

**WATER QUALITY OF MAJOR RIVERS IN HIMACHAL PARDESH MONITORED UNDER MINARS  
AND STATE WATER QUALITY MONITORING PROGRAMME**

**DURING 2011-12**

**MINARS Points from April-2011 to March 2012:**

Name of location		Apr-11	May-11	Jun-11	Jul-11	Aug-11	Sep-11	Oct-11	Nov-11	Dec-11	Jan-12	Feb-12	Mar-12
River Pabbar U/s Dhambari (2617)	pH	7.28	7.03	7.17	6.43	7.36	7.55	8.46	7.91	7.39	-	6.86	7.81
	DO	9.5	9.6	9.8	9.3	9.0	9.2	9.3	9.7	9.5	-	9.7	9.9
	BOD	0.2	0.3	0.4	0.1	0.1	1.0	0.5	0.2	0.2	-	0.4	0.5
	TC	4	-	-	NIL	NIL	NIL	10	6	48	-	4	12
	Classification	A	A	A	A	A	A	A	A	A		A	A
River Pabbar U/s Rohru (2618)	pH	7.33	7.81	6.84	7.15	7.27	8.10	7.80	7.47	7.41	-	6.91	7.98
	DO	8.9	9.3	9.5	8.5	9.3	9.5	9.5	9.4	9.3	-	9.4	9.5
	BOD	0.2	0.2	0.2	0.2	0.1	1.5	0.5	0.5	0.5	-	0.5	1.0
	TC	60	-	-	NIL	NIL	NIL	8	NIL	10	-	24	34
	Classification	B	A	A	A	A	A	A	A	A		A	A
River Pabbar at Snail D/s of TRT of Swara Kuddu (2619)	pH	7.60	7.08	6.27	7.0	7.35	7.83	7.95	7.10	8.29	-	7.16	7.81
	DO	9.0	9.4	9.9	9.8	9.9	9.6	8.8	8.9	8.8	-	9.2	8.9
	BOD	0.2	0.4	0.3	0.3	0.1	2.0	0.5	1.0	0.2	-	0.7	0.5
	TC	4	-	-	NIL	NIL	NIL	6	4	20	-	26	86
	Classification	A	A	A	A	A	A	A	A	A		A	B
River Tons at H.P. Boundary (1510)	pH	7.65	7.80	6.80	6.97	7.33	7.80	7.70	7.48	7.66	-	6.97	7.89
	DO	9.1	9.3	9.6	9.9	9.7	9.8	8.7	8.6	8.9	-	9.1	9.0
	BOD	0.2	0.3	0.4	0.1	0.3	1.0	1.0	0.5	2.0	-	0.7	0.2
	TC	20	-	-	NIL	NIL	NIL	10	NIL	52	-	93	68
	Classification	A	A	A	A	A	A	A	A	B		B	B
Ashwani khad U/s Yashwant Nagar (2620)	pH	8.88	8.88	7.48	7.76	7.73	8.32	8.56	8.01	8.29	7.68	8.93	8.72
	DO	8.1	8.5	6.3	7.0	5.8	7.7	8.2	8.6	9.7	8.9	9.0	9.7
	BOD	1.2	0.9	0.6	0.1	0.1	1.5	1.0	0.5	1.0	0.4	0.7	1.0

Name of location		Apr-11	May-11	Jun-11	Jul-11	Aug-11	Sep-11	Oct-11	Nov-11	Dec-11	Jan-12	Feb-12	Mar-12
	TC	156	80	80	NIL	16	20	102	10	12	128	66	35
	Classification	B	B	B	A	A	A	B	A	A	B	B	C
Giri river D/s Yashwant Nagar (2621)	pH	8.60	8.74	7.45	7.22	7.68	8.29	7.94	8.57	8.50	8.36	7.75	8.60
	DO	8.2	8.0	7.0	7.3	6.2	8.0	8.1	8.9	9.2	9.3	9.2	10.0
	BOD	0.8	0.7	0.7	0.2	0.2	2.5	1.0	0.5	0.5	0.3	0.5	0.5
	TC	160	106	100	NIL	24	16	110	38	6	98	56	7
	Classification	B	B	B	A	A	B	B	C	A	B	B	A
River Sukhna at Parwano (1870)	pH	7.41	7.44	7.50	7.91	8.09	8.27	7.09	8.06	7.81	7.64	7.24	7.19
	DO	4.5	3.6	4.2	6.9	6.3	7.6	5.1	5.6	6.0	7.6	3.6	6.3
	BOD	9.5	7.5	12.0	0.2	2.0	2.0	2.0	3.0	12.0	25.0	180.0	105.0
	TC	176	208	240	120	202	146	250	128	120	250	430	600
	Classification	Belo w-E	Belo w-E	Belo w-E	B	B	B	B	C	Belo w-E	Belo w-E	Belo w-E	Belo w-E
Lift Nala D/s MSW Processing Site, Shimla (1872)	pH	7.33	7.21	7.36	7.24	7.01	7.86	6.62	7.11	7.56	6.63	6.86	7.71
	DO	4.0	3.9	3.6	3.8	3.9	6.1	4.8	4.2	4.2	5.7	4.6	4.1
	BOD	12.0	9.0	14.0	4.0	4.0	2.5	125.0	45.0	12.0	120.0	10.0	0.5
	TC	390	-	-	210	68	64	-	30	27	240	300	52
	Classification	Belo w-E	Belo w-E	Belo w-E	Belo w-E	Belo w-E	B	Belo w-E	Belo w-E	Belo w-E	Belo w-E	Belo w-E	Belo w-E
Sirsa River D/s Nalagarh Bridge (1552)	pH	8.21	7.33	7.65	8.26	7.86	8.35	7.97	8.07	8.15	7.80	8.10	7.98
	DO	8.4	6.1	6.9	6.0	7.4	6.9	14.3	10.7	8.9	7.7	7.9	8.6
	BOD	2.2	2.4	2.0	8.0	1.0	2.5	4.0	0.5	3.0	7.5	1.0	2.0
	TC	32	40	186	52	58	40	11	52	190	156	102	46
	Classification	B	B	B	Belo w-E	B	B	Belo w-E	B	B	Belo w-E	B	A
Sirsa River D/s Nalagarh Town (1868)	pH	8.16	7.53	7.52	7.69	7.63	8.17	8.08	8.30	8.30	7.77	7.86	7.92
	DO	9.0	6.0	6.6	5.8	7.5	7.1	9.6	10.5	10.5	11.7	6.2	4.5
	BOD	1.6	2.0	1.6	0.5	1.0	2.0	0.5	0.5	1.0	4.0	1.0	2.0
	TC	28	44	240	64	52	76	170	96	64	120	92	86
	Classification	A	A	B	B	B	B	B	B	B	Belo w-E	B	B

Name of location		Apr-11	May-11	Jun-11	Jul-11	Aug-11	Sep-11	Oct-11	Nov-11	Dec-11	Jan-12	Feb-12	Mar-12
Sirsa River U/s Sitomajri Nalla (1551)	pH	7.72	7.67	7.61	8.01	7.58	8.08	7.92	8.11	8.04	8.15	8.31	8.13
	DO	6.6	6.9	7.2	6.2	7.1	7.5	8.1	9.2	10.1	9.2	8.1	9.2
	BOD	0.8	1.0	0.8	0.5	1.0	1.5	2.0	0.5	2.5	0.5	0.8	1.5
	TC	12	60	158	46	44	36	75	20	168	124	120	56
	Classification	A	B	B	A	A	A	B	A	B	B	B	B

### Result of SWQM from April-2011 to March 2012:

Name of location		Apr-11	Jul-11	Oct-11	Jan-12
River Pabbar D/s Chirgaon	pH	7.51	6.65	8.76	6.96
	DO	9.2	9.0	9.1	9.5
	BOD	0.3	0.1	0.5	0.6
	TC	8	NIL	18	76
	Classification	A	A	A	B
River Pabbar D/s Rohroo	pH	7.51	7.20	8.41	7.22
	DO	9.4	8.9	-	9.7
	BOD	0.4	0.2	0.5	1.0
	TC	42	NIL	16	266
	Classification	A	A	A	B
River Pabbar U/s Hatkoti	pH	7.41	7.79	7.52	7.22
	DO	9.2	9.1	9.4	9.8
	BOD	0.2	0.1	0.5	0.6
	TC	22	NIL	16	100
	Classification	A	A	A	B
River Pabbar D/s Hatkoti	pH	7.73	6.76	7.75	6.97
	DO	8.7	9.5	9.6	8.9
	BOD	0.4	0.1	0.5	1.0
	TC	35	NIL	22	140
	Classification	A	A	A	B
Kaushlya River U/s Parwanoo Town	pH	7.96	8.12	7.46	7.80
	DO	9.0	7.4	8.7	9.8
	BOD	0.2	0.1	0.5	0.5

<b>Name of location</b>		<b>Apr-11</b>	<b>Jul-11</b>	<b>Oct-11</b>	<b>Jan-12</b>
	<b>TC</b>	130	20	120	30
	<b>Classification</b>	<b>B</b>	<b>A</b>	<b>B</b>	<b>A</b>
Kaushlya River D/s Intake Channel of WSS	<b>pH</b>	7.75	-	8.29	8.11
	<b>DO</b>	8.9	-	8.5	9.5
	<b>BOD</b>	0.3	-	1.0	0.5
	<b>TC</b>	152	-	105	48
	<b>Classification</b>	<b>B</b>		<b>B</b>	<b>A</b>
Sukhna Nallah U/s WSS Sec-4 Parwanoo	<b>pH</b>	7.36	7.80	7.63	7.48
	<b>DO</b>	6.4	7.5	8.5	7.9
	<b>BOD</b>	0.6	0.1	2.0	0.5
	<b>TC</b>	22	40	80	56
	<b>Classification</b>	<b>A</b>	<b>A</b>	<b>B</b>	<b>B</b>
Sukhna Nallah D/s WSS Kalka	<b>pH</b>	7.40	7.90	6.95	7.51
	<b>DO</b>	1.2	6.8	7.5	7.8
	<b>BOD</b>	11.5	0.1	1.0	0.2
	<b>TC</b>	108	84	102	220
	<b>Classification</b>	<b>Below-E</b>	<b>B</b>	<b>B</b>	<b>B</b>
Sukhna Nallah U/s, Sec-V Landfill Site	<b>pH</b>	7.72	7.61	7.05	7.70
	<b>DO</b>	5.7	7.4	3.5	3.7
	<b>BOD</b>	1.0	0.5	120.0	12.0
	<b>TC</b>	22	20	176	162
	<b>Classification</b>	<b>A</b>	<b>A</b>	<b>Below-E</b>	<b>Below-E</b>
Sukhna Nallah D/s, Sec-V Landfill Site	<b>pH</b>	6.20	7.68	7.24	7.40
	<b>DO</b>	2.0	7.2	4.2	7.1
	<b>BOD</b>	22.0	0.5	32.0	18.0
	<b>TC</b>	186	96	346	126
	<b>Classification</b>	<b>Below-E</b>	<b>B</b>	<b>Below-E</b>	<b>Below-E</b>
Masoolkhan Nallah U/s Morepan Lab	<b>pH</b>	7.64	7.61	8.0	7.53
	<b>DO</b>	6.2	7.4	7.6	9.1
	<b>BOD</b>	0.2	0.3	1.0	1.0
	<b>TC</b>	10	8	124	52
	<b>Classification</b>	<b>A</b>	<b>A</b>	<b>B</b>	<b>B</b>
Masoolkhan Nallah D/s	<b>pH</b>	7.72	7.50	7.32	7.50
	<b>DO</b>	5.8	7.1	5.5	8.2

<b>Name of location</b>		<b>Apr-11</b>	<b>Jul-11</b>	<b>Oct-11</b>	<b>Jan-12</b>
Morepan Lab	<b>BOD</b>	340.0	2.0	24	7.0
	<b>TC</b>	450	6	346	64
	<b>Classification</b>	<b>Below-E</b>	<b>A</b>	<b>Below-E</b>	<b>Below-E</b>
Lift Nallah D/s Hotel Combermere	<b>pH</b>	7.33	7.20	6.67	6.60
	<b>DO</b>	4.5	5.2	5.2	6.1
	<b>BOD</b>	11.5	3.0	130.0	112.0
	<b>TC</b>	260	180	130	160
	<b>Classification</b>	<b>Below-E</b>	<b>B</b>	<b>Below-E</b>	<b>Below-E</b>
Lift Nallah U/s Bridge Near MC Shimla	<b>pH</b>	7.36	7.17	7.66	6.59
	<b>DO</b>	4.2	4.1	5.1	5.8
	<b>BOD</b>	40.0	2.0	120.0	240.0
	<b>TC</b>	220	240	-	110
	<b>Classification</b>	<b>Below-E</b>	<b>C</b>	<b>Below-E</b>	<b>Below-E</b>
Lift Nallah before conf. of Ashwani Khad	<b>pH</b>	7.21	-	6.66	7.34
	<b>DO</b>	8.1	-	8.5	9.5
	<b>BOD</b>	3.0	-	0.5	1.0
	<b>TC</b>	48	-	-	20
	<b>Classification</b>	<b>B</b>		<b>A</b>	<b>A</b>
Ashwani Khad after conf. lift Nallah	<b>pH</b>	7.86	7.10	7.74	7.21
	<b>DO</b>	7.2	7.1	7.9	9.2
	<b>BOD</b>	1.0	0.3	0.5	0.4
	<b>TC</b>	108	NIL	52	58
	<b>Classification</b>	<b>B</b>	<b>A</b>	<b>B</b>	<b>B</b>
River Sirsa U/s of Ratta River	<b>pH</b>	7.43	7.78	7.70	7.54
	<b>DO</b>	5.4	5.8	5.5	3.5
	<b>BOD</b>	5.0	0.4	2.0	0.5
	<b>TC</b>	42	48	60	142
	<b>Classification</b>	<b>Below-E</b>	<b>B</b>	<b>B</b>	<b>Below-E</b>
River Sirsa D/s of Ratta River	<b>pH</b>	7.80	7.58	7.43	7.48
	<b>DO</b>	5.3	5.2	4.5	5.2
	<b>BOD</b>	5.2	0.2	3.0	8.0
	<b>TC</b>	68	56	80	162
	<b>Classification</b>	<b>Below-E</b>	<b>B</b>	<b>C</b>	<b>Below-E</b>
Sandholi Nallah	<b>pH</b>	6.62	6.33	6.66	6.80

<b>Name of location</b>		<b>Apr-11</b>	<b>Jul-11</b>	<b>Oct-11</b>	<b>Jan-12</b>
	<b>DO</b>	NIL	-	NIL	-
	<b>BOD</b>	460.0	210.0	760.0	720.0
	<b>TC</b>	320	320	480	640
	<b>Classification</b>	<b>Below-E</b>	<b>Below-E</b>	<b>Below-E</b>	<b>Below-E</b>
River Sirsa D/s Sandholi Nallah	<b>pH</b>	7.50	7.78	7.61	7.44
	<b>DO</b>	4.2	5.5	4.2	3.0
	<b>BOD</b>	10.0	3.0	10.0	16.0
	<b>TC</b>	160	76	410	698
	<b>Classification</b>	<b>Below-E</b>	<b>B</b>	<b>Below-E</b>	<b>Below-E</b>
River Sirsa U/s Housing Board Nallah	<b>pH</b>	7.50	7.74	7.08	7.55
	<b>DO</b>	4.2	4.8	1.5	2.5
	<b>BOD</b>	8.5	0.2	20.0	4.0
	<b>TC</b>	110	82	420	186
	<b>Classification</b>	<b>Below-E</b>	<b>C</b>	<b>Below-E</b>	<b>Below-E</b>
River Sirsa D/s Housing Board Nallah	<b>pH</b>	7.34	7.77	7.76	7.44
	<b>DO</b>	4.0	5.0	6.6	3.0
	<b>BOD</b>	9.0	0.4	18.0	16.0
	<b>TC</b>	160	110	300	698
	<b>Classification</b>	<b>Below-E</b>	<b>C</b>	<b>Below-E</b>	<b>Below-E</b>
Housing Board Nallah	<b>pH</b>	7.46	7.57	7.08	7.71
	<b>DO</b>	1.0	1.3	1.5	3.8
	<b>BOD</b>	26.0	1.0	20.0	14.0
	<b>TC</b>	142	132	420	156
	<b>Classification</b>	<b>Below-E</b>	<b>B</b>	<b>Below-E</b>	<b>Below-E</b>
River Ratta before conf. to River Sirsa	<b>pH</b>	7.57	7.66	8.14	7.54
	<b>DO</b>	5.8	5.3	8.9	8.2
	<b>BOD</b>	4.4	1.0	2.0	2.0
	<b>TC</b>	52	62	120	120
	<b>Classification</b>	<b>Below-E</b>	<b>B</b>	<b>B</b>	<b>B</b>
River Bald U/s landfill site Baddi	<b>pH</b>	7.17	7.25	7.78	7.23
	<b>DO</b>	6.2	5.3	5.1	3.1
	<b>BOD</b>	1.8	0.5	1.0	1.0
	<b>TC</b>	62	32	15	130
	<b>Classification</b>	<b>B</b>	<b>B</b>	<b>B</b>	<b>Below-E</b>

<b>Name of location</b>		<b>Apr-11</b>	<b>Jul-11</b>	<b>Oct-11</b>	<b>Jan-12</b>
River Bald D/s landfill site Baddi	<b>pH</b>	7.33	7.95	8.11	7.42
	<b>DO</b>	6.0	6.0	5.6	4.8
	<b>BOD</b>	2.0	1.0	2.0	0.6
	<b>TC</b>	86	40	25	164
	<b>Classification</b>	<b>B</b>	<b>A</b>	<b>B</b>	<b>C</b>
River Sirsa D/s Sitomajri Nallah	<b>pH</b>	7.71	7.74	7.25	7.54
	<b>DO</b>	6.3	5.5	7.3	6.8
	<b>BOD</b>	1.0	1.5	2.0	0.8
	<b>TC</b>	20	96	100	148
	<b>Classification</b>	<b>A</b>	<b>B</b>	<b>B</b>	<b>B</b>
River Sirsa U/s Sandholi Nallah	<b>pH</b>	7.65	7.86	8.07	7.58
	<b>DO</b>	4.4	5.2	7.2	7.5
	<b>BOD</b>	2.2	2.0	2.0	1.5
	<b>TC</b>	2	82	260	560
	<b>Classification</b>	<b>C</b>	<b>B</b>	<b>B</b>	<b>C</b>