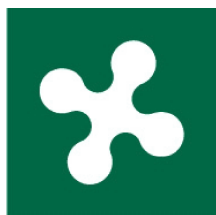




AUTORITA' DI BACINO DEL FIUME PO  
PARMA



Regione Lombardia



Provincia di Sondrio

Analisi Idraulica sull'asta dell'Adda Sopralacuale  
finalizzata alla redazione delle mappe di pericolosità  
e del rischio alluvioni

Attuazione della direttiva 2007/60/CE a supporto del  
progetto di variante generale del PAI

2.3

TABULATI DI OUTPUT DI HEC-RAS  
TEMPO DI RITORNO 500 ANNI



Ing. Baggini Amos  
l.go Sindelfingen n°9  
Sondrio (SO)



Ing. Begnis Raffaella  
via Ninguarda n°45  
Morbegno (SO)

Description	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Max Chl Dpth	Crit Depth	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
			(m3/s)	(m)	(m)	(m)	(m)	(m/m)	(m/s)	(m2)	(m)	
337	70416.58	tr500	950	430	434.35	4.35	7.24	0.014026	11.5	82.63	22.7	1.92
335 bis - P.SS36 monte	70276.73	tr500	950	428.63	432.59	3.96	6.88	0.011231	11.51	82.55	24.45	1.9
Ponte SS38 - Tirano	70273 BR U	tr500	950	428.63	432.69	4.06	6.87	0.013225	11.32	83.94	21.32	1.79
	70273 BR D	tr500	950	428.57	432.7	4.13	6.93	0.012758	11.18	85	21.32	1.76
335 - P.SS36 valle	70261.73	tr500	950	428.57	432.66	4.09	6.95	0.010274	11.18	84.94	24.51	1.82
334bis - P.Martiri monte	70027.37	tr500	950	425.2	429.08	3.88	5.63	0.016864	11.62	81.79	63.21	2.06
Ponte via Martiri - Tirano	70024 BR U	tr500	950	425.2	429.12	3.92	5.62	0.016207	11.46	82.87	25.3	2.02
	70024 BR D	tr500	950	424.87	428.89	4.02	5.94	0.016683	11.54	82.31	25.07	2.03
334 - P.Martiri valle	70012.37	tr500	950	424.87	428.91	4.04	5.85	0.016416	11.48	82.76	56.34	2.02
333bis - P.via Del Commercio monte1	69554.94	tr500	950	420.43	426.96	6.53	6.02	0.000791	3.46	756.6	693.56	0.46
333bis - P.via Del Commercio monte2	69549.94	tr500	950	420.33	426.96	6.63	6.03	0.000786	3.46	753.93	689.87	0.46
Ponte via Commercio - Tirano	69545 BR U	tr500	950	420.33	427.15	6.82	6.17	0.001754	2.3	840.01	726.21	0.18
	69545 BR D	tr500	950	420.26	427.14	6.88	6.26	0.001678	2.26	830.6	724.5	0.17
333 - P.via Del Commercio valle3	69539.94	tr500	950	420.26	426.6	6.34	6.13	0.00119	4.15	545.01	462.69	0.56
333 - P.via Del Commercio valle4	69529.94	tr500	950	420.2	426.39	6.19	6.19	0.00149	4.57	461.84	367.08	0.63
332	68569.1	tr500	950	412.1	416.38	4.28	4.28	0.00137	3.57	551.33	266.52	0.62
331 bis - Poschiavino monte	68205.48	tr500	950	409.09	412.5	3.41	3.92	0.006138	6.94	227.03	122.77	1.3
331-Ponschavino valle	67695.08	tr500	1045	404.8	408.76	3.96	4.73	0.006003	7.52	234.26	163.27	1.31
330	67222.66	tr500	1045	401	405.36	4.36	4.48	0.00932	7.06	204.99	137.37	1.24
329	66719.98	tr500	1045	398.2	400.69	2.49	2.91	0.011693	6.22	284.19	253.74	1.32
328	66357.62	tr500	1045	395.3	399.86	4.56	3.3	0.000743	2.18	802.29	313.66	0.35
326 cambio tiles - Ponte Stazzona	65890.16	tr500	1045	392.55	398.12	5.57	4.4	0.002831	4.76	219.63	44.15	0.68
326 - Ponte Stazzona monte	65880.16	tr500	1045	392.5	398.07	5.57	4.46	0.002912	4.8	217.67	44.11	0.69
Ponte Stazzona	65875 BR U	tr500	1045	392.5	397.15	4.65	4.65	0.009057	6.28	166.48	41.35	1
	65875 BR D	tr500	1045	392.45	396.66	4.21	4.54	0.011445	6.83	152.92	41.09	1.13
326 - Ponte Stazzona valle	65870.16	tr500	1045	392.45	396.06	3.61	4.33	0.011863	7.56	138.16	42.59	1.34
326 - Ponte Stazzona valle	65850.16	tr500	1045	392.35	396.75	4.4	4.4	0.006407	6.2	168.44	43.18	1
325	65183.16	tr500	1045	388.2	392.55	4.35	4.75	0.007536	5.46	237.07	150.21	1.09
324	64666.12	tr500	1045	384.5	389.31	4.81	3.88	0.001835	2.75	407.7	196.04	0.54
323	64275.72	tr500	1045	382.8	387.34	4.54	4.49	0.005938	4.83	253.36	111.16	0.83
322bis - inizio argini	63857.53	tr500	1045	380.4	384.76	4.36	4.09	0.006753	4.39	238.21	88.49	0.85
322	63538.97	tr500	1045	379	382.85	3.85	3.56	0.006402	3.75	278.34	126.5	0.81
321	62946.09	tr500	1045	375.6	379.39	3.79	3.42	0.005759	3.2	326.15	174.61	0.75
320	62395.7	tr500	1045	372.8	376.28	3.48	3.09	0.005683	3.07	340.31	192.23	0.74
319	62195.97	tr500	1045	372.3	375.75	3.45	2.77	0.002428	2.16	557.7	325.27	0.49
318bis - Sbocco Belviso	61779.57	tr500	1090	370.3	375.64	5.34	2.82	0.000237	0.98	1250.7	575.78	0.17
318	61396	tr500	1090	369.2	375.43	6.23	4.27	0.000538	1.87	983.82	455.77	0.27
317 bis - Passerella Teglio monte	61168.77	tr500	1090	368.58	375.21	6.63	5.77	0.000907	2.39	795.8	436.23	0.34
Passerella Teglio	61167 BR U	tr500	1090	368.58	375.27	6.69	5.75	0.002034	1.72	794.59	436.61	0.18
	61167 BR D	tr500	1090	368.52	375.27	6.75	5.8	0.002052	1.73	792.09	436.57	0.18

Description	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Max Chl Dpth	Crit Depth	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
			(m3/s)	(m)	(m)	(m)	(m)	(m/m)	(m/s)	(m2)	(m)	
317 - Passerella Teglio valle	61158.77	tr500	1090	368.52	375.14	6.62	5.82	0.000997	2.48	764.01	435.94	0.35
316ter - Ponte SP39 monte1	61059.81	tr500	1090	368.1	374.34	6.24	4.52	0.002616	3.98	274.08	53.99	0.56
316ter - Ponte SP39 monte2	61053.81	tr500	1090	368.05	374.16	6.11	4.59	0.002849	4.33	251.97	53.76	0.6
Ponte SP39 - Teglio	61050 BR U	tr500	1090	368.05	373.42	5.37	4.59	0.017021	5.64	193.14		0.78
	61050 BR D	tr500	1090	368	373.22	5.22	4.64	0.016891	5.63	193.59		0.79
316ter - Ponte SP39 valle3	61039.81	tr500	1090	368	373.46	5.46	4.63	0.004465	4.98	218.97	52.15	0.74
316ter - Ponte SP39 valle4	61029.81	tr500	1090	367.95	373.51	5.56	4.64	0.004351	4.72	230.89	52.21	0.72
316bis - ponte Falk25 monte1	60991.73	tr500	1090	367.43	373.63	6.2	4.48	0.002652	3.92	278.13	56.04	0.56
316bis - ponte Falk25 monte2	60981.73	tr500	1090	367.4	373.55	6.15	4.49	0.002607	4.03	270.33	55.89	0.57
Ponte Falck - Teglio	60975 BR U	tr500	1090	367.4	372.41	5.01	5.01	0.014801	6.05	180.31	48.14	1
	60975 BR D	tr500	1090	367.38	372.41	5.03	5.03	0.012056	6.05	180.22	48.14	1
316bis - ponte Falk25 valle3	60972.73	tr500	1090	367.38	371.04	3.66	4.52	0.017343	7.79	139.98	52.06	1.5
316bis - ponte Falk25 valle4	60952.73	tr500	1090	367.35	371.9	4.55	4.55	0.007304	5.88	185.51	52.41	1
316	60769.6	tr500	1090	366.7	371.39	4.69	4.08	0.003919	4.2	259.68	80.15	0.74
315	60146.31	tr500	1090	365.2	369.79	4.59	3.86	0.00231	3.46	561.13	633.86	0.58
314	59495.97	tr500	1090	364	367.82	3.82	3.64	0.003648	3.62	373.8	330.81	0.7
313bis	59083.43	tr500	1090	362.8	366.52	3.72	3.08	0.003207	3.14	346.98	143.27	0.64
313	58635.73	tr500	1090	361.7	365.37	3.67	3.67	0.002627	3.41	692.67	950.55	0.6
312	57987.43	tr500	1090	359.8	364.28	4.48	3.89	0.000869	1.58	1242.3	1038.49	0.33
311 - Sbocco Margatta	57495.18	tr500	1090	358	364.13	6.13		0.000261	1.22	1530.68	763.51	0.2
310	56954.99	tr500	1090	357.5	364.05	6.55		0.000137	1	1571.74	519.47	0.15
309bis - S.Giacomo passerella monte	56388.31	tr500	1090	356	363.57	7.57	5.16	0.000796	2.74	608.93	215.3	0.36
S.Giacomo - Passerella	56385 BR U	tr500	1090	356	363.58	7.58	5.23	0.001067	2.71	600.52	209.21	0.36
	56385 BR D	tr500	1090	356	363.58	7.58	5.17	0.00107	2.72	599.74	209.16	0.36
309 - S.Giacomo passerella valle	56378.31	tr500	1090	356	363.55	7.55	5.16	0.000808	2.75	605.04	215.07	0.37
308bis - ponte Teglio S.giacomo 23 monte1	56223.34	tr500	1090	355.87	362.52	6.65	5.2	0.002841	4.59	238.62	48.48	0.63
308bis - ponte Teglio S.giacomo 23 monte2	56216.34	tr500	1090	355.82	362.49	6.67	5.26	0.002887	4.61	237.3	48.15	0.63
Ponte S.Giacomo	56210 BR U	tr500	1090	355.82	361.93	6.11	5.44	0.008926	5.59	195.03	36.65	0.72
	56210 BR D	tr500	1090	355.78	361.38	5.6	5.46	0.011148	6.25	174.43	39.93	0.95
308 - ponte Teglio S.giacomo 23 valle3	56203.34	tr500	1090	355.78	361.74	5.96	5.29	0.004605	5.35	203.73	43.82	0.79
308 - ponte Teglio S.giacomo 23 valle4	56188.34	tr500	1090	355.75	361.06	5.31	5.31	0.007511	6.27	173.97	43.55	1
307 - Sbocco Malgina	56037.03	tr500	1144	353.9	358.96	5.06	5.68	0.012423	7.14	160.26	52.34	1.3
306	55582.46	tr500	1144	353.2	358.56	5.36	5.36	0.003999	4.42	347.99	246.57	0.76
305bis	55377.56	tr500	1144	352.3	357.96	5.66	3.83	0.000964	2.22	630.31	362.38	0.37
305	55103.97	tr500	1144	351.2	357.08	5.88	5.88	0.002504	4.04	531.29	458.07	0.61
304	54645.56	tr500	1144	349.7	354.09	4.39	4.52	0.007258	5.85	196.3	69.9	1.01
304 bis	54242.18	tr500	1144	348.95	354.7	5.75	2.81	0.000287	1.11	1032.46	337.2	0.2
303	53930.38	tr500	1144	348.3	354.44	6.14	4.25	0.00068	2.12	811.4	330.34	0.33
302	53508.66	tr500	1144	347.2	353.88	6.68	5.38	0.001546	2.51	455.52	149.6	0.46
301	53078.66	tr500	1144	347.5	353.66	6.16	4.27	0.000511	1.89	1106.43	518.9	0.28

Description	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Max Chl Dpth	Crit Depth	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
			(m3/s)	(m)	(m)	(m)	(m)	(m/m)	(m/s)	(m2)	(m)	
300bis Sbocco Fontana	52662.35	tr500	1193	347.2	353.5	6.3		0.000349	1.67	1257.39	481.42	0.24
300 ponte Baghetto monte	52408.32	tr500	1193	346.93	353.1	6.17	5.47	0.00143	2.9	686.05	354.89	0.46
Ponte Baghetto - Castello dell'Acqua	52405 BR U #1	tr500	479.7	346.93	353.17	6.24	3.16	0.002839	2.16	218.41	23	0.28
	52405 BR D #1	tr500	479.7	346.93	353.16	6.23	3.16	0.002844	2.16	218.08	22.66	0.28
300 ponte Baghetto valle	52398.32	tr500	1193	346.93	352.4	5.47	5.47	0.003123	4.61	414.53	318.33	0.69
299bis traversa Baghetto monte	52235.62	tr500	1193	347.12	352.52	5.4	3.19	0.000521	1.96	1117.36	456.38	0.28
Traversa Baghetto	52222		Inl Struct									
299 valle traversa Baghetto 1	52216.8	tr500	1193	347	352.52	5.52		0.000945	1.71	999.63	391.26	0.24
298bis	52022.2	tr500	1193	344.7	352.14	7.44		0.001547	2.36	661.78	217.89	0.31
298	51685.96	tr500	1193	344.1	350.83	6.73		0.005343	3.87	391.03	157.17	0.55
297bis	51361.24	tr500	1193	342.82	349.58	6.76		0.003501	3.28	417.05	142.64	0.46
297 - sbocco Armisa	51151.41	tr500	1224	342	349.24	7.24		0.001783	2.68	605.38	184.26	0.34
296	50812.99	tr500	1224	337.5	348.26	10.76		0.002397	3.25	376.8	49.26	0.37
295bis Ponte Sazzo monte1	50772.51	tr500	1224	336.77	347.96	11.19		0.003914	3.7	330.41	50.13	0.46
295bis Ponte Sazzo monte2	50762.51	tr500	1224	336.72	345.89	9.17	7.98	0.00964	7.05	173.65	39.84	0.79
Ponte Sazzo - Ponte in Valtellina	50760 BR U	tr500	1224	336.72	345.4	8.68	7.83	0.016157	7.63	160.38	17.43	0.83
	50760 BR D	tr500	1224	336.68	344.91	8.23	7.85	0.028723	8.06	151.82	18.78	0.9
295bis Ponte Sazzo valle3	50754.51	tr500	1224	336.68	344.69	8.01	8.01	0.02617	8.25	148.31	37.23	1
295bis Ponte Sazzo valle4	50739.51	tr500	1224	336.62	342.68	6.06	7.51	0.077038	9.63	127.08	30.63	1.51
295	50726.36	tr500	1224	336.5	341.05	4.55	6.22	0.085932	10.13	120.77	30.86	1.64
294bis	50308.8	tr500	1224	332	337.49	5.49		0.021471	5.13	238.78	64.41	0.85
294	50008.91	tr500	1224	325.8	333.02	7.22		0.011952	4.45	274.85	57.41	0.65
293ter	49692.43	tr500	1224	321.86	329.37	7.51		0.011305	4.34	287.38	102.79	0.62
293 - Ponte Boffetto	49378.43	tr500	1224	312.64	323.75	11.11	9.4	0.016242	6.62	184.97	32.58	0.72
Ponte Boffetto - Piateda	49365 BR U	tr500	1224	312.64	321.64	9	9	0.056233	9	135.93	16.39	0.96
	49365 BR D	tr500	1224	312.64	324.44	11.8	11.8	0.01574	5.3	299.87	106.59	0.43
293bis - Boffetto Valle	49359.99	tr500	1224	312.64	322.27	9.63	9.63	0.014425	7.96	157.26	39.34	0.95
292	49257.83	tr500	1224	314.92	320.24	5.32	6.53	0.02676	8.06	156.95	44.94	1.19
291	49049.76	tr500	1224	312.3	317.49	5.19	5.19	0.017023	6.24	196.17	49.57	1
290	48641.07	tr500	1224	307	313.79	6.79	4.41	0.001978	2.87	508.66	144.19	0.37
289 - Ponte Streppona monte	48619.36	tr500	1224	306.2	313.01	6.81	5.19	0.005096	4.46	274.33	58.14	0.6
Ponte Piateda - Streppona	48615 BR U	tr500	1224	306.2	311.6	5.4	5.4	0.030197	6.69	183.08	39.97	0.92
	48615 BR D	tr500	1224	306.2	311.6	5.4	5.4	0.00988	6.69	183.08	39.97	0.92
289bis - Ponte Streppona valle	48609.36	tr500	1224	306.2	310.56	4.36	5.19	0.011236	7.91	154.77	53.94	1.42
288	48162.86	tr500	1224	303	307.7	4.7	4.7	0.004706	5.53	308.24	268.33	0.93
287	47656.41	tr500	1224	299.36	303.2	3.84	4.66	0.010172	7.13	219.07	198.75	1.33
287 bis	47597.2	tr500	1224	298.93	303.38	4.45	5.17	0.00615	5.9	297.31	213.35	1.05
286 bis	47489.4	tr500	1224	298.16	301.68	3.52	4.22	0.01387	7.44	299.06	360.67	1.51
286	47142.3	tr500	1224	296.38	299.6	3.22	3.39	0.006485	4.48	518.95	689.54	1
285bis - Ponte Piateda Amonini monte1	46860.92	tr500	1224	294.09	298.44	4.35	3.74	0.00263	2.2	857.33	620.62	0.6

Description	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Max Chl Dpth	Crit Depth	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
			(m3/s)	(m)	(m)	(m)	(m)	(m/m)	(m/s)	(m2)	(m)	
285bis - Ponte Piaveda Amonini monte2	46855.92	tr500	1224	294.09	298.42	4.33	3.74	0.002726	2.24	846.59	617.71	0.61
Ponte Piaveda - Amonini	46850 BR U	tr500	1224	294.09	298.28	4.19	3.87	0.004083	3.35	702.62	504.28	0.74
	46850 BR D	tr500	1224	294.09	298.2	4.11	3.87	0.004687	3.53	663.33	488.67	0.79
285 - Ponte Piaveda Amonini valle3	46842.92	tr500	1224	294.09	298.19	4.1	3.87	0.003973	3.5	713.3	573.15	0.78
285 - Ponte Piaveda Amonini valle4	46832.92	tr500	1224	294.09	298.01	3.92	3.87	0.006121	4.11	608.71	549.59	0.96
284	46726.23	tr500	1224	294	297.81	3.81		0.00168	2.84	847.57	750.2	0.54
283bis	46528.25	tr500	1224	293.09	296.89	3.8	3.8	0.003268	3.51	697.79	719.53	0.72
283	46007.19	tr500	1224	290.5	295.2	4.7	4.48	0.001399	2.73	1024.26	1113.36	0.55
282	45505.73	tr500	1224	289.1	294.05	4.95	4.95	0.001636	3.77	603.6	642.78	0.63
281 bis	45158.45	tr500	1224	287.8	293.87	6.07	4.16	0.00053	2.09	645.34	322.47	0.36
281	44900.92	tr500	1224	286.5	293.2	6.7	4.75	0.001254	3.54	345.32	84.74	0.56
280bis Ponte Montagna - Busteggia monte	44700.7	tr500	1224	286.29	292.97	6.67	5.05	0.001288	3.48	351.78	91.68	0.56
Ponte di Busteggia - Montagna	44690 BR U	tr500	1224	286.29	292.73	6.44	5.34	0.002485	4.03	303.7	87.63	0.69
	44690 BR D	tr500	1224	286.29	292.72	6.42	5.34	0.002515	4.05	302.53	87.6	0.69
280bis Ponte Montagna - Busteggia valle	44685.7	tr500	1224	286.29	292.81	6.52	5.05	0.00147	3.62	338.08	91.39	0.6
280	44639.55	tr500	1224	286	292.94	6.94	5.08	0.000988	2.86	455.77	163.69	0.49
279 ter	44425.15	tr500	1224	285.8	292.87	7.07	4.59	0.000539	2.42	506.53	118.27	0.37
279bis - Passerella pedonale Faedo monte Venina	44170.02	tr500	1363	285.57	292.33	6.76	5.44	0.001325	3.59	611.3	502.7	0.57
Passerella Faedo	44165 BR U	tr500	1363	285.57	291.6	6.03	5.44	0.002815	4.95	287.32	201.58	0.82
	44165 BR D	tr500	1363	285.57	291.58	6.01	5.44	0.002878	4.99	282.61	182.55	0.83
279 - Passerella pedonale Faedo valle	44160.02	tr500	1363	285.57	291.58	6.01	5.43	0.003277	4.94	286.25	198.66	0.87
278	43733.09	tr500	1363	284.8	291.83	7.03	4.89	0.000527	2.34	1024.49	451.7	0.34
277bis	43319.65	tr500	1363	284.5	291.18	6.68	5.15	0.003479	2.84	480.22	321.17	0.74
277	42871.19	tr500	1363	284.3	290.94	6.64	3.26	0.000374	2.08	770.99	261.55	0.3
276 bis	42490.98	tr500	1363	284.1	290.8	6.7	5.2	0.000612	1.8	763.07	276.94	0.34
276	42401.2	tr500	1363	284	290.67	6.67	5.66	0.001042	2.09	676.95	305.74	0.44
275bis	42335.6	tr500	1363	283.95	290.69	6.74	3.93	0.000405	1.56	888.23	300.45	0.28
275	41783.62	tr500	1363	283.5	290.24	6.74	5.07	0.000736	2.28	598.62	172.11	0.39
274 - Ponte Albosaggia monte	41445.61	tr500	1363	281.05	289.73	8.68	6.03	0.000927	3.07	443.9	97.1	0.45
Ponte Albosaggia	41440 BR U #1	tr500	1363	281.05	289.65	8.6	6.19	0.001455	3.28	415.46	91.59	0.49
	41440 BR D #1	tr500	1363	281.05	289.63	8.58	6.19	0.001472	3.29	413.89	91.56	0.49
274 bis - Ponte Albosaggia valle	41430.61	tr500	1363	281.05	289.67	8.62	6.03	0.000963	3.11	438.5	95.01	0.46
273	41390.1	tr500	1363	281.9	289.65	7.75	5.34	0.000977	3.04	448.46	100.1	0.46
Attivazione colarote	41370		Lat Struct									
273 bis - sbocco fosso colatore	41265.23	tr500	1363	282.25	289.61	7.36	5.08	0.000756	2.71	504.54	139.17	0.4
272 ter Passerella Albosaggia monte	40821.2	tr500	1363	281.71	288.44	6.73	6.24	0.002782	4.22	329.88	137	0.78
Passerella Albosaggia	40818 BR U	tr500	1363	281.71	288.24	6.53	6.21	0.004072	4.61	297.53	116.25	0.58
	40818 BR D	tr500	1363	281.71	288.02	6.31	6.17	0.004291	5	273.95	96.46	0.64
272 bis Passerella Albosaggia valle	40811.2	tr500	1363	281.71	287.9	6.19	6.19	0.004585	5.19	263.65	102.8	0.99
Sottopassi tangenziale	40800		Lat Struct									

Description	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Max Chl Dpth	Crit Depth	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
			(m3/s)	(m)	(m)	(m)	(m)	(m/m)	(m/s)	(m2)	(m)	
272	40738.76	tr500	1363	281.9	287.65	5.75	5.2	0.002688	4.65	296.52	94.22	0.8
271 BIS - Sottopasso sentiero valtellina	40570.34	tr500	1363	281.56	286.2	4.64	4.64	0.004136	6.12	222.54	58.25	1
271	40459.23	tr500	1363	281.34	285.58	4.24	4.38	0.004619	6.32	215.67	58.51	1.05
270 - Mallero	40041.4	tr500	1600	280.9	285.74	4.84	3.62	0.001392	3.46	471.06	157.57	0.58
269bis	39652.09	tr500	1600	279.35	285.26	5.91	3.69	0.001704	2.98	581.39	179.68	0.43
269ter - fine rilevato tangenziale	39650	tr500	1600	279.35	285.26	5.91	3.69	0.00171	2.98	580.5	178.44	0.43
269	39204.96	tr500	1600	277.8	283.69	5.89	5.56	0.004965	4.12	516.35	272.81	0.69
268bis	38813.32	tr500	1600	277.1	282.43	5.33	4.09	0.002931	3.21	624.33	320.54	0.53
268	38446.99	tr500	1600	276.2	281.53	5.33	4.17	0.002479	2.86	812.13	438.37	0.48
267	37978.62	tr500	1600	274.1	280.71	6.61	4.53	0.001432	2.37	763.83	318.36	0.38
266 - Liro	37597.5	tr500	1600	272.95	280.2	7.25	4.58	0.00137	2.27	792.83	273.86	0.37
265 bis - Ponte Caiolo monte	37328.05	tr500	1600	271.79	279.44	7.65	5.8	0.002212	3.18	503.33	107.61	0.47
Ponte Caiolo SP	37318 BR U	tr500	1600	271.79	279.4	7.61	5.79	0.002608	3.26	490.31	104.21	0.48
	37318 BR D	tr500	1600	271.79	279.37	7.58	5.79	0.002668	3.29	486.62	104.21	0.49
265 - Ponte Caiolo valle	37308.05	tr500	1600	271.79	279.36	7.57	5.8	0.002335	3.23	494.93	107.61	0.48
264- valle ponte caiolo	37256.1	tr500	1600	271.7	278.99	7.29	5.51	0.001305	4.02	486.79	204.78	0.55
236ter	36838.79	tr500	1600	272.1	278.66	6.56	4.45	0.001172	3.26	529.34	159.99	0.5
263 bis fine argine dx	36436.18	tr500	1600	271.2	277.58	6.38	4.99	0.002256	4.32	410.39	177.76	0.69
263	36426.18	tr500	1600	270.7	277.62	6.92	5.22	0.001904	4.1	436.18	182.77	0.64
262 bis	36232.3	tr500	1600	270.6	277.46	6.86	5.12	0.001614	3.39	471.85	134.44	0.58
262	35958.49	tr500	1600	270.3	276.67	6.37	4.86	0.002158	4.07	403.48	153.28	0.67
261	35461.65	tr500	1600	270.3	275.62	5.32	4.41	0.002628	3.65	529.35	411.67	0.71
260	34974.6	tr500	1600	269.7	275.42	5.72	3.77	0.000582	2.09	1047.73	499.05	0.35
259	34623.62	tr500	1600	268.2	275.25	7.05	4.9	0.000445	1.93	887.23	277.04	0.31
258bis	34181.11	tr500	1600	267.8	275.11	7.31	5.05	0.000353	2.08	1221.03	534.78	0.29
258	33776.56	tr500	1600	267.3	274.99	7.69	6.3	0.000347	1.9	1448.16	640.27	0.28
257 - sbocco cervio	33116.71	tr500	1673	266.5	272.42	5.92	5.92	0.004925	6.09	274.61	74.45	1.01
256	32535.45	tr500	1673	266.5	272.61	6.11	5.29	0.000566	2.24	1281.52	809.4	0.35
255	31891.96	tr500	1673	265.8	272.33	6.53	5.25	0.000437	1.87	1324.91	652.78	0.31
254	31455.8	tr500	1673	265.5	272.07	6.57	3.98	0.000441	2.15	1086.5	540.85	0.32
253 ter Ponte Berbenno monte	31375.66	tr500	1673	264.06	271.6	7.54	5.56	0.001113	3.33	502.1	111.11	0.5
Ponte Berbenno - Colorina	31370 BR U	tr500	1673	264.06	271.47	7.42	5.72	0.002272	3.64	459.4	104.33	0.55
	31370 BR D	tr500	1673	264.06	271.45	7.39	5.72	0.002303	3.66	457.25	104.32	0.56
253 bis Ponte Berbenno valle	31360.66	tr500	1673	264.06	271.51	7.45	5.56	0.001189	3.4	492.09	110.88	0.51
253	31304.81	tr500	1673	265.3	271.46	6.16	4.4	0.001159	3.33	502.79	114.78	0.51
252 - sbocco madrasco	30999.98	tr500	1709	266.2	271.66	5.46	4.07	0.000264	1.57	1739.58	770.33	0.24
251	30634.42	tr500	1709	265.2	271.57	6.37	4.4	0.000231	1.4	1687.07	690.41	0.22
250bis	30200.8	tr500	1709	264.8	271.22	6.42	5.15	0.000578	2.64	964.06	343.05	0.37
250 - sbocco presio	29847.31	tr500	1709	264.3	271.08	6.78	4.96	0.000428	2.23	1067.58	370.49	0.32
249bis	29472.36	tr500	1709	264	270.95	7.01	5.3	0.000375	2.22	1220.93	436.59	0.3

Description	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Max Chl Dpth	Crit Depth	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
			(m3/s)	(m)	(m)	(m)	(m)	(m/m)	(m/s)	(m2)	(m)	
249	28871.36	tr500	1709	264.1	270.75	6.91	3.8	0.000279	2.07	1084.57	263.66	0.27
248	28421.39	tr500	1709	263.8	270.48	6.68	3.95	0.000342	2.37	720.41	147.8	0.34
247	27928.68	tr500	1709	263.7	270.2	7.41	3.95	0.000409	2.75	678.56	141.89	0.38
246	27513.04	tr500	1709	263.85	269.91	7.46	3.98	0.000587	2.99	572.5	124.34	0.44
245ter - Ponte SELVETTA monte	27108.14	tr500	1709	263.25	269.53	7.01	4.32	0.000661	3.37	507.21	119.79	0.48
Ponte Forcola Selvetta	27103 BR U #1	tr500	1709	263.25	269.47	6.22	4.37	0.00101	3.51	486.8	96.1	0.45
	27103 BR D #1	tr500	1709	263.25	269.46	6.21	4.37	0.001014	3.52	486.18	96.1	0.45
245bis - Ponte SELVETTA valle	27098.14	tr500	1709	263.25	269.49	6.97	4.32	0.000676	3.39	503.84	119.68	0.48
245	27076.49	tr500	1709	263.25	269.6	6.86	3.94	0.000488	2.86	597.9	120.26	0.41
244	26388.33	tr500	1709	263	269.53	7.63	3.41	0.000231	1.96	872.01	177.8	0.28
243	25791.38	tr500	1709	262.8	268.95	7.53	4.2	0.000668	3.21	532.86	114.24	0.47
242bis - Ponte sirta monte	25198.79	tr500	1709	262.45	267.94	7.09	4.36	0.001258	4.35	392.67	104.47	0.65
Ponte Forcola - Sirta	25195 BR U #1	tr500	1688.05	262.45	267.73	5.28	4.46	0.002843	4.74	356.38	81.56	0.66
	25195 BR D #1	tr500	1688.05	262.45	267.69	5.24	4.46	0.002923	4.78	352.98	81.56	0.67
242bis - Ponte sirta valle	25188.79	tr500	1709	262.45	267.76	6.91	4.36	0.001433	4.53	377.64	103.2	0.69
242	25122.85	tr500	1709	262.2	267.85	7.32	4.46	0.001191	3.94	433.76	105.51	0.62
241	24108.9	tr500	1709	261.2	267.24	8.08	4.02	0.000715	2.61	655.71	204.11	0.46
240bis traversa ardenno monte	23536.71	tr500	1709	258.73	266.93	8.2	3.95	0.000254	2.87	595.21	89.12	0.32
Traversa Ardenno	23530		Inl Struct									
240ter traversa ardenno valle	23520	tr500	1709	258.73	263.58	4.85	3.95	0.001535	4.92	347.11	80.89	0.73
240	23084.77	tr500	1709	256.8	263.39	6.59	4.68	0.001199	3.66	489.58	119.8	0.51
239ter Sbocco Masino	22818.45	tr500	1840	256.5	263.19	6.69	4.48	0.001059	3.29	604.31	182.42	0.47
239bis - Ponte Ardenno SS38 monte	22791.13	tr500	1840	256.17	263.21	7.04	4.34	0.000783	3.02	610.12	110	0.41
Ponte Ardenno SS38	22781 BR U	tr500	1840	256.17	263.13	6.96	4.49	0.001275	3.24	568.17	102.52	0.39
	22781 BR D	tr500	1840	256.17	263.11	6.94	4.49	0.001288	3.25	566.14	102.45	0.39
239bis - Ponte Ardenno SS38 valle	22771.13	tr500	1840	256.17	263.15	6.98	4.34	0.00081	3.05	603.52	109.79	0.42
239	22706.4	tr500	1840	255.9	263.22	7.32	4.32	0.000571	2.5	735.97	140.64	0.35
238bis	22385.85	tr500	1840	255.5	262.67	7.17	4.87	0.001092	3.4	541.55	104.84	0.48
238	21992.21	tr500	1840	255.2	261.37	6.17	5.3	0.002898	4.79	384.03	92.29	0.75
237 bis	21694.56	tr500	1840	254.3	259.71	5.41	5.41	0.004862	5.87	334.67	108.22	0.96
237 - ponte ferrovia monte Tartano	21405.31	tr500	1863	250.99	258.94	7.95	5.33	0.001276	4.13	450.9	67.26	0.51
Ponte ferrovia - Talamona	21400 BR U #1	tr500	1642.61	250.99	256.91	5.92	5.3	0.008176	7.35	223.36	28.95	0.97
	21400 BR D #1	tr500	1642.61	250.99	256.29	5.3	5.3	0.010276	8.02	204.93	31.17	1.11
237 - ponte ferrovia valle	21395.31	tr500	1863	250.99	256.32	5.33	5.33	0.005302	6.61	281.98	63.27	1
236	20967.54	tr500	1863	246.2	250.23	4.03	5.37	0.018077	9.18	202.89	73.1	1.76
235ter - Ponte PANIGA monte1	20370.15	tr500	1863	240.48	244.75	4.27	5.07	0.010365	7.45	250.03	81.72	1.36
235ter - Ponte PANIGA monte2	20365.14	tr500	1863	240.43	244.99	4.56	5.11	0.008194	6.9	269.96	82.91	1.22
Ponte di Paniga - Morbegno	20360 BR U	tr500	1863	240.43	246.05	5.62	5.11	0.003472	5.11	364.81	92.06	0.82
	20360 BR D	tr500	1863	240.38	246	5.62	5.15	0.003601	5.17	360.54	91.91	0.83
235bis - Ponte PANIGA valle3	20358.14	tr500	1863	240.38	246	5.62	5.15	0.003621	5.18	359.9	91.89	0.83

Description	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Max Chl Dpth	Crit Depth	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
			(m3/s)	(m)	(m)	(m)	(m)	(m/m)	(m/s)	(m2)	(m)	
235bis - Ponte PANIGA valle4	20348.14	tr500	1863	240.33	245.51	5.18	5.2	0.005409	5.89	316.36	90.21	1
235 - valle paniga	20280.79	tr500	1863	238.9	242.83	3.93	5.03	0.016906	8.48	219.74	85.88	1.69
234	19774.77	tr500	1863	235.1	239.43	4.33	4.41	0.006072	5.7	326.8	107.12	1.04
233	19088.84	tr500	1863	229.3	233.98	4.68	5.1	0.008465	6.53	285.23	97.1	1.22
232bis	18588.35	tr500	1863	227.16	231.52	4.36	4.36	0.006152	4.78	389.64	167.33	1
232	18116.05	tr500	1863	223.88	229.67	5.79	4.69	0.001781	2.31	807.47	413.08	0.53
231 bis - nostra 23	17746.89	tr500	1863	223	229.58	6.58	3.85	0.000272	1.38	1347.85	363.16	0.23
231 - nostra 16	17382.55	tr500	1863	221.9	229.4	7.5	5.46	0.000453	1.77	1175.47	416.07	0.29
230 quater - nostra 10	17182.01	tr500	1863	221.04	229.3	8.26		0.00033	2.15	1366.19	484.13	0.27
230 ter - nostra 6	17012.94	tr500	1863	220.7	229.1	8.4	6.54	0.000521	2.93	1085.86	352.8	0.33
230bis ponte di Ganda monte	16858.19	tr500	1863	220.72	228.12	7.4	5.1	0.001299	4.62	403.07	66.26	0.55
Ponte di Ganda - Morbegno	16855 BR U	tr500	1863	220.72	227.17	6.44	5.56	0.005446	6.19	301.11	47.03	0.78
	16855 BR D	tr500	1863	220.61	227.2	6.59	5.62	0.003114	6.07	306.95	46.94	0.75
230 ponte di Ganda valle	16848.19	tr500	1863	220.61	227.66	7.05	5.15	0.001183	4.87	382.3	57.44	0.6
229	16797.43	tr500	1863	220	227.25	7.25	7.12	0.001612	5.71	454.13	174.83	0.73
229 bis	16606.63	tr500	1863	219.2	226.9	7.7	7.7	0.001523	5.77	453.94	209.98	0.73
229 ter	16411.55	tr500	1863	218.8	226.84	8.04	7.06	0.000994	4.85	533.23	165.42	0.6
228quater - Ponte Morbegno via Forestale monte	16321.78	tr500	1863	218.43	226.85	8.42	6.23	0.000795	4.46	516.58	141.48	0.54
Ponte Morbegno via Forestale	16315 BR U	tr500	1863	218.43	226.3	7.87	6.52	0.001801	5.37	360.86	64.79	0.68
	16315 BR D	tr500	1863	218.43	226.26	7.83	6.51	0.001846	5.41	358	64.78	0.69
228ter - Ponte Morbegno via Forestale valle	16303.78	tr500	1863	218.43	226.43	8	6.23	0.001066	4.94	397.74	73.81	0.62
228bis - Monte soglia	16264.77	tr500	1863	219.77	225.21	5.44	5.44	0.002951	6.7	286.55	74.87	0.98
228 - Valle soglia	16243.28	tr500	1863	219.22	224.22	5	5.67	0.004867	7.8	238.76	59.08	1.23
227bis - Bitto monte	15788.23	tr500	1863	216.86	222.24	5.38	5.92	0.004298	7.62	244.53	55.44	1.16
227 - Bitto valle	15669.61	tr500	1966	216.2	221.82	5.62	6.11	0.004184	7.47	263.27	60.66	1.14
226 BIS	15153.21	tr500	1966	214.8	220.33	5.53	5.09	0.005739	5.06	388.31	123.95	0.91
226	14885.8	tr500	1966	213.2	219.51	6.31	5.11	0.003373	4.05	496.03	169.93	0.71
225bis	14623.84	tr500	1966	212.6	218.66	6.06	5.21	0.002519	4.37	505.33	169.06	0.65
225	14219.59	tr500	1966	211.5	217.11	5.61	5.61	0.003347	5.15	454.71	214.36	0.75
224	13835.8	tr500	1966	210.3	216.06	5.76	4.28	0.001909	3.11	631.24	188.15	0.54
223	13389.61	tr500	1966	208.3	215.25	6.95	5.18	0.001522	3.26	602.63	140.32	0.5
222ter - ponte TRAONA monte	13199.27	tr500	1966	208.83	214.48	5.65	4.62	0.002685	4.2	467.97	113.04	0.66
Ponte Cosio - Traona SP	13190 BR U	tr500	1966	208.83	214.12	5.29	4.76	0.00574	4.89	402.27	106.53	0.8
	13190 BR D	tr500	1966	208.83	213.71	4.88	4.76	0.008018	5.48	358.91	105.3	0.95
222bis - ponte TRAONA valle	13181.27	tr500	1966	208.83	213.91	5.08	4.62	0.004305	4.87	403.54	111.66	0.82
222	12521.41	tr500	1966	207	212.54	5.54	4.26	0.001962	3.22	610.57	174.8	0.55
221	11957.52	tr500	1966	204.2	211.96	7.76	5.33	0.000886	2.59	760.21	166.01	0.39
220	11521.38	tr500	1966	203.9	211.66	7.76	4.74	0.00065	2.39	822.62	158.97	0.34
219BIS	11099.21	tr500	1966	203.2	211.27	8.07	5	0.000803	2.71	725.76	137.01	0.38
	11095		Lat Struct									

Description	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Max Chl Dpth	Crit Depth	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
			(m3/s)	(m)	(m)	(m)	(m)	(m/m)	(m/s)	(m2)	(m)	
219	10649.09	tr500	1966	202.51	210.74	8.23	5.73	0.001064	3.15	681.38	164.23	0.43
218	10291.24	tr500	1940.3	202.7	210.55	7.85	4.58	0.000714	2.43	814.46	190.99	0.35
218 bis	10143.44	tr500	1899.07	202.8	210.27	7.47	5.2	0.001103	2.99	667.39	169.33	0.43
218 ter	10033.29	tr500	1868.5	202.6	210.06	7.46	5.58	0.001281	3.29	638.29	178.53	0.47
217bis-PONTE MANTELLO monte	9490.41	tr500	1850.67	202.32	208.68	6.36	4.76	0.001974	4.18	501.03	184.18	0.58
	9484.41	tr500	1850.67	202.31	208.61	6.3	4.76	0.00195	4.29	486.06	183.76	0.59
Ponte Mantello SP	9480 BR U	tr500	1850.67	202.31	208.55	6.24	4.95	0.00275	4.4	457.37	126.86	0.55
	9480 BR D	tr500	1850.67	202.3	208.23	5.93	4.81	0.00353	4.89	398.84	127.03	0.64
217 - Valle ponte Mantello	9472.41	tr500	1850.67	202.3	208.29	5.99	4.73	0.002502	4.72	415.46	135.43	0.66
	9462.41	tr500	1850.67	202.29	208.25	5.96	4.73	0.002633	4.73	413.12	133.07	0.67
217 quater - monte soglia	9412.848	tr500	1850.67	202.3	207.49	5.19	4.92	0.004805	5.72	331.78	106.81	0.88
217 quater - valle soglia	9402.848	tr500	1850.67	201.7	207.73	6.03	5.04	0.002501	5.02	385.25	126.07	0.73
216bis - monte soglia	8934.211	tr500	1850.67	201.52	207.42	5.9		0.0012	3.47	580.71	214.61	0.51
216 - valle soglia	8914.211	tr500	1850.67	200.92	207.44	6.52		0.000964	3.26	621.6	216.06	0.46
	8684.41	tr500	1850.67	200.9	206.5	5.6	4.4	0.002231	4.63	399.57	86.52	0.69
215bis	8664.441	tr500	1966	200.9	207.07	6.17	5.56	0.000664	2.71	1414.51	881.34	0.38
215 - monte soglia	8457.907	tr500	1966	199.8	206.98	7.18	4.07	0.000409	2.4	1356.22	842.76	0.31
215 ter - valle soglia	8437.907	tr500	1966	198.4	206.99	8.59	4.32	0.000279	2.17	1449.18	701.99	0.26
214 bis	8242.791	tr500	1966	197.82	206.67	8.85	5.49	0.000597	3.02	861.15	377.2	0.37
214 Sbocco Lesina	7985.181	tr500	2009	197.38	206.54	9.16	6.6	0.000644	3.05	1058.74	527.45	0.39
213 quater	7625.771	tr500	2009	198.29	206.44	8.15	4.32	0.000375	2.49	1102.56	466.62	0.3
213ter- PONTE DUBINO monte	7277.9	tr500	2009	197.07	205.18	8.11	6.67	0.003158	4.79	419.62	111.62	0.79
Ponte di DUBINO	7270 BR U #1	tr500	2007.33	197.07	205.12	8.05	6.67	0.002073	4.89	410.08	74.89	0.67
	7270 BR D #1	tr500	2007.33	197.07	205.08	8.01	6.67	0.002121	4.93	407.13	74.87	0.67
213bis- PONTE DUBINO valle	7259.903	tr500	2009	197.07	205.06	7.99	6.67	0.0029	4.93	407.35	96.77	0.77
213	7219.728	tr500	2009	196.69	205.66	8.97	8.36	0.000706	3.05	1438.9	1003.58	0.4
212BIS	6738.565	tr500	2009	197.7	205.37	7.67	7.41	0.000821	2.97	1465.71	1074.47	0.42
212	6291.535	tr500	2009	197.37	205.18	7.81	7.29	0.000556	2.62	1531.36	1058.13	0.35
211	5997.712	tr500	2009	194.13	205.14	11.02	8.91	0.000294	2.09	2013.85	1140.08	0.26
210bis	5814.535	tr500	2009	196.1	205.04	8.94	7.02	0.000411	2.35	1767.53	1079.06	0.31
210	5385.365	tr500	2009	196.95	204.46	7.51	5.62	0.000654	3.48	1103.12	854.24	0.45
209	4774.593	tr500	2009	192.7	204.47	11.77	7.02	0.00024	2.3	1702.96	913.6	0.28
208BIS	4418.204	tr500	2009	193.2	204.32	11.12	7.09	0.000293	2.56	1417.05	677.14	0.31
208	4012.063	tr500	2009	193.19	204.16	10.97	7.07	0.000329	2.68	1029.73	370.28	0.33
207	3662.496	tr500	2009	195.86	203.81	7.95	5.04	0.000609	3.22	681.99	155.88	0.43
206	3063.023	tr500	2009	196.58	203.46	6.88	4.04	0.000652	3.01	667.27	135.68	0.43
205	2479.214	tr500	2009	195.82	203.23	7.41	4.09	0.000428	2.65	759.34	136.75	0.36
204ter - PONTE GERA SS.36 monte	2204.82	tr500	2009	196.1	202.63	6.53	4.7	0.000947	3.82	525.38	104.09	0.53
Ponte GERA LARIO - SS36	2200 BR U	tr500	2009	196.1	201.39	5.29	5.29	0.005768	6.06	331.47	88.23	1
	2200 BR D	tr500	2009	196.1	201.39	5.29	5.29	0.005768	6.06	331.47	88.23	1

Description	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Max Chl Dpth	Crit Depth	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
			(m3/s)	(m)	(m)	(m)	(m)	(m/m)	(m/s)	(m2)	(m)	
204bis - PONTE GERA SS.36 valle	2189.821	tr500	2009	196.1	202.02	5.92	4.7	0.001436	4.33	463.71	102.59	0.64
monte soglia - int 2	2162.2	tr500	2009	196.25	202.19	5.93	4.16	0.00095	3.62	555.18	116.12	0.53
monte soglia - int 1 - STAZIONE ARPA	2140.11	tr500	2009	196.38	202.26	5.89	3.73	0.000741	3.24	619.51	126.86	0.47
monte soglia	2118.02	tr500	2009	197.46	201.9	4.44	3.55	0.001729	4.08	492.52	136.02	0.68
monte soglia	2108	tr500	2009	197.69	201.55	3.86	3.53	0.00279	4.73	424.66	134.69	0.85
monte soglia	2100	tr500	2009	197.69	201.22	3.53	3.53	0.003968	5.28	380.47	133.41	1
valle soglia	2094.44	tr500	2009	194.18	201.8	7.62	4.64	0.000491	2.78	721.42	135.66	0.39
204V_interpolata	2081.94	tr500	2009	194.17	201.79	7.62	4.67	0.000499	2.8	717.14	135.56	0.39
204quater_interpolata	2059.93	tr500	2009	194.16	201.77	7.62	4.74	0.000513	2.83	710.38	135.37	0.39
204ter_interpolata	2020.93	tr500	2009	194.13	201.74	7.61	4.84	0.000542	2.88	697.87	135.11	0.4
204bis_interpolata	1808.93	tr500	2009	193.98	201.52	7.54	5.2	0.000704	3.13	642.52	133.36	0.45
204	1636.65	tr500	2009	193.86	201.33	7.47	4.61	0.000836	3.29	611.41	131.81	0.49
203	1072.397	tr500	2009	194.42	201.02	6.6	3.76	0.000577	2.93	685.87	133.6	0.41
202	476.853	tr500	2009	194.92	200.5	5.58	3.5	0.00083	3.25	617.44	135.14	0.49
201	0	tr500	2009	195.08	199.97	4.89	3.22	0.001023	3.5	574.2	131.54	0.53