

From: [Alistair Allan](#)
To: [Stephen Pattinson \(sjpattinson@paradise.net.nz\)](mailto:sjpattinson@paradise.net.nz)
Subject: Pinehaven Hydrology
Date: Tuesday, 30 September 2014 8:12:17 p.m.
Attachments: [100yr_CC_hydrographs_Pinehaven_subcatchments.xlsx](#)

Hi Stephen,

Apologies for not sending this earlier, our network crashed at about 5:30.

The data is well presented in the spreadsheet and hopefully you can find the numbers you are after. The subcatchments are listed across the top row, and time down the first column. Peak flows are returned in bold at the bottom of each column. The hydrographs are shown to the right along with a plan of the subcatchments.

If you need any clarification about the data please let me know by email. I am not in the Wellington office tomorrow, and will be working from Masterton, I will be picking up emails during the day.

Kind regards

Alistair

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	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	
0:00:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
0:15:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
0:30:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
0:45:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
1:00:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
1:15:00	0.545458	0.628528	0.367677	0.455799	0.495021	0.559581	0.400479	0.43444	0.263545	0.360254	0.367605	0.299268	0.205842	0.241496	0.300165	
1:30:00	1.040384	1.209356	0.693293	0.870635	0.940647	1.075597	0.757781	0.818622	0.474846	0.672714	0.695961	0.554655	0.371998	0.434097	0.55295	
1:45:00	1.443619	1.692488	0.951323	1.209791	1.300461	1.503791	1.043337	1.122553	0.624069	0.914438	0.958738	0.748549	0.490261	0.569285	0.741945	
2:00:00	1.876241	2.208537	1.230375	1.573363	1.687396	1.961364	1.351325	1.451431	0.795642	1.178196	1.242042	0.961886	0.625462	0.725442	0.951503	
2:15:00	2.275105	2.689552	1.483862	1.909182	2.042434	2.387337	1.632379	1.749908	0.941581	1.414468	1.500757	1.151183	0.741017	0.857765	1.135849	
2:30:00	2.495016	2.97786	1.606346	2.097089	2.230501	2.64034	1.77418	1.892866	0.964157	1.514168	1.632149	1.22115	0.761737	0.875657	1.196021	
2:45:00	2.534386	3.070882	1.597595	2.135655	2.250476	2.718146	1.776157	1.880099	0.868905	1.477417	1.635654	1.173219	0.69148	0.78464	1.134246	
3:00:00	2.411165	2.9888	1.470085	2.03982	2.118815	2.638774	1.651773	1.726378	0.666672	1.31699	1.523609	1.018084	0.538546	0.594824	0.961492	
3:15:00	2.186416	2.79798	1.268057	1.860127	1.892288	2.461726	1.448196	1.484194	0.397972	1.078802	1.339164	0.795528	0.334118	0.343763	0.718995	
3:30:00	1.968389	2.610986	1.07524	1.685494	1.673612	2.288417	1.252855	1.253308	0.174216	0.8554	1.162035	0.590183	0.161213	0.137452	0.49874	
3:45:00	1.757373	2.427924	0.892263	1.516124	1.463183	2.118958	1.066239	1.034506	0.010436	0.648212	0.992648	0.404211	0.029532	0.068726	0.304176	
4:00:00	1.553692	2.248911	0.719882	1.352245	1.261454	1.953468	0.888928	0.828751	0.005218	0.459124	0.831507	0.240721	0.014766	0.034363	0.140742	
4:15:00	1.357716	2.074073	0.559045	1.194115	1.068956	1.79208	0.721622	0.637244	0.002609	0.290776	0.679215	0.10471	0.007383	0.017181	0.01844	
4:30:00	1.169871	1.903547	0.41097	1.042024	0.88632	1.634936	0.565187	0.461553	0.001305	0.147215	0.536513	0.005391	0.003692	0.008591	0.00922	
4:45:00	0.990656	1.737483	0.277311	0.896312	0.714309	1.482196	0.420731	0.303829	0.000652	0.035625	0.404344	0.002696	0.001846	0.004295	0.00461	
5:00:00	0.820661	1.576048	0.160478	0.757372	0.553877	1.334036	0.289741	0.167272	0.000326	0.017813	0.28396	0.001348	0.000923	0.002148	0.002305	
5:15:00	0.660606	1.419424	0.064416	0.625677	0.406255	1.190652	0.174347	0.057297	0.000163	0.008906	0.177122	0.000674	0.000461	0.001074	0.001152	
5:30:00	0.511386	1.267818	0.032208	0.501798	0.273114	1.052266	0.077942	0.028649	0	0.004453	0.086564	0.000337	0.000231	0.000537	0.000576	
5:45:00	0.374161	1.121461	0.016104	0.386452	0.156899	0.919132	0.0068	0.014324	0	0.002227	0.017222	0.000168	0.000115	0.000268	0.000288	
6:00:00	0.25051	0.980617	0.008052	0.280573	0.061634	0.79154	0.0034	0.007162	0	0.001113	0.008611	0	0	0.000134	0.000144	
6:15:00	0.142749	0.845588	0.004026	0.185439	0.030817	0.66983	0.0017	0.003581	0	0.000557	0.004305	0	0	0	0	
6:30:00	0.05471	0.716731	0.002013	0.102942	0.015409	0.554409	0.00085	0.001791	0	0.000278	0.002153	0	0	0	0	
6:45:00	0.027355	0.594464	0.001007	0.036274	0.007704	0.445769	0.000425	0.000895	0	0.000139	0.001076	0	0	0	0	
7:00:00	0.013677	0.479298	0.000503	0.018137	0.003852	0.344523	0.000213	0.000448	0	0	0.000538	0	0	0	0	
7:15:00	0.006839	0.371868	0.000252	0.009069	0.001926	0.25147	0.000106	0.000224	0	0	0.000269	0	0	0	0	
7:30:00	0.003419	0.272996	0.000126	0.004534	0.000963	0.167694	0	0.000112	0	0	0.000135	0	0	0	0	
7:45:00	0.00171	0.183794	0	0.002267	0.000482	0.094797	0	0	0	0	0	0	0	0	0	
8:00:00	0.000855	0.105889	0	0.001134	0.000241	0.035438	0	0	0	0	0	0	0	0	0	
8:15:00	0.000427	0.041952	0	0.000567	0.00012	0.017719	0	0	0	0	0	0	0	0	0	
8:30:00	0.000214	0.020976	0	0.000283	0	0.00886	0	0	0	0	0	0	0	0	0	
8:45:00	0.000107	0.010488	0	0.000142	0	0.00443	0	0	0	0	0	0	0	0	0	
9:00:00	0	0.005244	0	0	0	0.002215	0	0	0	0	0	0	0	0	0	
9:15:00	0	0.002622	0	0	0	0.001107	0	0	0	0	0	0	0	0	0	
9:30:00	0	0.001311	0	0	0	0.000554	0	0	0	0	0	0	0	0	0	
9:45:00	0	0.000655	0	0	0	0.000277	0	0	0	0	0	0	0	0	0	
10:00:00	0	0.000328	0	0	0	0.000138	0	0	0	0	0	0	0	0	0	
10:15:00	0	0.000164	0	0	0	0	0	0	0	0	0	0	0	0	0	
10:30:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
10:45:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
11:00:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
11:15:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
11:30:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
11:45:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
12:00:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
	2.534386	3.070882	1.606346	2.135655	2.250476	2.718146	1.776157	1.892866	0.964157	1.514168	1.635654	1.22115	0.761737	0.875657	1.196021	26.153458

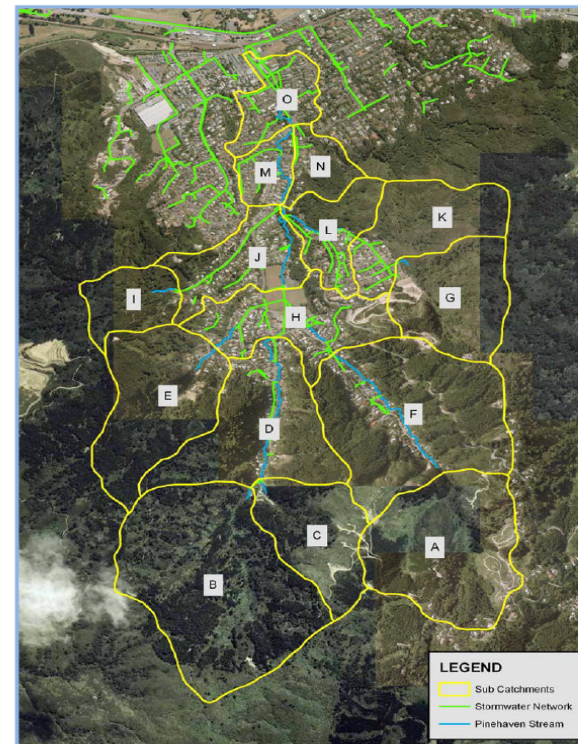
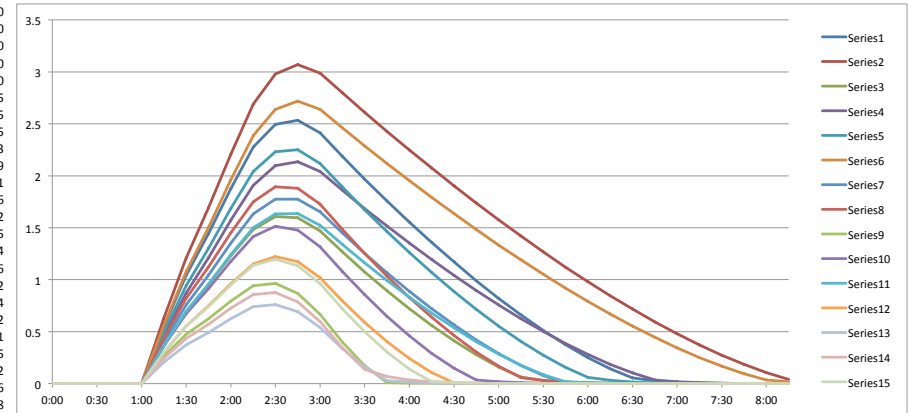


Figure 7 Pinehaven Sub catchments used for Hydraulic Modelling