

MONITORAGGIO QUALITA delle ACQUE

TORRE PALLAVICINA - anno 2019 -

- criterio 3.2.5 ASC Freshwater trout Standard (Appendix IIB) -

DATE	ANALYSIS	LOCATION	METHOD	SAMPLING BY THIRD PARTY	ANALYSIS BY THIRD PARTY	RESULT
21/01/2019	pH	INLET	SINGLE GRAB	YES	YES	7.85
	SOS (mg/l)	INLET	SINGLE GRAB	YES	YES	8.00
	BOD (mg/l)	INLET	SINGLE GRAB	YES	YES	2.00
	COD (mg/l)	INLET	SINGLE GRAB	YES	YES	10.00
	N amm (mg/l)	INLET	SINGLE GRAB	YES	YES	0.10
	N nitroso (mg/l)	INLET	SINGLE GRAB	YES	YES	0.08
	N nitrico (mg/l)	INLET	SINGLE GRAB	YES	YES	2.70
	P tot (mg/l)	INLET	SINGLE GRAB	YES	YES	0.02
	pH	OUTLET	SINGLE GRAB	YES	YES	7.83
	SOS (mg/l)	OUTLET	SINGLE GRAB	YES	YES	8.00
	BOD (mg/l)	OUTLET	SINGLE GRAB	YES	YES	4.00
	COD (mg/l)	OUTLET	SINGLE GRAB	YES	YES	10.00
	N amm (mg/l)	OUTLET	SINGLE GRAB	YES	YES	0.10
	N nitroso (mg/l)	OUTLET	SINGLE GRAB	YES	YES	0.08
	N nitrico (mg/l)	OUTLET	SINGLE GRAB	YES	YES	5.70
	P tot (mg/l)	OUTLET	SINGLE GRAB	YES	YES	0.05
DATE	ANALYSIS	LOCATION	METHOD	SAMPLING BY THIRD PARTY	ANALYSIS BY THIRD PARTY	RESULT
18/02/2019	pH	INLET	SINGLE GRAB	YES	YES	7.82
	SOS (mg/l)	INLET	SINGLE GRAB	YES	YES	8.00
	BOD (mg/l)	INLET	SINGLE GRAB	YES	YES	1.00
	COD (mg/l)	INLET	SINGLE GRAB	YES	YES	10.00
	N amm (mg/l)	INLET	SINGLE GRAB	YES	YES	0.10
	N nitroso (mg/l)	INLET	SINGLE GRAB	YES	YES	0.08
	N nitrico (mg/l)	INLET	SINGLE GRAB	YES	YES	2.50
	P tot (mg/l)	INLET	SINGLE GRAB	YES	YES	0.03
	pH	OUTLET	SINGLE GRAB	YES	YES	7.80
	SOS (mg/l)	OUTLET	SINGLE GRAB	YES	YES	11.00
	BOD (mg/l)	OUTLET	SINGLE GRAB	YES	YES	5.00
	COD (mg/l)	OUTLET	SINGLE GRAB	YES	YES	11.00
	N amm (mg/l)	OUTLET	SINGLE GRAB	YES	YES	0.10
	N nitroso (mg/l)	OUTLET	SINGLE GRAB	YES	YES	0.14
	N nitrico (mg/l)	OUTLET	SINGLE GRAB	YES	YES	5.90
	P tot (mg/l)	OUTLET	SINGLE GRAB	YES	YES	0.08
DATE	ANALYSIS	LOCATION	METHOD	SAMPLING BY THIRD PARTY	ANALYSIS BY THIRD PARTY	RESULT
18/03/2019	pH	INLET	SINGLE GRAB	YES	YES	7.75
	SOS (mg/l)	INLET	SINGLE GRAB	YES	YES	8.00
	BOD (mg/l)	INLET	SINGLE GRAB	YES	YES	3.00
	COD (mg/l)	INLET	SINGLE GRAB	YES	YES	10.00
	N amm (mg/l)	INLET	SINGLE GRAB	YES	YES	0.10
	N nitroso (mg/l)	INLET	SINGLE GRAB	YES	YES	0.12
	N nitrico (mg/l)	INLET	SINGLE GRAB	YES	YES	2.40
	P tot (mg/l)	INLET	SINGLE GRAB	YES	YES	0.04
	pH	OUTLET	SINGLE GRAB	YES	YES	7.82
	SOS (mg/l)	OUTLET	SINGLE GRAB	YES	YES	12.00
	BOD (mg/l)	OUTLET	SINGLE GRAB	YES	YES	6.00
	COD (mg/l)	OUTLET	SINGLE GRAB	YES	YES	10.00
	N amm (mg/l)	OUTLET	SINGLE GRAB	YES	YES	0.10
	N nitroso (mg/l)	OUTLET	SINGLE GRAB	YES	YES	0.16
	N nitrico (mg/l)	OUTLET	SINGLE GRAB	YES	YES	5.70
	P tot (mg/l)	OUTLET	SINGLE GRAB	YES	YES	0.04
DATE	ANALYSIS	LOCATION	METHOD	SAMPLING BY THIRD PARTY?	ANALYSIS BY THIRD PARTY	RESULT
23/04/2019	pH	INLET	SINGLE GRAB	YES	YES	7.70
	SOS (mg/l)	INLET	SINGLE GRAB	YES	YES	7.00
	BOD (mg/l)	INLET	SINGLE GRAB	YES	YES	4.00
	COD (mg/l)	INLET	SINGLE GRAB	YES	YES	10.00
	N amm (mg/l)	INLET	SINGLE GRAB	YES	YES	0.10
	N nitroso (mg/l)	INLET	SINGLE GRAB	YES	YES	0.06
	N nitrico (mg/l)	INLET	SINGLE GRAB	YES	YES	2.80
	P tot (mg/l)	INLET	SINGLE GRAB	YES	YES	0.02
	pH	OUTLET	SINGLE GRAB	YES	YES	7.69
	SOS (mg/l)	OUTLET	SINGLE GRAB	YES	YES	13.00
	BOD (mg/l)	OUTLET	SINGLE GRAB	YES	YES	6.00
	COD (mg/l)	OUTLET	SINGLE GRAB	YES	YES	12.00
	N amm (mg/l)	OUTLET	SINGLE GRAB	YES	YES	0.10
	N nitroso (mg/l)	OUTLET	SINGLE GRAB	YES	YES	0.06
	N nitrico (mg/l)	OUTLET	SINGLE GRAB	YES	YES	5.50
	P tot (mg/l)	OUTLET	SINGLE GRAB	YES	YES	0.06
DATE	ANALYSIS	LOCATION	METHOD	SAMPLING BY THIRD PARTY?	ANALYSIS BY THIRD PARTY	RESULT
27/05/2019	pH	INLET	SINGLE GRAB	YES	YES	7.73
	SOS (mg/l)	INLET	SINGLE GRAB	YES	YES	8.00
	BOD (mg/l)	INLET	SINGLE GRAB	YES	YES	4.00
	COD (mg/l)	INLET	SINGLE GRAB	YES	YES	10.00
	N amm (mg/l)	INLET	SINGLE GRAB	YES	YES	0.10
	N nitroso (mg/l)	INLET	SINGLE GRAB	YES	YES	0.12
	N nitrico (mg/l)	INLET	SINGLE GRAB	YES	YES	2.90
	P tot (mg/l)	INLET	SINGLE GRAB	YES	YES	0.05
	pH	OUTLET	SINGLE GRAB	YES	YES	7.58
	SOS (mg/l)	OUTLET	SINGLE GRAB	YES	YES	12.00
	BOD (mg/l)	OUTLET	SINGLE GRAB	YES	YES	5.00
	COD (mg/l)	OUTLET	SINGLE GRAB	YES	YES	10.00
	N amm (mg/l)	OUTLET	SINGLE GRAB	YES	YES	0.10
	N nitroso (mg/l)	OUTLET	SINGLE GRAB	YES	YES	0.09
	N nitrico (mg/l)	OUTLET	SINGLE GRAB	YES	YES	5.90
	P tot (mg/l)	OUTLET	SINGLE GRAB	YES	YES	0.05

DATE	ANALYSIS	LOCATION	METHOD	SAMPLING BY THIRD PARTY?	ANALYSIS BY THIRD PARTY	RESULT
24/06/2019	pH	INLET	SINGLE GRAB	YES	YES	7.68
	SOS (mg/l)	INLET	SINGLE GRAB	YES	YES	9.00
	BOD (mg/l)	INLET	SINGLE GRAB	YES	YES	4.00
	COD (mg/l)	INLET	SINGLE GRAB	YES	YES	10.00
	N amm (mg/l)	INLET	SINGLE GRAB	YES	YES	0.10
	N nitroso (mg/l)	INLET	SINGLE GRAB	YES	YES	0.14
	N nitrico (mg/l)	INLET	SINGLE GRAB	YES	YES	3.10
	P tot (mg/l)	INLET	SINGLE GRAB	YES	YES	0.07
	pH	OUTLET	SINGLE GRAB	YES	YES	7.67
	SOS (mg/l)	OUTLET	SINGLE GRAB	YES	YES	10.00
	BOD (mg/l)	OUTLET	SINGLE GRAB	YES	YES	4.00
	COD (mg/l)	OUTLET	SINGLE GRAB	YES	YES	12.00
	N amm (mg/l)	OUTLET	SINGLE GRAB	YES	YES	0.10
	N nitroso (mg/l)	OUTLET	SINGLE GRAB	YES	YES	0.19
	N nitrico (mg/l)	OUTLET	SINGLE GRAB	YES	YES	5.60
	P tot (mg/l)	OUTLET	SINGLE GRAB	YES	YES	0.07
DATE	ANALYSIS	LOCATION	METHOD	SAMPLING BY THIRD PARTY?	ANALYSIS BY THIRD PARTY	RESULT
15/07/2019	pH	INLET	SINGLE GRAB	YES	YES	7.52
	SOS (mg/l)	INLET	SINGLE GRAB	YES	YES	7.00
	BOD (mg/l)	INLET	SINGLE GRAB	YES	YES	6.00
	COD (mg/l)	INLET	SINGLE GRAB	YES	YES	10.00
	N amm (mg/l)	INLET	SINGLE GRAB	YES	YES	0.10
	N nitroso (mg/l)	INLET	SINGLE GRAB	YES	YES	0.12
	N nitrico (mg/l)	INLET	SINGLE GRAB	YES	YES	3.20
	P tot (mg/l)	INLET	SINGLE GRAB	YES	YES	0.09
	pH	OUTLET	SINGLE GRAB	YES	YES	7.61
	SOS (mg/l)	OUTLET	SINGLE GRAB	YES	YES	12.00
	BOD (mg/l)	OUTLET	SINGLE GRAB	YES	YES	6.00
	COD (mg/l)	OUTLET	SINGLE GRAB	YES	YES	12.00
	N amm (mg/l)	OUTLET	SINGLE GRAB	YES	YES	0.10
	N nitroso (mg/l)	OUTLET	SINGLE GRAB	YES	YES	0.140
	N nitrico (mg/l)	OUTLET	SINGLE GRAB	YES	YES	5.30
	P tot (mg/l)	OUTLET	SINGLE GRAB	YES	YES	0.04
DATE	ANALYSIS	LOCATION	METHOD	SAMPLING BY THIRD PARTY?	ANALYSIS BY THIRD PARTY	RESULT
19/08/2019	pH	INLET	SINGLE GRAB	YES	YES	7.67
	SOS (mg/l)	INLET	SINGLE GRAB	YES	YES	12.00
	BOD (mg/l)	INLET	SINGLE GRAB	YES	YES	5.00
	COD (mg/l)	INLET	SINGLE GRAB	YES	YES	10.00
	N amm (mg/l)	INLET	SINGLE GRAB	YES	YES	0.10
	N nitroso (mg/l)	INLET	SINGLE GRAB	YES	YES	0.16
	N nitrico (mg/l)	INLET	SINGLE GRAB	YES	YES	3.10
	P tot (mg/l)	INLET	SINGLE GRAB	YES	YES	0.08
	pH	OUTLET	SINGLE GRAB	YES	YES	7.54
	SOS (mg/l)	OUTLET	SINGLE GRAB	YES	YES	14.00
	BOD (mg/l)	OUTLET	SINGLE GRAB	YES	YES	7.00
	COD (mg/l)	OUTLET	SINGLE GRAB	YES	YES	15.00
	N amm (mg/l)	OUTLET	SINGLE GRAB	YES	YES	0.10
	N nitroso (mg/l)	OUTLET	SINGLE GRAB	YES	YES	0.18
	N nitrico (mg/l)	OUTLET	SINGLE GRAB	YES	YES	5.50
	P tot (mg/l)	OUTLET	SINGLE GRAB	YES	YES	0.07
DATE	ANALYSIS	LOCATION	METHOD	SAMPLING BY THIRD PARTY?	ANALYSIS BY THIRD PARTY	RESULT
16/09/2019	pH	INLET	SINGLE GRAB	YES	YES	7.63
	SOS (mg/l)	INLET	SINGLE GRAB	YES	YES	10.00
	BOD (mg/l)	INLET	SINGLE GRAB	YES	YES	4.00
	COD (mg/l)	INLET	SINGLE GRAB	YES	YES	10.00
	N amm (mg/l)	INLET	SINGLE GRAB	YES	YES	0.10
	N nitroso (mg/l)	INLET	SINGLE GRAB	YES	YES	0.12
	N nitrico (mg/l)	INLET	SINGLE GRAB	YES	YES	3.20
	P tot (mg/l)	INLET	SINGLE GRAB	YES	YES	0.08
	pH	OUTLET	SINGLE GRAB	YES	YES	7.61
	SOS (mg/l)	OUTLET	SINGLE GRAB	YES	YES	12.00
	BOD (mg/l)	OUTLET	SINGLE GRAB	YES	YES	4.00
	COD (mg/l)	OUTLET	SINGLE GRAB	YES	YES	9.00
	N amm (mg/l)	OUTLET	SINGLE GRAB	YES	YES	0.10
	N nitroso (mg/l)	OUTLET	SINGLE GRAB	YES	YES	0.15
	N nitrico (mg/l)	OUTLET	SINGLE GRAB	YES	YES	5.90
	P tot (mg/l)	OUTLET	SINGLE GRAB	YES	YES	0.05
DATE	ANALYSIS	LOCATION	METHOD	SAMPLING BY THIRD PARTY?	ANALYSIS BY THIRD PARTY	RESULT
14/10/2019	pH	INLET	SINGLE GRAB	YES	YES	7.65
	SOS (mg/l)	INLET	SINGLE GRAB	YES	YES	9.00
	BOD (mg/l)	INLET	SINGLE GRAB	YES	YES	4.00
	COD (mg/l)	INLET	SINGLE GRAB	YES	YES	10.00
	N amm (mg/l)	INLET	SINGLE GRAB	YES	YES	0.10
	N nitroso (mg/l)	INLET	SINGLE GRAB	YES	YES	0.10
	N nitrico (mg/l)	INLET	SINGLE GRAB	YES	YES	3.40
	P tot (mg/l)	INLET	SINGLE GRAB	YES	YES	0.05
	pH	OUTLET	SINGLE GRAB	YES	YES	7.66
	SOS (mg/l)	OUTLET	SINGLE GRAB	YES	YES	10.00
	BOD (mg/l)	OUTLET	SINGLE GRAB	YES	YES	4.00
	COD (mg/l)	OUTLET	SINGLE GRAB	YES	YES	7.00
	N amm (mg/l)	OUTLET	SINGLE GRAB	YES	YES	0.10
	N nitroso (mg/l)	OUTLET	SINGLE GRAB	YES	YES	0.12
	N nitrico (mg/l)	OUTLET	SINGLE GRAB	YES	YES	5.70
	P tot (mg/l)	OUTLET	SINGLE GRAB	YES	YES	0.07

DATE	ANALYSIS	LOCATION	METHOD	SAMPLING BY THIRD PARTY?	ANALYSIS BY THIRD PARTY	RESULT
18/11/2019	pH	INLET	SINGLE GRAB	YES	YES	7,68
	SOS (mg/l)	INLET	SINGLE GRAB	YES	YES	5,00
	BOD (mg/l)	INLET	SINGLE GRAB	YES	YES	1,00
	COD (mg/l)	INLET	SINGLE GRAB	YES	YES	10,00
	N amm (mg/l)	INLET	SINGLE GRAB	YES	YES	0,10
	N nitroso (mg/l)	INLET	SINGLE GRAB	YES	YES	0,14
	N nitrico (mg/l)	INLET	SINGLE GRAB	YES	YES	3,50
	P tot (mg/l)	INLET	SINGLE GRAB	YES	YES	0,06
	pH	OUTLET	SINGLE GRAB	YES	YES	7,59
	SOS (mg/l)	OUTLET	SINGLE GRAB	YES	YES	12,00
	BOD (mg/l)	OUTLET	SINGLE GRAB	YES	YES	5,00
	COD (mg/l)	OUTLET	SINGLE GRAB	YES	YES	9,00
	N amm (mg/l)	OUTLET	SINGLE GRAB	YES	YES	0,10
	N nitroso (mg/l)	OUTLET	SINGLE GRAB	YES	YES	0,17
	N nitrico (mg/l)	OUTLET	SINGLE GRAB	YES	YES	5,90
	P tot (mg/l)	OUTLET	SINGLE GRAB	YES	YES	0,05
DATE	ANALYSIS	LOCATION	METHOD	SAMPLING BY THIRD PARTY?	ANALYSIS BY THIRD PARTY	RESULT
16/12/2019	pH	INLET	SINGLE GRAB	YES	YES	7,62
	SOS (mg/l)	INLET	SINGLE GRAB	YES	YES	4,00
	BOD (mg/l)	INLET	SINGLE GRAB	YES	YES	4,00
	COD (mg/l)	INLET	SINGLE GRAB	YES	YES	10,00
	N amm (mg/l)	INLET	SINGLE GRAB	YES	YES	0,10
	N nitroso (mg/l)	INLET	SINGLE GRAB	YES	YES	0,10
	N nitrico (mg/l)	INLET	SINGLE GRAB	YES	YES	3,70
	P tot (mg/l)	INLET	SINGLE GRAB	YES	YES	0,08
	pH	OUTLET	SINGLE GRAB	YES	YES	7,62
	SOS (mg/l)	OUTLET	SINGLE GRAB	YES	YES	12,00
	BOD (mg/l)	OUTLET	SINGLE GRAB	YES	YES	4,00
	COD (mg/l)	OUTLET	SINGLE GRAB	YES	YES	9,00
	N amm (mg/l)	OUTLET	SINGLE GRAB	YES	YES	0,10
	N nitroso (mg/l)	OUTLET	SINGLE GRAB	YES	YES	0,15
	N nitrico (mg/l)	OUTLET	SINGLE GRAB	YES	YES	5,80
	P tot (mg/l)	OUTLET	SINGLE GRAB	YES	YES	0,06

SATURAZIONE MINIMA di OSSIGENO DISCIOLTO

TORRE PALLAVICINA - anno 2019 -

- criterio 3.2.2 ASC Freshwater trout Standard (Appendix IIB) -

ACQUA IN USCITA VASCHE ALLEVAMENTO

MESE	DATA RILEVAZIONE	OSSIGENO DISCIOLTO [mg/l]	TEMPERATURA	PRESSIONE [mmHg]	VALORE SATURAZIONE DI O ₂ [mg/l]	SATURAZIONE PERCENTUALE [%]
GENNAIO	21/01/2019	10,1	11,2	751,12	10,97	92,07
FEBBRAIO	18/02/2019	9,9	11,1	751,12	10,99	90,08
MARZO	18/03/2019	9,8	11,4	751,12	10,92	89,74
APRILE	23/04/2019	10,1	11,6	751,12	10,87	92,92
MAGGIO	27/05/2019	10,1	11,8	751,12	10,82	93,35
GIUGNO	24/06/2019	9,8	11,9	751,12	10,80	90,74
LUGLIO	15/07/2019	9,6	11,7	751,12	10,85	88,48
AGOSTO	19/08/2019	9,7	11,9	751,12	10,80	89,81
SETTEMBRE	16/09/2019	9,9	11,5	751,12	10,89	90,91
OTTOBRE	14/10/2019	10,1	11,2	751,12	10,97	92,07
NOVEMBRE	18/11/2019	9,9	10,9	751,12	11,05	89,59
DICEMBRE	16/12/2019	9,9	10,6	751,12	11,12	89,03

La % di saturazione di OD (concentrazione di ossigeno disciolto; in inglese DO) è data dal rapporto, in % appunto, tra l'effettiva quantità di OD e il massimo valore possibile in funzione della temperatura e dell'altitudine.

Altitudine TORRE= 95m.

Pressione in funzione dell'altitudine: $p = 0,9877^q$; dove P=pressione in atm - q=altitudine in centinaia di metri (nel caso di TORRE q=0,95), da cui $p = 0,988311 \text{ atm}$ (751,12mm di Hg)

Dalla Tabella allegata si ottengono i valori di saturazione di O₂ con interpolazione lineare dei dati in funzione della temperatura e della pressione

	°C	760mm	750mm	751,12mm	valore saturazione
temperatura più bassa	9	11,62	11,46	11,54448	13,932
temperatura più alta	10	11,35	11,2	11,2792	
temperatura rilevata					
temperatura più bassa	11	11,09	10,94	11,0192	13,71728
temperatura più alta	12	10,84	10,7	10,77392	
temperatura rilevata					
temperatura più bassa	12	10,84	10,7	10,77392	13,65392
temperatura più alta	13	10,6	10,46	10,53392	
temperatura rilevata					