

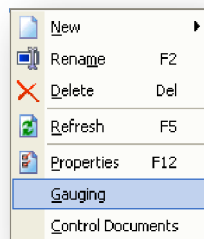
## Gauging

The DataSight Gauging Calculator helps you store gauging measurements; the systematic observation of water level or discharge, and get the Total Discharge, Total Area and Mean Velocity for a watercourse.

### Methods of Gauging

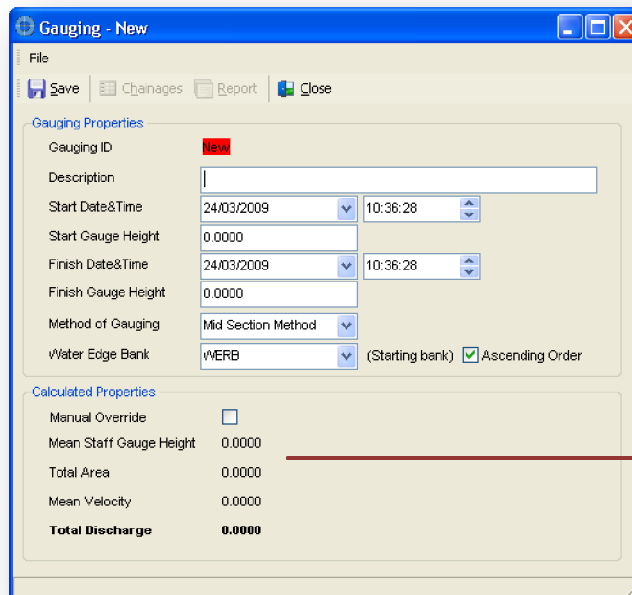
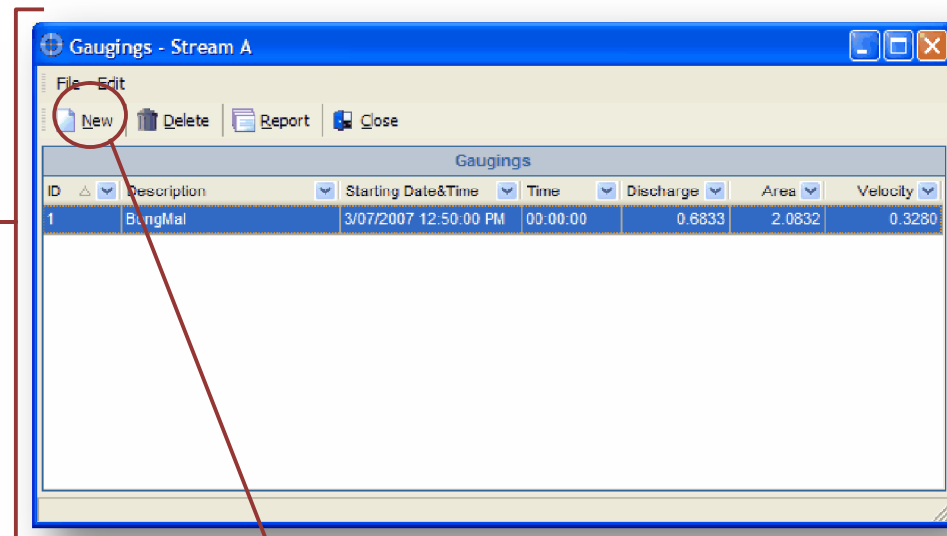
Calculating discharge from velocity and depth measurements can be made in several ways.

- *Mid section method* uses averages of the mean velocities in the verticals and of the width of the sub divisions.
- *Mean section method* uses the mean velocities and depths at the subdivision point.



DataSight gaugings are related to the **Level 3** in a DataSight database. Each Level 3 item has its own Gauging storage which is accessible via the right-click menu on a Level 3.

Gaugings related to the specific Level 3 can be seen in the main gauging window. This window also shows Gauging list and some of the details for each gauging.

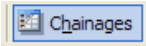


To create a new Gauging click **New**.

In the new gauging window you can edit the properties of the gauging. This includes the Description, Starting and Finishing Date and Time, Gauging Method and Starting Bank.

The new **Gauging ID** can be seen after saving the Gauging. Gauging ID's are automatically created by DataSight and cannot be edited or changed by the user. Gauging ID's for deleted a Gauging cannot be used again.

Calculated properties will show the values for Means Gauge Height, Total Area, Mean Velocity and Total Discharge for the Gauging. These values will be refreshed after adding or editing Chainage measurements. Selecting the **Manual Override** checkbox will allow the user to input these variables manually, rather than having them calculated by DataSight.



Click the **Chainages** button to add or edit chainages.

Value	River Depth	Bank	Mean Velocity	Area	Discharge
0	0	WERB	0.0000	0.0000	0.0000
0.4	0.34	-	0.1103	0.1190	0.0131
0.7	0.32	-	0.1330	0.0960	0.0128
1	0.4	-	0.3144	0.1200	0.0377
1.3	0.3	-	0.3309	0.0900	0.0298
1.6	0.38	-	0.4947	0.1140	0.0564
1.9	0.46	-	0.3697	0.1380	0.0510
2.2	0.46	-	0.4570	0.1380	0.0631
2.5	0.46	-	0.4746	0.1380	0.0655
2.8	0.42	-	0.2706	0.1260	0.0341
3.1	0.4	-	0.3204	0.1200	0.0384
3.4	0.34	-	0.4430	0.1020	0.0452
3.7	0.32	-	0.3744	0.1440	0.0539
4.3	0.34	-	0.2815	0.1870	0.0526
4.8	0.22	-	0.2409	0.1200	0.0291
5.4	0.26	-	0.3234	0.1560	0.0505
6	0.26	-	0.2873	0.1742	0.0500
6.74	0	WELB	0.0000	0.0000	0.0000

All the chainages for this gauging can be seen in the **Chainages** window.

- To add new Chainage click the **New** button.
- To edit a chainage double-click it.

**Chainage - ID:8**

File | Save | Observations | Close

**Chainage Properties**

Chainage ID: 8

Chainage Value: 3.1000

River Depth: 0.4000

**Calculated Properties**

You can add multiple observations for each chainage through the **Observations** form.

**Observations**

File | Edit

New | Save | Delete | Close

Depth	Velocity
0.16	0.3204

### Gauging Reports

Gauging reports provide summary information for each gauging, chainage details and graphs for Segmental Division of the Cross-Section and Segment Velocity Profile. Once all gauging details are entered, you can create a report by selecting **Report** from the Gauging window. A sample report is shown on the following page.



### Gauging Summary

17/03/2009

#### Gauging Details

Gauging ID : 22  
 Description : Upper Frieda Gauging Station  
 Site : Frieda River - GS 105450 Frieda DS Nena Junction

#### Summary

Total Area : 105.8910  
 Mean Velocity : 2.0775  
 Mean S.G. Height : 2.2610  
**Total Discharge : 219.9864**

Start Date and Time : 29/11/2008 11:20:00  
 Start Gauge Height : 2.2760  
 Finish Date and Time : 29/11/2008 12:30:00  
 Finish Gauge Height : 2.2460  
 Starting Edge : WELB  
 Calculation Method : Mid Section

Chainage Value	Depth	Area	Mean Velocity	Discharge	% Discharge
5.2000	0.0000	0.0000	0.0000	0.0000	0.00
8.2000	1.4500	4.3500	0.2680	1.1658	0.53
11.2000	2.4300	7.2900	1.2380	9.0250	4.10
14.2000	2.4400	7.3200	1.9070	13.9592	6.35
17.2000	2.2300	6.6900	2.1000	14.0490	6.39
20.2000	2.2700	6.8100	2.6055	17.7435	8.07
23.2000	2.5200	7.5600	2.4200	18.2952	8.32
26.2000	2.6200	7.8600	2.4895	19.5675	8.89
29.2000	2.6600	7.9800	2.5665	20.4807	9.31
32.2000	2.7600	8.2800	2.5925	21.4659	9.76
35.2000	2.8300	8.4900	2.4525	20.8217	9.47
38.2000	2.7200	8.1600	2.3075	18.8292	8.56
41.2000	2.7100	8.1300	2.1805	17.7275	8.06
44.2000	2.5600	7.6800	1.8570	14.2618	6.48
47.2000	2.4600	7.3800	1.3715	10.1217	4.60
50.2000	0.7800	1.9110	1.2940	2.4728	1.12
52.1000	0.0000	0.0000	0.0000	0.0000	0.00

