



Department of
Environmental
Conservation

History of UDR thermal relief programs and efforts

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Goals, Objectives and Constraints

In 2006, the Decree Parties agreed on a list of constraints to guide program development

- No stream flow alterations that result in additional negative impacts to lower basin uses
- No stream flow alterations resulting in need to revise NPDES permits
- No increase in NYC or NJ diversion rates without flow augmentation storage
- No significant increase in drought frequency or storage drawdown
- No significant reduction in out of basin diversions



Delaware reservoir management programs

Program	WB Summer Release [cfs]	Thermal Bank [cfs-days]
Revision 1	45/325/45	6,000
Revision 7	225 (Hale Eddy target)	9,200
2007 FFMP	325 (225-325 range)	0
2010 JFWP recommendations	525	0
2011 FFMP-OST	500 (225-500 range)	0
2017FFMP	500 (190-500 range)	2,500

Lordville high water temperatures – May

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
5/21	61	54	63	69	60	64	70	55	59	60	61	60
5/22	64	54	64	69	60	62	72	56	61	57	60	58
5/23	65	57	65	67	58	66	70	57	62	63	59	59
5/24	71	59	66	69	60	65	65	56	65	64	63	61
5/25	73	63	66	74	63	66	55	58	69	68	62	62
5/26	72	66	64	78	66	67	55	60	70	69	60	61
5/27	71	69	59	78	66	69	59	61	71	72	60	60
5/28	73	66	56	76	67	72	58	61	73	75	62	59
5/29	73	66	58	73	69	73	59	61	73	76	62	67
5/30	73	67	60	74	68	70	64	61	75	75	58	70
5/31	75	68	59	77	70	68	65	62	73	75	62	68

Lordville high water temperatures – June

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
6/1	77	69	59	75	71	65	65	63	70	74	63	67
6/2	74	69	58	75	68	62	65	65	62	72	62	66
6/3	73	69	58	74	62	61	65	65	66	69	62	63
6/4	66	67	62	75	60	59	65	65	66	69	60	60
6/5	70	67	60	76	59	58	64	65	70	68	58	59
6/6	67	70	65	74	65	61	63	64	71	68	58	58
6/7	69	76	65	68	67	64	59	64	71	67	60	62
6/8	73	76	66	67	71	66	59	65	69	64	61	65
6/9	73	80	65	64	72	65	64	65	69	61	61	65
6/10	73	81	68	62	71	67	64	63	68	64	62	63
6/11	74	76	67	67	70	70	59	62	72	63	63	65
6/12	73	76	67	68	63	68	62	61	74	64	64	68
6/13	73	77	67	67	61	65	60	60	75	61	64	66
6/14	72	75	69	67	61	68	60	61	75	64	67	66
6/15	70	72	67	70	65	71	63	61	74	68	68	67
6/16	68	74	65	68	65	71	62	64	68	69	66	70
6/17	69	70	63	63	65	71	63	66	67	71	64	72
6/18	74	67	61	68	68	69	61	67	66	71	70	72
6/19	73	66	57	73	69	68	62	67	65	72	69	75
6/20	71	66	57	75	69	74	61	67	64	73	68	72
6/21	68	69	60	75	69	74	59	66	65	73	69	73
6/22	68	70	62	73	69	74	63	66	67	70	69	69
6/23	68	73	64	72	65	74	68	66	66	71	69	67
6/24	69	73	64	74	65	73	68	66	67	71	72	65
6/25	72	73	65	74	64	71	69	65	65	70	73	68
6/26	73	71	63	72	64	67	69	65	67	71	70	71
6/27	73	71	61	71	67	68	69	66	66	69	68	68
6/28	32	72	62	72	67	71	68	67	58	68	68	65
6/29	69	74	62	73	65	76	65	68	60	67	67	71
6/30	70	75	61	70	65	73	67	69	60	70	67	74

Lordville high water temperatures – July

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
7/1	69	75	59	68	65	73	66	70	62	68	65	74
7/2	64	76	58	69	68	72	67	70	62	67	69	74
7/3	66	73	59	69	67	72	67	70	63	68	73	76
7/4	64	71	62	74	63	75	67	69	61	70	73	74
7/5	66	67	63	78	62	76	68	65	62	74	70	74
7/6	72	70	63	81	62	74	67	67	60	73	71	74
7/7	73	77	65	80	64	71	69	68	60	72	72	72
7/8	74	78	64	78	62	71	68	68	60	71	70	74
7/9	77	76	67	78	65	71	69	68	58	70	69	75
7/10	77	76	69	75	65	68	69	67	64	68	67	75
7/11	74	74	68	77	66	71	71	67	66	70	68	76
7/12	70	68	69	76	68	75	69	66	64	71	70	74
7/13	72	66	68	74	67	73	68	66	66	73	70	74
7/14	72	73	68	74	67	75	72	65	65	74	68	74
7/15	70	75	70	77	68	72	75	65	62	75	67	75
7/16	72	77	70	78	68	72	75	64	59	73	71	76
7/17	73	77	69	75	71	75	75	64	58	73	72	73
7/18	73	79	69	76	69	77	71	63	57	71	72	72
7/19	69	73	68	74	71	75	71	63	61	71	74	74
7/20	69	69	69	72	73	73	74	63	61	71	73	74
7/21	72	75	68	72	76	71	72	63	61	73	73	72
7/22	70	74	69	72	78	73	72	65	59	75	72	72
7/23	68	72	70	71	75	73	70	66	59	76	69	73
7/24	68	66	70	74	67	73	69	66	58	73	68	73
7/25	73	67	71	74	65	74	67	65	57	69	65	69
7/26	76	69	71	73	70	74	69	64	58	73	64	68
7/27	74	70	73	76	70	74	69	65	62	75	63	69
7/28	73	69	74	76	69	73	67	65	62	74	66	69
7/29	75	71	72	78	68	73	69	64	61	73	66	69
7/30	75	72	69	75	72	74	69	62	60	71	68	68
7/31	74	74	67	70	73	73	68	63	60	67	70	67

Lordville high water temperatures – Aug

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
8/1	75	74	65	66	73	73	66	64	60	66	71	68
8/2	76	73	64	66	74	76	67	65	59	68	69	68
8/3	75	71	66	65	71	77	69	66	62	71	70	66
8/4	73	71	66	66	67	79	67	67	64	73	70	67
8/5	71	73	64	66	71	77	67	67	65	71	68	67
8/6	70	75	62	66	69	75	67	67	65	74	67	67
8/7	70	74	61	65	67	75	65	67	67	73	65	66
8/8	73	72	59	64	70	76	66	66	68	73	65	65
8/9	73	70	58	64	68	76	67	67	68	72	68	65
8/10	73	68	64	63	68	74	67	68	67	72	69	63
8/11	71	65	64	65	69	74	67	68	65	74	67	60
8/12	73	67	63	63	69	74	67	67	66	75	69	62
8/13	74	68	63	61	67	75	66	65	68	75	70	62
8/14	72	71	64	61	65	72	64	65	69	74	67	63
8/15	70	71	63	60	63	70	63	63	70	72	67	67
8/16	72	67	64	62	64	73	65	62	71	70	70	67
8/17	72	68	64	64	67	71	66	64	71	70	69	67
8/18	68	68	64	63	67	71	64	65	70	71	68	66
8/19	64	67	64	65	66	70	63	65	70	73	70	67
8/20	64	63	64	66	68	68	67	67	70	73	69	68
8/21	62	64	63	64	67	69	69	65	72	72	69	66
8/22	59	65	63	61	66	71	69	63	69	68	71	65
8/23	63	64	64	63	65	71	71	60	68	68	70	64
8/24	70	63	65	65	64	72	70	65	69	70	68	62
8/25	73	62	68	64	62	71	69	68	70	68	67	61
8/26	73	62	69	66	63	73	67	69	68	70	66	59
8/27	71	62	68	67	62	72	68	69	65	72	65	59
8/28	72	61	67	69	63	72	67	66	64	73	64	62
8/29	72	59	62	72	66	71	68	65	65	73	62	64
8/30	73	59	66	73	66	70	71	63	66	71	63	63
8/31	71	62	66	75	66	71	70	61	68	69	64	61

Lordville high water temperatures – Sept

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
9/1	63	64	64	76	65	72	68	62	69	67	61	59
9/2	62	67	63	75	63	69	69	69	69	68	60	59
9/3	64	68	63	73	61	68	68	69	70	64	59	62
9/4	68	68	64	66	62	66	66	68	71	65	63	63
9/5	66	68	66	61	61	68	65	71	69	65	64	64
9/6	66	69	66	62	61	69	64	71	68	62	63	65
9/7	69	72	65	67	62	69	61	70	67	63	62	65
9/8	68	73	65	67	64	68	63	68	67	63	61	60
9/9	66	70	65	64	66	68	62	65	65	64	59	56
9/10	67	68	64	59	67	65	65	64	65	64	61	57
9/11	65	67	62	61	65	63	67	62	68	64	63	60
9/12	64	65	62	60	67	64	66	60	66	60	65	60
9/13	64	64	65	61	65	67	65	57	64	61	65	63
9/14	63	70	65	62	64	67	61	57	63	61	65	63
9/15	62	72	64	60	62	65	58	58	65	60	67	65