

Appendix B. Method for Deriving Daily Mean Flow for Sites Used to Define Flow for the Roza-Prosser Reach Water-Temperature Model

Tables B1 and B2 show methods used to derive values for those stations. Sites between Hydromet stations were assigned daily mean flow for sites used to define flow for the Roza–Prosser Reach water-temperature model. Sites at Hydromet gaging stations used daily mean flow measurements from a percentage of the difference in flow between the stations. The assigned percentages were based on flow measurements made by the USGS during field trips in September 2005.

Table B1. Method used to assign daily mean flow to sites used to define flow for the Roza–Prosser Reach water-temperature model.

[**Flow calculation** abbreviations are listed in table B2; SUM1 = All inflow between Roza Dam and Parker, Washington, minus flow to diversions. **Abbreviations:** Reclamation, Bureau of Reclamation; NA, not applicable]

Location	Flow calculation	Decimal percent used in calculations
Yakima River below Roza Dam, near Roza	Used daily values measured at RBDW	NA
Selah-Moxee Canal	Used daily values measured at SEXW	NA
Selah Creek at Canyon Road Crossing, near Pomona	Set daily values equal to percent of PARW - (SUM1)	0.003
Wenas Creek near mouth on Reclamation land, near Selah	Set daily values equal to percent of PARW - (SUM1)	.031
Taylor Ditch at Harrison Road Bridge, near Selah	Set daily values equal to percent of SEXW	.080
Golf Course and Selah Sewage Outflow Creek, near Selah	Set daily values equal to percent of PARW - (SUM1)	.197
Naches River near North Yakima, near mouth at Reclamation gaging site 12499900	Used daily values measured at NRYW	NA
Moxee Canal	Set daily values equal to percent of UNGW	.050
Hubbard Canal	Set daily values equal to percent of UNGW	.200
Union Gap Canal	Set daily values measured at UNGW	NA
Richartz Ditch	Set daily values equal to percent of UNGW	.000
Roza Wasteway No. 2 (at Reclamation)	Set daily values equal to RZCW-ROZW	NA
Moxee Drain at Thrope Road	Use daily values measured at BICW	NA
Wide Hollow Creek near mouth	Set daily values equal to percent of PARW - (SUM1)	.658
Ahtanum Creek at Union Gap, Station No. 12502500	Use daily values measured at AUGW	NA
Union Gap Canal Wasteway	Set daily values equal to percent of PARW - (SUM1)	.111
New Reservation Canal Headworks (Wapato Canal)	Use daily values measured at RSCW	NA
Sunnyside Canal near Parker	Use daily values measured at SNCW	NA
Yakima River at Parker, Station No. 1250500	Use daily values measured at PARW	NA
Roza Canal Wasteway No. 3	Set daily values equal to percent of (YGVW-SUCW)-PARW	.0174
Snipes and Allen Ditch Diversion	Set daily values equal to percent of SEXW	.2065
Lateral 1 near the Donald-Wapato Road, near Wapato	Set daily values equal to percent of (YGVW-SUCW)-PARW	.0161
Roza Canal Wasteway No. 4	Set daily values equal to percent of (YGVW-SUCW)-PARW	.0039
Roza-Sunnyside Joint Drain 19.9	Set daily values equal to percent of (YGVW-SUCW)-PARW	.0011
Roza-Sunnyside Joint Drain 20.8	Set daily values equal to percent of (YGVW-SUCW)-PARW	.0017
East Toppenish Drain at Wilson Road, Station No 12505350	Set daily values equal to percent of (YGVW-SUCW)-PARW	.0592
DID Drain 27 at mouth	Set daily values equal to percent of (YGVW-SUCW)-PARW	.0026
Sub-Drain No. 35 at Parton Road, Station No. 12505410	Set daily values equal to percent of (YGVW-SUCW)-PARW	.1073
Granger Drain at Sheep Barns, Station No. 12505460?	Set daily values equal to percent of (YGVW-SUCW)-PARW	.0584
Marion Drain at Indian Church Road, at Granger, Station No. 12505510	Set daily values equal to percent of (YGVW-SUCW)-PARW	.0392
Coulee Drain near Satus Road Crossing (2 Drains?)	Set daily values equal to percent of (YGVW-SUCW)-PARW	.0327

Table B1. Method used to assign daily mean flow to sites used to define flow for the Roza-Prosser Reach water-temperature model.—Continued

[Flow calculation abbreviations are listed in table B2; SUM1 = All inflow between Roza Dam and Parker, Washington, minus flow to diversions.
Abbreviations: Reclamation, Bureau of Reclamation; NA, not applicable]

Location	Flow calculation	Decimal percent used in calculations
Toppenish Creek at Indian Church Road, Station 12507508	Set daily values equal to percent of (YGVW-SUCW)-PARW	0.1122
DID 16 Drain	Set daily values equal to percent of (YGVW-SUCW)-PARW	.0364
Satus Creek at Satus (at gage), Station No. 12508620	Set daily values equal to percent of (YGVW-SUCW)-PARW	.1402
South Drain near Satus, Station No. 12508630	Set daily values equal to percent of (YGVW-SUCW)-PARW	.1205
Satus No. 2 Drain	Set daily values equal to percent of (YGVW-SUCW)-PARW	0.00
DID No. 7 Drain	Set daily values equal to percent of (YGVW-SUCW)-PARW	.0085
Satus No. 3 Drain	Set daily values equal to percent of (YGVW-SUCW)-PARW	.039
Sulphur Creek Wasteway	Use daily values measured at SUCW	NA
Satus Drain 303 + Mabton West Wasteway at Highway 22	Set daily values equal to percent of (YGVW-SUCW)-PARW	.1135
DID Drain 31 (Frazier Drain at Chase-Frasier Road)	Set daily values equal to percent of (YGVW-SUCW)-PARW	.0436
Joint DID 2 Drain	Set daily values equal to percent of (YGVW-SUCW)-PARW	.0465
Outlet for DID No. 10	Set daily values equal to percent of (YRPW+CHCW)-YGVW	.5075
Drain near Grandview-Prosser Highway 8/24-2B	Set daily values equal to percent of (YRPW+CHCW)-YGVW	.0374
Roza-Sunnyside Joint Drain	Set daily values equal to percent of (YRPW+CHCW)-YGVW	.4551
Chandler Canal at Prosser Dam, Station No. 12509499	Use daily values measured at CHCW	NA
Yakima River at Prosser	Use daily values measured at YRPW	NA

Table B2. U.S. Bureau of Reclamation gaging stations used in calculations for the Roza-Prosser Reach water-temperature model.

[Data obtained from Hydromet database]

Station identification	Station description
RBDW	Yakima River below Roza Dam
RZCW	Roza Canal at Headworks
SEXW	Selah Moxee Canal
NRYW	Naches River near Yakima
UNGW	Union Gap Canal
BICW	Moxee Drain at Birchfield Road
AUGW	Ahtanum Creek at Union Gap
ROZW	Roza Canal at 11.0 mile
RSCW	New Reservation Canal
SNCW	Sunnyside Canal
PARW	Yakima River near Parker
SUCW	Sulphur Creek at Holiday Road, near Sunnyside
YGVW	Yakima River at Euclid Road Bridge, near Grandview
CHCW	Chandler-Prosser Power Canal
YRPW	Yakima River near Prosser