Hg)	UG/L	1	2		5	ND	ND	ND	ND
Nickel	UG/L	10	100		20	ND	ND	ND	ND
Potassium (K)	MG/L	0.5			19	4.36	13.1	6.75	6.25
Selenium (Se)	UG/L	5	50		20	ND	ND	ND	ND
Silver	UG/L	10		100	20	ND	ND	ND	ND
Sodium (Na)	MG/L	20			19	61.6	134	91.4	89.9
Thallium	UG/L	1	2		20	ND	ND	ND	ND
Vanadium	UG/L	3			20	ND	13.2	4.13	3.64
Zinc (Zn)	UG/L	50		5000	20	ND	ND	ND	ND
			MCL	SMCL		Min	Max	Mean	Median
Inorganic Constituents									
Bicarbonate (as HCO ₃)	MG/L				13	172	392	253	209
Bromide	MG/L	0.1			20	0	0.67	0.297	0.303
Calcium (Ca)	MG/L				12	29.9	46.8	37.2	36.7
Carbonate (as CO ₃)	MG/L				13	0	14.8	6.53	6.73
Chloride	MG/L	0.5		500	20	69.3	147	101	98.1
Cyanide	UG/L	100	150		2	ND	ND	ND	ND
Fluoride	MG/L	0.1	2		20	0.206	0.661	0.406	0.416
Nitrate (as NO ₃)	MG/L	2	45		18	ND	ND	ND	ND
Perchlorate	UG/L	4	6		40	ND	ND	ND	ND
Phosphate, Ortho (as PO ₄)	MG/L	0.2			18	ND	ND	ND	ND
Phosphorus	MG/L	0.078			19	ND	0.175	ND	ND
Silica	MG/L	2.5			20	7.83	29.7	17.6	18.4
Sulfate (SO ₄)	MG/L	0.5		500	20	35.1	142	50.5	47.1
Total Nitrogen	MG/L	0.156			20	ND	1.41	0.569	0.423
			MCL	SMCL		Min	Max	Mean	Median
Organic Constituents, Regulated									
1,1,1-Trichloroethane (1,1,1-TCA)	UG/L	0.5	200		20	ND	ND	ND	ND
1,1,2,2-Tetrachloroethane	UG/L	0.5	1		20	ND	ND	ND	ND
1,1,2-Trichloroethane (1,1,2-TCA)	UG/L	0.5	5		20	ND	ND	ND	ND
1,1-Dichloroethane (1,1-DCA)	UG/L	0.5	5		20	ND	ND	ND	ND
1,1-Dichloroethylene (1,1-DCE)	UG/L	0.5	6		20	ND	ND	ND	ND

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1,2,4-Trichlorobenzene	UG/L	0.5	5	20	ND	ND	ND	ND
1,2-Dichlorobenzene (o-DCB)	UG/L	0.5	600	20	ND	ND	ND	ND
1,2-Dichloroethane (1,2-DCA)	UG/L	0.5	0.5	20	ND	ND	ND	ND
1,2-Dichloropropane	UG/L	0.5	5	20	ND	ND	ND	ND
1,4-Dichlorobenzene (p-DCB)	UG/L	0.5	5	20	ND	ND	ND	ND
2,4,5-TP (SILVEX)	UG/L	1	50	18	ND	ND	ND	ND
2,4-D	UG/L	10	70	18	ND	ND	ND	ND
Alachlor (ALANEX)	UG/L	1	2	14	ND	ND	ND	ND
Atrazine (AATREX)	UG/L	0.5	1	14	ND	ND	ND	ND
Bentazon (BASAGRAN)	UG/L	2	18	18	ND	ND	ND	ND
Benzene	UG/L	0.5	1	20	ND	ND	ND	ND
Benzo(a)pyrene	UG/L	0.1	0.2	13	ND	ND	ND	ND
Bromodichloromethane	UG/L	1		20	ND	ND	ND	ND
Bromoform	UG/L	1		20	ND	ND	ND	ND
Carbofuran (FURADAN)	UG/L	5	18	18	ND	ND	ND	ND
Carbon Tetrachloride	UG/L	0.5	0.5	20	ND	ND	ND	ND
Chlordane	UG/L	0.1	0.1	1	ND	ND	ND	ND
Chlorodibromomethane	UG/L	1		20	ND	ND	ND	ND
Chloroform (Trichloromethane)	UG/L	1		20	ND	ND	ND	ND
cis-1,2-Dichloroethylene (c-1,2-DCE)	UG/L	0.5	6	20	ND	ND	ND	ND
Di(2-ethylhexyl) Adipate	UG/L	5	400	14	ND	ND	ND	ND
Di(2-ethylhexyl)phthalate (DEHP)	UG/L	3	4	14	ND	ND	ND	ND
Dibromochloropropane (DBCP)	UG/L	0.01	0.2	20	ND	ND	ND	ND
Dichloromethane (Methylene Chloride)	UG/L	0.5	5	20	ND	ND	ND	ND
Dinoseb (DNBP)	UG/L	2	7	18	ND	ND	ND	ND
Endrin	UG/L	0.1	2	15	ND	ND	ND	ND
Ethyl Benzene	UG/L	0.5	300	20	ND	ND	ND	ND
Ethylene Dibromide (EDB)	UG/L	0.02	0.05	20	ND	ND	ND	ND
Glyphosate	UG/L	25	700	19	ND	ND	ND	ND
Heptachlor	UG/L	0.01	0.01	1	ND	ND	ND	ND
Heptachlor Epoxide	UG/L	0.01	0.01	1	ND	ND	ND	ND
Hexachlorobenzene	UG/L	0.5	1	15	ND	ND	ND	ND
Hexachlorocyclopentadiene	UG/L	1	50	15	ND	ND	ND	ND
Lindane (gamma-BHC)	UG/L	0.2	0.2	1	ND	ND	ND	ND
meta,para xylenes	UG/L	0.5		20	ND	ND	ND	ND
Methoxychlor	UG/L	10	30	15	ND	ND	ND	ND
Methyl tert-Butyl Ether (MTBE)	UG/L	3	13	5	20	ND	ND	ND
Molinate (ORDRAM)	UG/L	2	20	14	ND	ND	ND	ND
Monochlorobenzene (Chlorobenzene)	UG/L	0.5	70	20	ND	ND	ND	ND
Oxamyl (Vydate)	UG/L	20	50	18	ND	ND	ND	ND
o-Xylene	UG/L	0.5		20	ND	ND	ND	ND
Pentachlorophenol (PCP)	UG/L	0.2	1	18	ND	ND	ND	ND
Picloram	UG/L	1	500	17	ND	ND	ND	ND
Polychlorinated Biphenyls, Total, as DCB	UG/L	0.5	0.5	12	ND	ND	ND	ND
Simazine (PRINCEP)	UG/L	1	4	13	ND	ND	ND	ND
Styrene	UG/L	0.5	100	20	ND	ND	ND	ND
Tetrachloroethylene (PCE)	UG/L	0.5	5	20	ND	ND	ND	ND
Thiobencarb (BOLERO)	UG/L	1	70	1	14	ND	ND	ND
Toluene	UG/L	0.5	150	20	ND	ND	ND	ND
Total Toxaphene	UG/L	1	3	1	ND	ND	ND	ND
Total Trihalomethanes (TTHMs)	UG/L	0.5	80	1	ND	ND	ND	ND
trans-1,2-Dichloroethylene (t-1,2-DCE)	UG/L	0.5	10	20	ND	ND	ND	ND
Trichloroethylene (TCE)	UG/L	0.5	5	20	ND	ND	ND	ND
Trichlorofluoromethane (FREON 11)	UG/L	5	150	20	ND	ND	ND	ND
Trichlorotrifluoroethane (FREON 113)	UG/L	10	1200	20	ND	ND	ND	ND
Vinyl Chloride (VC)	UG/L	0.5	0.5	20	ND	ND	ND	ND
Organic Constituents, Unregulated			MCL	SMCL	Min	Max	Mean	Median
1,1,1,2-Tetrachloroethane	UG/L	0.5		20	ND	ND	ND	ND
1,1-Dichloropropene	UG/L	0.5		20	ND	ND	ND	ND

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1,2,3-Trichlorobenzene	UG/L	0.5	20	ND	ND	ND	ND
1,2,4-Trimethylbenzene	UG/L	0.4	20	ND	ND	ND	ND
1,3,5-Trimethylbenzene	UG/L	0.5	20	ND	ND	ND	ND
1,3-Dichlorobenzene (m-DCB)	UG/L	0.5	20	ND	ND	ND	ND
1,3-Dichloropropane	UG/L	0.5	20	ND	ND	ND	ND
2,2-Dichloropropane	UG/L	0.5	20	ND	ND	ND	ND
2,4,5-T	UG/L	3	18	ND	ND	ND	ND
2,4-DB	UG/L	3	18	ND	ND	ND	ND
2-Chlorotoluene	UG/L	0.5	20	ND	ND	ND	ND
3,5-Dichlorobenzoic Acid	UG/L	3	18	ND	ND	ND	ND
3-Hydroxycarbofuran	UG/L	3	18	ND	ND	ND	ND
4-Chlorotoluene	UG/L	0.5	20	ND	ND	ND	ND
4-Nitrophenol	UG/L	5	18	ND	ND	ND	ND
Acenaphthylene	UG/L	5	14	ND	ND	ND	ND
Acifluorfen	UG/L	3	18	ND	ND	ND	ND
Aldicarb (TEMIK)	UG/L	3	18	ND	ND	ND	ND
Aldicarb Sulfone	UG/L	4	18	ND	ND	ND	ND
Aldicarb Sulfoxide	UG/L	3	18	ND	ND	ND	ND
Aldrin	UG/L	0.075	1	ND	ND	ND	ND
Anthracene	UG/L	5	14	ND	ND	ND	ND
Baygon	UG/L	0.4	18	ND	ND	ND	ND
Benzo (a) Anthracene	UG/L	10	14	ND	ND	ND	ND
Benzo (b) Fluoranthene	UG/L	10	13	ND	ND	ND	ND
Benzo (ghi) Perylene	UG/L	10	13	ND	ND	ND	ND
Benzo (k) Fluoranthene	UG/L	10	13	ND	ND	ND	ND
Benzyl Butyl Phthalate	UG/L	10	14	ND	ND	ND	ND
Bromobenzene	UG/L	0.5	20	ND	ND	ND	ND
Bromochloromethane	UG/L	0.5	20	ND	ND	ND	ND
Bromomethane (Methyl Bromide)	UG/L	0.5	20	ND	ND	ND	ND
Carbaryl (Sevin)	UG/L	5	18	ND	ND	ND	ND
Chloramben	UG/L	3	18	ND	ND	ND	ND
Chloroethane	UG/L	0.5	20	ND	ND	ND	ND
Chloromethane (Methyl Chloride)	UG/L	0.5	20	ND	ND	ND	ND
Chrysene	UG/L	5	14	ND	ND	ND	ND
cis-1,3-dichloropropene	UG/L	0.5	20	ND	ND	ND	ND
Dibenzo (a,h) anthracene	UG/L	5	13	ND	ND	ND	ND
Dibromomethane	UG/L	0.5	20	ND	ND	ND	ND
Dicamba (BANVEL)	UG/L	1.5	18	ND	ND	ND	ND
Dichlorodifluoromethane (Freon 12)	UG/L	0.5	20	ND	ND	ND	ND
Dichloroprop	UG/L	3	18	ND	ND	ND	ND
Dieldrin	UG/L	0.02	1	ND	ND	ND	ND
Diethylphthalate	UG/L	5	14	ND	ND	ND	ND
Diisopropyl Ether (DIPE)	UG/L	3	20	ND	ND	ND	ND
Dimethyl phthalate	UG/L	5	13	ND	ND	ND	ND
di-n-Butylphthalate	UG/L	5	14	ND	ND	ND	ND
Ethyl-tert-Butyl Ether (ETBE)	UG/L	3	20	ND	ND	ND	ND
Fluorene	UG/L	5	14	ND	ND	ND	ND
Hexachlorobutadiene	UG/L	0.5	20	ND	ND	ND	ND
Indeno (1,2,3-cd) Pyrene	UG/L	10	13	ND	ND	ND	ND
Isopropylbenzene (Cumene)	UG/L	0.5	20	ND	ND	ND	ND
MCPA	UG/L	3	18	ND	ND	ND	ND
MCPP	UG/L	3	18	ND	ND	ND	ND
Methiocarb	UG/L	0.4	18	ND	ND	ND	ND
Methomyl	UG/L	2	18	ND	ND	ND	ND
Naphthalene	UG/L	0.5	34	ND	ND	ND	ND
n-Butylbenzene	UG/L	0.5	20	ND	ND	ND	ND
n-Propylbenzene	UG/L	0.5	20	ND	ND	ND	ND
PCB-1016 (as DCB)	UG/L	0.5	0.5	14	ND	ND	ND
PCB-1221 (as DCB)	UG/L	0.5	0.5	14	ND	ND	ND

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PCB-1232 (as DCB)	UG/L	0.5	0.5	14	ND	ND	ND	ND
PCB-1242 (as DCB)	UG/L	0.5	0.5	14	ND	ND	ND	ND
PCB-1248 (as DCB)	UG/L	0.5	0.5	14	ND	ND	ND	ND
PCB-1254 (as DCB)	UG/L	0.5	0.5	14	ND	ND	ND	ND
PCB-1260 (as DCB)	UG/L	0.5	0.5	14	ND	ND	ND	ND
Phenanthrene	UG/L	5		14	ND	ND	ND	ND
p-Isopropyltoluene	UG/L	0.4		20	ND	ND	ND	ND
Propachlor	UG/L	0.5		15	ND	ND	ND	ND
Pyrene	UG/L	0.5		14	ND	ND	ND	ND
sec-Butylbenzene	UG/L	0.5		20	ND	ND	ND	ND
tert-Amyl Methyl Ether (TAME)	UG/L	3		20	ND	ND	ND	ND
tert-Butyl Alcohol (TBA)	UG/L	2		20	ND	ND	ND	ND
tert-Butylbenzene	UG/L	0.5		20	ND	ND	ND	ND
trans-1,3-dichloropropene	UG/L	0.5		20	ND	ND	ND	ND
Trifluralin	UG/L	0.5		14	ND	ND	ND	ND

NOTES:

* The State of California DLR values are used when available. Parameters without DLR values were reported as MDL levels.

** The acceptance criteria in this table apply to finished, potable water, and are for reference only.

(1) State MCL and MCLG values may be more stringent than federal standards for treated water.

(2) Based on the Langelier index. A positive value indicates non-corrosive tendencies. A negative value indicates corrosive tendencies.

ND: not detected