

APPENDIX C.

Summary of streamflow data collected during four seepage studies and streamflow gain and loss estimates for the upper reach, along the Henrys Fork between the near Ashton gaging station and the mouth, near Lorenzo, and along the Snake River between the near Heise and near Shelley gaging stations, Idaho, October 2001 through November 2002

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Table C1. Estimates of streamflow gains and losses in specified subreaches of the Henrys Fork between the near Ashton gaging station and the mouth, near Lorenzo, and the Snake River between the near Heise and near Shelley gaging stations, Idaho, October 29-30, 2001

[ft³/s, cubic feet per second; mi, mile; ---, no data; estimated gain/loss presented across from the downstream site; values in **boldface** are statistically significant]

Site number (see figure 5)	Gaging-station name (number) or intermediate measurement site	River mile		Discharge (ft ³ /s)	Date	Time	Total gain or (loss) (ft ³ /s)	Gain or (loss) per mile (ft ³ /s/mi)
U1	Henrys Fork near Ashton (13046000)	44.2		787	10/29/2001	0645		
			total estimated inflow	391				
			total estimated outflow	6				
U2	Henrys Fork below Falls River, near Ashton	38.5		1240	10/29/2001	0930	68	12
			total estimated inflow	0				
			total estimated outflow	44				
U3	Henrys Fork near Twin Groves	35.6		1190	10/29/2001	1200	(6)	(2)
			total estimated inflow	0				
			total estimated outflow	84				
U4	Henrys Fork near St. Anthony (13050500)	32.4		1120	10/29/2001	1330	14	4
				1120	10/29/2001	1045		
			total estimated inflow	0				
			total estimated outflow	80				
U5	Henrys Fork near Parker	25.6		1000	10/29/2001	1400	(40)	(6)
			total estimated inflow	113				
			total estimated outflow	0				
U6	Henrys Fork near Hibbard	19.0		1020	10/29/2001	1530	(93)	(14)
			total estimated inflow	35				
			total estimated outflow	0				
U7	Henrys Fork near Rexburg (13056500)	9.2		1000	10/29/2001	2015	(55)	(6)
				985	10/30/2001	0430		
			total estimated inflow	89				
			total estimated outflow	0				
U8	Henrys Fork at mouth, near Lorenzo	0.2		¹ ---	---	---	---	---

Table C1. Estimates of streamflow gains and losses in specified subreaches of the Henrys Fork between the near Ashton gaging station and the mouth, near Lorenzo, and the Snake River between the near Heise and near Shelley gaging stations, Idaho, October 29-30, 2001--Continued

Site number (see figure 5)	Gaging-station name (number) or intermediate measurement site	River mile	Discharge (ft ³ /s)	Date	Time	Total gain or (loss) (ft ³ /s)	Gain or (loss) per mile (ft ³ /s/mi)
U9	Snake River near Heise (13037500)	853.6	1400	10/30/2001	0630		
			total estimated inflow			2	
			total estimated outflow			363	
U10	Snake River below Dry Bed, near Heise	849.5	1050	10/30/2001	0830	11	3
			total estimated inflow			0	
			total estimated outflow			5	
U11	Snake River near Archer	842.8	787	10/30/2001	1015	(258)	(39)
			total estimated inflow			0	
			total estimated outflow			0	
U12	Snake River at Lorenzo (13038500)	837.9	641	10/30/2001	1245	(146)	(30)
			641	10/30/2001	0545		
			total estimated inflow			0	
			total estimated outflow			0	
U13	Snake River above Henrys Fork, near Menan	832.5	¹ ---	---	---	---	---
			Henrys Fork estimated inflow			1074	
			total estimated inflow			17	
			total estimated outflow			0	
U14	Snake River near Menan (13057000)	830.0	2050	10/30/2001	0945	² 319	19
			2050	10/30/2001	0945		
			total estimated inflow			0	
			total estimated outflow			0	
U15	Snake River below Deer Parks, near Menan	822.5	2000	10/30/2001	1330	(50)	(7)
			total estimated inflow			32	
			total estimated outflow			0	
U16	Snake River near Roberts	815.3	2020	10/30/2001	1145	(12)	(2)
			total estimated inflow			0	
			total estimated outflow			0	
U17	Snake River above Dry Bed, near Roberts	811.9	2050	10/30/2001	1515	30	9
			total estimated inflow			135	
			total estimated outflow			5	

Table C1. Estimates of streamflow gains and losses in specified subreaches of the Henrys Fork between the near Ashton gaging station and the mouth, near Lorenzo, and the Snake River between the near Heise and near Shelley gaging stations, Idaho, October 29-30, 2001--Continued

Site number (see figure 5)	Gaging-station name (number) or intermediate measurement site	River mile		Discharge (ft ³ /s)	Date	Time	Total gain or (loss) (ft ³ /s)	Gain or (loss) per mile (ft ³ /s/mi)
U18	Snake River near Lewisville	806.3		2210	10/30/2001	1615	30	5
			total estimated inflow	0				
			total estimated outflow	0				
U19	Snake River near Idaho Falls (13057155)	805.0		2070	10/30/2001	1645	(140)	(108)
				2380	10/16 - 11/14/2001	30-day average		
			total estimated inflow	0				
			total estimated outflow	0				
U20	Snake River near Shelley (13060000)	787.8		2410	10/16 - 11/14/2001	30-day average	30	2

¹ Discharge was not measured; measured during subsequent seepage runs.

² Includes gain or loss between Henrys Fork near Rexburg and Henrys Fork at mouth.

Table C2. Discharge data from gaging stations along the Henrys Fork between the near Ashton gaging station and the mouth, near Lorenzo, and the Snake River between the near Heise and near Shelley gaging stations, Idaho, October 29-30, 2001

[ft³/s, cubic feet per second]

Site number (see figure C5)	Gaging-station name (number)	Date	Time	Discharge (ft ³ /s)
U1	Henrys Fork near Ashton (13046000)	10/29/2001	0645	787
U4	Henrys Fork near St. Anthony (13050500)	10/29/2001	1330	1120
		10/29/2001	1045	1120
U7	Henrys Fork near Rexburg (13056500)	10/29/2001	2015	1000
		10/30/2001	0430	985
U9	Snake River near Heise (13037500)	10/30/2001	0630	1400
U12	Snake River at Lorenzo (13038500)	10/30/2001	1245	641
		10/30/2001	0545	641
U14	Snake River near Menan (13057000)	10/30/2001	0945	2050
		10/30/2001	0945	2050
U19	Snake River near Idaho Falls (13057155)	10/30/2001	1645	2070
		10/16 - 11/14/2001	30-day average	2380
U20	Snake River near Shelley (13060000)	10/16 - 11/14/2001	30-day average	2410

Table C3. Discharge data from acoustic Doppler measurements along the Henrys Fork between the near Ashton gaging station and the mouth, near Lorenzo, and the Snake River between the near Heise and near Shelley gaging stations, Idaho, October 29-30, 2001

[ft³/s, cubic feet per second; COV, coefficient of variation; σ , standard deviation; μ , mean; ---, no data]

Site number (see figure		Date	Time	Discharge (ft ³ /s)	COV (σ/μ)
C5)	Intermediate measurement site				
U2	Henrys Fork below Falls River, near Ashton	10/29/2001	0930	1240	0.10
U3	Henrys Fork near Twin Groves	10/29/2001	1200	1190	.02
U5	Henrys Fork near Parker	10/29/2001	1400	1000	.04
U6	Henrys Fork near Hibbard	10/29/2001	1530	1020	.04
U8	Henrys Fork at mouth, near Lorenzo	¹ ---	---	---	---
U10	Snake River below Dry Bed, near Heise	10/30/2001	0830	1050	.07
U11	Snake River near Archer	10/30/2001	1015	787	.04
U13	Snake River above Henrys Fork, near Menan	¹ ---	---	---	---
U15	Snake River below Deer Parks, near Menan	10/30/2001	1330	2000	.07
U16	Snake River near Roberts	10/30/2001	1145	2020	.05
U17	Snake River above Dry Bed, near Roberts	10/30/2001	1515	2050	.03
U18	Snake River near Lewisville	10/30/2001	1615	2210	.05

¹ Discharge was not measured; measured during subsequent seepage runs.

Table C4. Discharge data for all inspected inflow and outflow sites along the Henrys Fork between the near Ashton gaging station and the mouth, near Lorenzo, and the Snake River between the near Heise and near Shelley gaging stations, Idaho, October 29-30, 2001

[Latitude and longitude in degrees, minutes, seconds referenced in North American Datum of 1983; ft³/s, cubic feet per second; site numbers shown in figure C5; ---, no data; DM, daily mean discharge; values in shaded areas indicate canal withdrawals]

Inspection site name	Gaging-station number	Location		Date	Time	Discharge (ft ³ /s)
		Latitude	Longitude			
Subreach between site numbers U1 and U2						
Arcadia Canal return near Ashton	---	---	---	10/29/2001	---	0
Snow Creek near Ashton	---	44 04 17	111 31 33	10/29/2001	---	4.5
Black Spring near Ashton	---	44 02 59	111 32 20	10/29/2001	---	¹ 10.1
Sand Creek near Ashton	---	---	---	10/29/2001	---	0
Farmers Own return near Ashton	---	44 02 32	111 32 20	10/29/2001	---	0
Unnamed tributary near Ashton	---	44 01 40	111 32 57	10/29/2001	---	1.4
Falls River Diversion return near Ashton	---	44 01 40	111 33 20	10/29/2001	---	2.2
Falls River near Chester	² 13049500	44 01 06	111 33 57	10/29/2001	DM	383
Dewey Canal near Chester	13046310	44 01 12	111 34 56	10/29/2001	DM	6
Subreach between site numbers U2 and U3						
Last Chance Canal near Chester	13049550	44 01 01	111 35 10	10/29/2001	DM	0
Cross Cut Canal near Chester	13049560	44 00 58	111 34 57	10/29/2001	DM	44
Subreach between site numbers U3 and U4						
Farmers Friend Canal near Twin Groves	13049705	43 58 29	111 39 02	10/29/2001	DM	20
Twin Groves Canal near Twin Groves	13049710	43 57 21	111 40 05	10/29/2001	DM	0
St. Anthony Union Canal near Twin Groves	13049725	43 58 19	111 38 27	10/29/2001	DM	0
Salem Union Canal near St. Anthony	13049805	43 58 20	111 39 01	10/29/2001	DM	64
Subreach between site numbers U4 and U5						
Egin Canal near St. Anthony	13050525	43 57 56	111 41 23	10/29/2001	DM	3
St. Anthony Union Feeder near St. Anthony	13050530	43 57 38	111 41 59	10/29/2001	DM	0
Independent Canal near St. Anthony	13050535	43 57 29	111 42 21	10/29/2001	DM	4
Consolidated Farmers Canal near Parker	13050545	43 53 54	111 46 47	10/29/2001	---	73
Unnamed tributary near Parker	---	---	---	10/29/2001	---	0
Subreach between site numbers U5 and U6						
Roxana Canal return near Teton	---	43 53 55	111 48 31	10/29/2001	---	5.2
North Fork Teton River at Teton	² 13055198	43 53 53	111 40 38	10/29/2001	DM	108
Subreach between site numbers U6 and U7						
Teton Island Canal return near Teton	---	43 50 31	111 49 05	10/29/2001	---	0
Unnamed tributary near Teton	---	43 51 31	111 51 29	10/29/2001	---	0
Island Ward Canal return near Rexburg	---	43 51 18	111 51 28	10/29/2001	---	0
Clements Spori Ditch near Rexburg	---	43 50 26	111 51 11	10/29/2001	---	0
South Fork Teton River near Rexburg	² 13055340	43 50 07	111 46 38	10/29/2001	DM	35
St. Anthony / Independent return near Rexburg	---	---	---	10/29/2001	---	0
Subreach between site numbers U7 and U8						
Rexburg Canal return near Rexburg	---	43 48 55	111 53 15	10/30/2001	---	29.3
Texas Slough Canal return near Rexburg	---	43 48 00	111 54 48	10/30/2001	---	0
Texas Slough near Rexburg	---	43 47 17	111 53 45	10/30/2001	---	52.5
Liberty Parks Canal return near Rexburg	---	43 47 24	111 55 27	10/30/2001	---	0
Bannock Jim Slough near Rexburg	---	43 46 30	111 56 11	10/30/2001	---	6.8
Subreach between site numbers U9 and U10						
Anderson Canal near Heise	13037505	43 36 54	111 39 37	10/30/2001	DM	0
Eagle Rock Canal near Heise	13037975	43 37 48	111 40 48	10/30/2001	DM	0
Farmers Friend Canal near Heise	13037980	43 37 47	111 41 29	10/30/2001	DM	0
Enterprise Canal near Heise	13037985	43 37 49	111 41 29	10/30/2001	DM	0
Dry Bed near Ririe	² 13038000	43 38 21	111 42 55	10/30/2001	DM	363
Kelly Canyon near Heise	---	43 37 44	111 39 40	10/30/2001	---	2.0

Table C4. Discharge data for all inspected inflow and outflow sites along the Henrys Fork between the near Ashton gaging station and the mouth, near Lorenzo, and the Snake River between the near Heise and near Shelley gaging stations, Idaho, October 29-30, 2001--Continued

Inspection site name	Gaging-station number	Location		Date	Time	Discharge (ft ³ /s)
		Latitude	Longitude			
Subreach between site numbers U9 and U10--continued						
Hawley Warm Spring near Heise	---	43 38 56	111 42 15	10/30/2001	---	1.5
Sunnydell Canal near Sunnydell ³	13038392	43 38 56	111 42 17	10/30/2001	DM	0
Subreach between site numbers U10 and U11						
Lenroot Canal near Archer	13038426	43 41 18	111 46 40	10/30/2001	DM	5
Reid Canal near Archer	13038431	43 42 04	111 48 05	10/30/2001	DM	0
Subreach between site numbers U11 and U12						
Texas & Liberty Canal near Lorenzo	13038434	43 43 06	111 49 37	10/30/2001	DM	0
Bannock Jim Slough near Lorenzo	13038435	43 43 16	111 50 09	10/30/2001	DM	0
Subreach between site numbers U12 and U13						
---	---	---	---	---	---	---
Subreach between site numbers U13 and U14						
Annis Slough near Menan	---	43 44 46	111 56 37	10/30/2001	---	6.4
Scotts Slough near Menan	---	43 44 32	111 58 20	10/30/2001	---	10.1
Subreach between site numbers U14 and U15						
Butte & Market Lake Canal	13057025	43 45 13	111 58 51	10/30/2001	DM	0
Subreach between site numbers U15 and U16						
Big Six Canal return near Roberts	---	43 44 21	112 04 43	10/30/2001	---	0
Spring Creek near Roberts	---	43 43 15	112 04 21	10/30/2001	---	32.1
Subreach between site numbers U16 and U17						
---	---	---	---	---	---	---
Subreach between site numbers U17 and U18						
Dry Bed near Roberts	---	43 42 11	112 04 13	10/30/2001	---	135
South Parks Canal return near Roberts	---	43 41 19	112 03 47	10/30/2001	---	0
Butte Market Lake Canal return near Roberts	---	43 39 20	112 05 27	10/30/2001	---	0
Great Western Canal near Lewisville ³	13057135	43 34 48	112 04 12	10/30/2001	DM	5
Idaho Canal near Lewisville	13057145	43 46 48	112 03 00	10/30/2001	DM	0
Subreach between site numbers U18 and U19						
Burgess Canal Drain near Idaho Falls	13057100	43 37 00	112 03 03	10/30/2001	DM	0
Subreach between site numbers U19 and U20						
North Willow Creek near Idaho Falls	---	43 30 42	112 03 04	10/30/2001	---	0
Porter Canal near Idaho Falls ³	13057250	43 30 00	112 03 00	10/30/2001	DM	0
South Willow Creek near Idaho Falls	---	43 30 04	112 02 35	10/30/2001	---	0
Woodville Canal near Idaho Falls	13059505	43 25 48	112 06 00	10/30/2001	DM	0
Snake River Valley Canal near Idaho Falls	13059525	43 27 00	112 04 48	10/30/2001	DM	0

¹ Streamflow resulting from spring discharge; not used in calculation of gain/loss estimates.

² Long-term United States Geological Survey gaging station.

³ Actual canal discharge; spillback portion was accounted for.

EXPLANATION

- ▲ **U12** Streamflow-gaging station and site number
- **U15** Intermediate measurement site and number
- 319 Gain, in cubic feet per second
- (146) Loss, in cubic feet per second

111° 30'

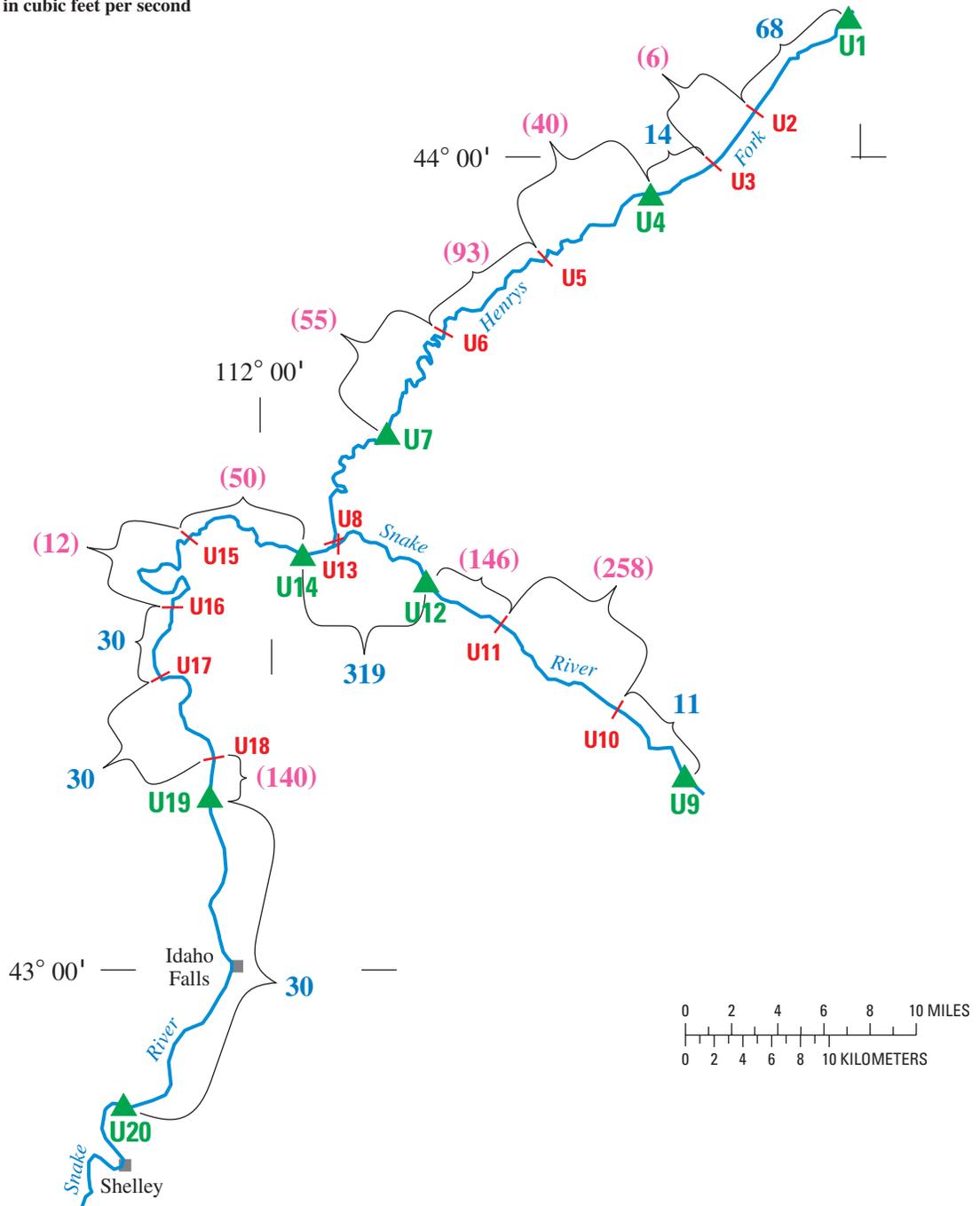


Figure C5. Streamflow gains and losses in the upper reach, along the Henrys Fork between the near Ashton gaging station and the mouth, near Lorenzo, and along the Snake River between the near Heise and near Shelly gaging stations, Idaho, October 29–30, 2001.

Table C6. Estimates of streamflow gains and losses in specified subreaches of the Henrys Fork between the near Ashton gaging station and the mouth, near Lorenzo, and the Snake River between the near Heise and near Shelley gaging stations, Idaho, April 8-9, 2002

[ft³/s, cubic feet per second; mi, mile; ---, no data; estimated gain/loss presented across from the downstream site; values in **boldface** are statistically significant]

Site number (see figure 5)	Gaging-station name (number) or intermediate measurement site	River mile		Discharge (ft ³ /s)	Date	Time	Total gain or (loss) (ft ³ /s)	Gain or (loss) per mile (ft ³ /s/mi)
U1	Henrys Fork near Ashton (13046000)	44.2		1100	4/8/2002	0500		
			total estimated inflow	683				
			total estimated outflow	3				
U2	Henrys Fork below Falls River, near Ashton	38.5		1800	4/8/2002	0747	20	4
			total estimated inflow	0				
			total estimated outflow	22				
U3	Henrys Fork near Twin Groves	35.6		1740	4/8/2002	0856	(38)	(13)
			total estimated inflow	0				
			total estimated outflow	361				
U4	Henrys Fork near St. Anthony (13050500)	32.4		1400	4/8/2002	1030	21	7
				1390	4/8/2002	0800		
			total estimated inflow	0				
			total estimated outflow	362				
U5	Henrys Fork near Parker	25.6		1140	4/8/2002	1118	112	16
			total estimated inflow	166				
			total estimated outflow	0				
U6	Henrys Fork near Hibbard	19.0		1150	4/8/2002	1228	(156)	(24)
			total estimated inflow	237				
			total estimated outflow	0				
U7	Henrys Fork near Rexburg (13056500)	9.2		1360	4/8/2002	1715	(27)	(3)
				1300	4/8/2002	1030		
			total estimated inflow	25				
			total estimated outflow	0				
U8	Henrys Fork at mouth, near Lorenzo	0.2		1390	4/8/2002	1456	65	7

Table C6. Estimates of streamflow gains and losses in specified subreaches of the Henrys Fork between the near Ashton gaging station and the mouth, near Lorenzo, and the Snake River between the near Heise and near Shelley gaging stations, Idaho, April 8-9, 2002--Continued

Site number (see figure 5)	Gaging-station name (number) or intermediate measurement site	River mile		Discharge (ft ³ /s)	Date	Time	Total gain or (loss) (ft ³ /s)	Gain or (loss) per mile (ft ³ /s/mi)
U9	Snake River near Heise (13037500)	853.6		1490	4/8/2002	0830		
			total estimated inflow	0				
			total estimated outflow	0				
U10	Snake River below Dry Bed, near Heise	849.5		1450	4/8/2002	1030	(40)	(10)
			total estimated inflow	0				
			total estimated outflow	0				
U11	Snake River near Archer	842.8		1160	4/8/2002	1144	(290)	(43)
			total estimated inflow	0				
			total estimated outflow	0				
U12	Snake River at Lorenzo (13038500)	837.9		884	4/8/2002	1400	(276)	(56)
				852	4/8/2002	1300		
			total estimated inflow	0				
			total estimated outflow	0				
U13	Snake River above Henrys Fork, near Menan	832.5		¹ ---	---	---	---	---
			Henrys Fork estimated inflow	1390				
			total estimated inflow	0				
			total estimated outflow	0				
U14	Snake River near Menan (13057000)	830.0		2670	4/8/2002	1645	428	25
				2730	4/9/2002	0445		
			total estimated inflow	0				
			total estimated outflow	0				
U15	Snake River below Deer Parks, near Menan	822.5		2280	4/9/2002	0820	(450)	(60)
			total estimated inflow	30				
			total estimated outflow	0				
U16	Snake River near Roberts	815.3		2300	4/9/2002	0842	(10)	(1)
			total estimated inflow	0				
			total estimated outflow	0				
U17	Snake River above Dry Bed, near Roberts	811.9		2280	4/9/2002	0700	(20)	(6)
			total estimated inflow	2				
			total estimated outflow	0				

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Table C6. Estimates of streamflow gains and losses in specified subreaches of the Henrys Fork between the near Ashton gaging station and the mouth, near Lorenzo, and the Snake River between the near Heise and near Shelley gaging stations, Idaho, April 8-9, 2002--Continued

Site number (see figure 5)	Gaging-station name (number) or intermediate measurement site	River mile		Discharge (ft ³ /s)	Date	Time	Total gain or (loss) (ft ³ /s)	Gain or (loss) per mile (ft ³ /s/mi)
U18	Snake River near Lewisville	806.3		2320	4/9/2002	0951	38	7
			total estimated inflow	0				
			total estimated outflow	0				
U19	Snake River near Idaho Falls (13057155)	805.0		2410	4/9/2002	1030	90	69
				2390	3/26 - 4/24/2002	30-day average		
			total estimated inflow	0				
			total estimated outflow	5				
U20	Snake River near Shelley (13060000)	787.8		2180	3/26 - 4/24/2002	30-day average	(205)	(12)

¹ Discharge was measured but not used in the calculations (see table C8).

Table C7. Discharge data from gaging stations along the Henrys Fork between the near Ashton gaging station and the mouth, near Lorenzo, and the Snake River between the near Heise and near Shelley gaging stations, Idaho, April 8-9, 2002

[ft³/s, cubic feet per second]

Site number (see figure		Gaging-station name (number)	Date	Time	Discharge (ft ³ /s)
C10)					
U1		Henrys Fork near Ashton (13046000)	4/8/2002	0500	1100
U4		Henrys Fork near St. Anthony (13050500)	4/8/2002	1030	1400
			4/8/2002	0800	1390
U7		Henrys Fork near Rexburg (13056500)	4/8/2002	1715	1360
			4/8/2002	1030	1300
U9		Snake River near Heise (13037500)	4/8/2002	0830	1490
U12		Snake River at Lorenzo (13038500)	4/8/2002	1400	884
			4/8/2002	1300	852
U14		Snake River near Menan (13057000)	4/8/2002	1645	2670
			4/9/2002	0445	2730
U19		Snake River near Idaho Falls (13057155)	4/9/2002	1030	2410
			3/26 - 4/24/2002	30-day average	2390
U20		Snake River near Shelley (13060000)	3/26 - 4/24/2002	30-day average	2180

Table C8. Discharge data from acoustic Doppler measurements along the Henrys Fork between the near Ashton gaging station and the mouth, near Lorenzo, and the Snake River between the near Heise and near Shelley gaging stations, Idaho, April 8-9, 2002

[ft³/s, cubic feet per second; COV, coefficient of variation; σ , standard deviation; μ , mean]

Site number (see figure)		Date	Time	Discharge (ft ³ /s)	COV (σ/μ)
C10)	Intermediate measurement site				
U2	Henrys Fork below Falls River, near Ashton	4/8/2002	0747	1800	0.03
U3	Henrys Fork near Twin Groves	4/8/2002	0856	1740	.01
U5	Henrys Fork near Parker	4/8/2002	1118	1140	.03
U6	Henrys Fork near Hibbard	4/8/2002	1228	1150	.01
U8	Henrys Fork at mouth, near Lorenzo	4/8/2002	1456	1390	.02
U10	Snake River below Dry Bed, near Heise	4/8/2002	1030	1450	.03
U11	Snake River near Archer	4/8/2002	1144	1160	.04
U13	Snake River above Henrys Fork, near Menan	4/8/2002	1531	¹ 960	.09
U15	Snake River below Deer Parks, near Menan	4/9/2002	0820	2280	.04
U16	Snake River near Roberts	4/9/2002	0842	2300	.03
U17	Snake River above Dry Bed, near Roberts	4/9/2002	0700	2280	.03
U18	Snake River near Lewisville	4/9/2002	0951	2320	.03

¹ Discharge was measured but not used in the calculations because all of the flow likely was not measured.

Table C9. Discharge data for all inspected inflow and outflow sites along the Henrys Fork between the near Ashton gaging station and the mouth, near Lorenzo, and the Snake River between the near Heise and near Shelley gaging stations, Idaho, April 1-30, 2002

[Latitude and longitude in degrees, minutes, seconds referenced in North American Datum of 1983; ft³/s, cubic feet per second; site numbers shown in figure C10; ---, no data; DM, daily mean discharge; values in shaded areas indicate canal withdrawals]

Inspection site name	Gaging-station number	Location		Date	Time	Discharge (ft ³ /s)
		Latitude	Longitude			
Subreach between site numbers U1 and U2						
Arcadia Canal return near Ashton	---	---	---	---	---	---
Snow Creek near Ashton	---	44 04 17	111 31 33	4/8/2002	---	8.7
Black Spring near Ashton	---	44 02 59	111 32 20	4/8/2002	---	¹ 13.0
Sand Creek near Ashton	---	---	---	---	---	---
Farmers Own return near Ashton	---	44 02 32	111 32 20	4/8/2002	---	0
Unnamed tributary near Ashton	---	44 01 40	111 32 57	4/8/2002	---	---
Falls River Diversion return near Ashton	---	44 01 40	111 33 20	4/8/2002	---	---
Falls River near Chester	² 13049500	44 01 06	111 33 57	4/8/2002	DM	674
Dewey Canal near Chester	13046310	44 01 12	111 34 56	4/8/2002	DM	3.0
Subreach between site numbers U2 and U3						
Last Chance Canal near Chester	13049550	44 01 01	111 35 10	4/8/2002	DM	7
Cross Cut Canal near Chester	13049560	44 00 58	111 34 57	4/8/2002	---	15.0
Subreach between site numbers U3 and U4						
Farmers Friend Canal near Twin Groves	13049705	43 58 29	111 39 02	4/8/2002	---	71.7
Twin Groves Canal near Twin Groves	13049710	43 57 21	111 40 05	4/8/2002	---	43.5
St. Anthony Union Canal near Twin Groves	13049725	43 58 19	111 38 27	4/8/2002	DM	190
Salem Union Canal near St. Anthony	13049805	43 58 20	111 39 01	4/8/2002	---	55.6
Subreach between site numbers U4 and U5						
Egin Canal near St. Anthony	13050525	43 57 56	111 41 23	4/8/2002	DM	132
St. Anthony Union Feeder near St. Anthony	13050530	43 57 38	111 41 59	4/9/2002	---	69.5
Independent Canal near St. Anthony	13050535	43 57 29	111 42 21	4/9/2002	DM	128
Consolidated Farmers Canal near Parker	13050545	43 53 54	111 46 47	4/9/2002	---	32.3
Unnamed tributary near Parker	---	---	---	---	---	---
Subreach between site numbers U5 and U6						
Roxana Canal return near Teton	---	43 53 55	111 48 31	4/9/2002	---	3.6
North Fork Teton River at Teton	² 13055198	43 53 53	111 40 38	4/8/2002	DM	162
Subreach between site numbers U6 and U7						
Teton Island Canal return near Teton	---	43 50 31	111 49 05	4/9/2002	---	0
Unnamed tributary near Teton	---	43 51 31	111 51 29	4/9/2002	---	0
Island Ward Canal return near Rexburg	---	43 51 18	111 51 28	4/9/2002	---	0
Clements Spori Ditch near Rexburg	---	43 50 26	111 51 11	4/9/2002	---	0
South Fork Teton River near Rexburg	² 13055340	43 50 07	111 46 38	4/8/2002	DM	188
St. Anthony / Independent return near Rexburg	---	---	---	4/10/2002	---	49.2
Subreach between site numbers U7 and U8						
Rexburg Canal return near Rexburg	---	43 48 55	111 53 15	4/30/2002	---	0
Texas Slough Canal return near Rexburg	---	43 48 00	111 54 48	4/8/2002	---	0
Texas Slough near Rexburg	---	43 47 17	111 53 45	4/2/2002	---	22.0
Liberty Parks Canal return near Rexburg	---	43 47 24	111 55 27	4/3/2002	---	1
Bannock Jim Slough near Rexburg	---	43 46 30	111 56 11	4/1/2002	---	1.7
Subreach between site numbers U9 and U10						
Anderson Canal near Heise	13037505	43 36 54	111 39 37	4/8/2002	DM	0
Eagle Rock Canal near Heise	13037975	43 37 48	111 40 48	4/9/2002	DM	0
Farmers Friend Canal near Heise	13037980	43 37 47	111 41 29	4/10/2002	DM	0
Enterprise Canal near Heise	13037985	43 37 49	111 41 29	4/8/2002	DM	0
Dry Bed near Ririe	² 13038000	43 38 21	111 42 55	4/8/2002	DM	0
Kelly Canyon near Heise	---	43 37 44	111 39 40	---	---	---

Table C9. Discharge data for all inspected inflow and outflow sites along the Henrys Fork between the near Ashton gaging station and the mouth, near Lorenzo, and the Snake River between the near Heise and near Shelley gaging stations, Idaho, April 1-30, 2002--Continued

Inspection site name	Gaging-station number	Location		Date	Time	Discharge (ft ³ /s)
		Latitude	Longitude			
Subreach between site numbers U9 and U10--continued						
Hawley Warm Spring near Heise	---	43 38 56	111 42 15	---	---	¹ ---
Sunnydell Canal near Sunnydell ³	13038392	43 38 56	111 42 17	4/8/2002	---	0
Subreach between site numbers U10 and U11						
Lenroot Canal near Archer	13038426	43 41 18	111 46 40	4/8/2002	---	0
Reid Canal near Archer	13038431	43 42 04	111 48 05	4/8/2002	---	0
Subreach between site numbers U11 and U12						
Texas & Liberty Canal near Lorenzo	13038434	43 43 06	111 49 37	4/8/2002	DM	0
Bannock Jim Slough near Lorenzo	13038435	43 43 16	111 50 09	4/8/2002	DM	0
Subreach between site numbers U12 and U13						
---	---	---	---	---	---	---
Subreach between site numbers U13 and U14						
Annis Slough near Menan	---	43 44 46	111 56 37	---	---	---
Scotts Slough near Menan	---	43 44 32	111 58 20	4/8/2002	---	0
Subreach between site numbers U14 and U15						
Butte & Market Lake Canal	13057025	43 45 13	111 58 51	4/9/2002	DM	0
Subreach between site numbers U15 and U16						
Big Six Canal return near Roberts	---	43 44 21	112 04 43	---	---	---
Spring Creek near Roberts	---	43 43 15	112 04 21	4/9/2002	---	30
Subreach between site numbers U16 and U17						
---	---	---	---	---	---	---
Subreach between site numbers U17 and U18						
Dry Bed near Roberts	---	43 42 11	112 04 13	4/9/2002	---	0
South Parks Canal return near Roberts	---	43 41 19	112 03 47	4/9/2002	---	0
Butte Market Lake Canal return near Roberts	---	43 39 20	112 05 27	4/9/2002	---	2.2
Great Western Canal near Lewisville ³	13057135	43 34 48	112 04 12	4/9/2002	DM	0
Idaho Canal near Lewisville	13057145	43 46 48	112 03 00	4/9/2002	DM	0
Subreach between site numbers U18 and U19						
Burgess Canal Drain near Idaho Falls	13057100	43 37 00	112 03 03	4/9/2002	---	0
Subreach between site numbers U19 and U20						
North Willow Creek near Idaho Falls	---	43 30 42	112 03 04	---	---	---
Porter Canal near Idaho Falls ³	13057250	43 30 00	112 03 00	4/9/2002	DM	5
South Willow Creek near Idaho Falls	---	43 30 04	112 02 35	---	---	---
Woodville Canal near Idaho Falls	13059505	43 25 48	112 06 00	4/9/2002	DM	0
Snake River Valley Canal near Idaho Falls	13059525	43 27 00	112 04 48	4/9/2002	DM	0

¹ Streamflow resulting from spring discharge; not used in calculation of gain/loss estimates.

² Long-term United States Geological Survey gaging station.

³ Actual canal discharge; spillback portion was accounted for.

EXPLANATION

- ▲ **U12** Streamflow-gaging station and site number
- **U15** Intermediate measurement site and number
- 428 Gain, in cubic feet per second
- (156) Loss, in cubic feet per second

111° 30'

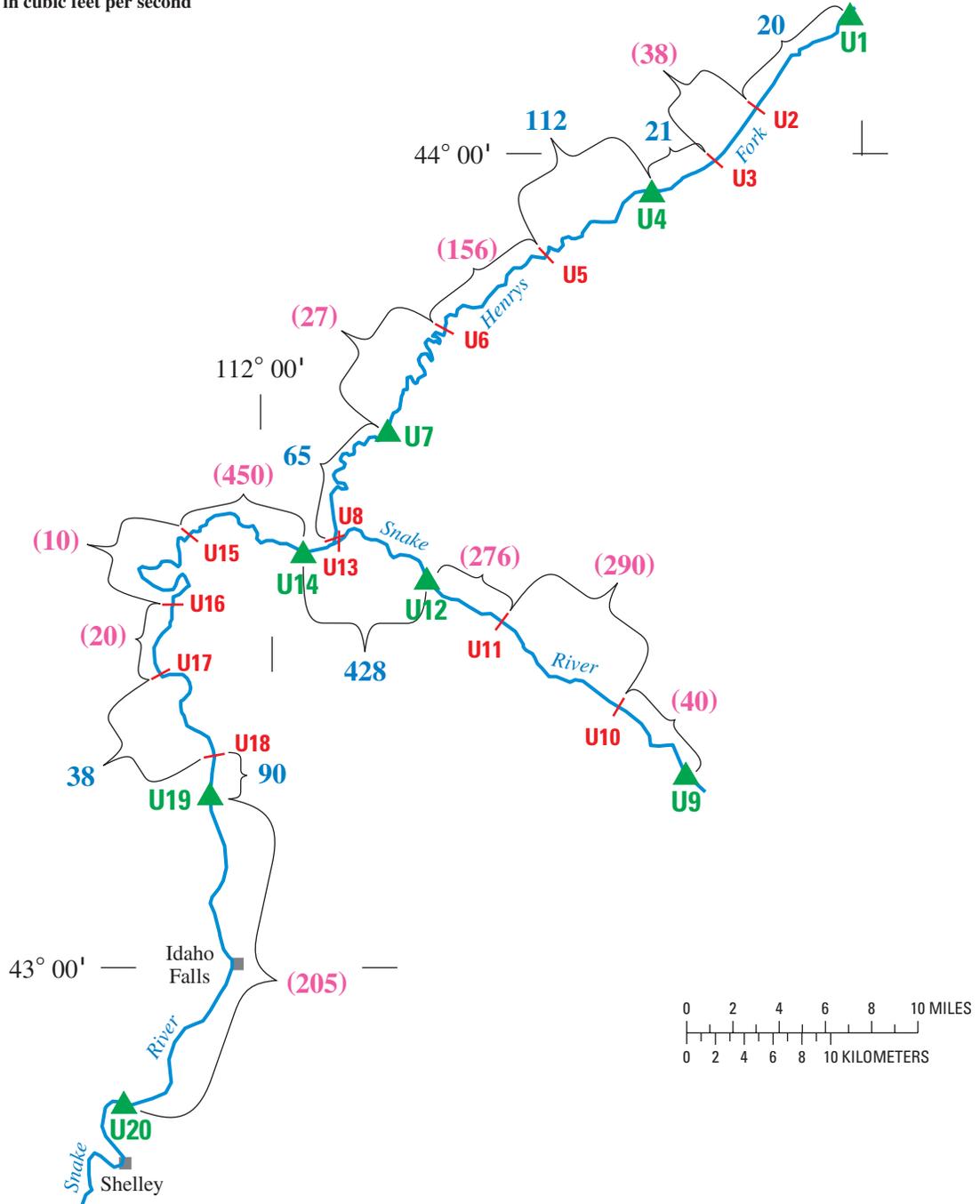


Figure C10. Streamflow gains and losses in the upper reach, along the Henrys Fork between the near Ashton gaging station and the mouth, near Lorenzo, and along the Snake River between the near Heise and near Shelley gaging stations, Idaho, April 8-9, 2002.

Table C11. Estimates of streamflow gains and losses in specified subreaches of the Henrys Fork between the near Ashton gaging station and the mouth, near Lorenzo, and the Snake River between the near Heise and near Shelley gaging stations, Idaho, July 22-23, 2002

[ft³/s, cubic feet per second; mi, mile; ---, no data; estimated gain/loss presented across from the downstream site; values in **boldface** are statistically significant]

Site number (see figure 5)	Gaging-station name (number) or intermediate measurement site	River mile		Discharge			Total gain or (loss) (ft ³ /s)	Gain or (loss) per mile (ft ³ /s/mi)
				(ft ³ /s)	Date	Time		
U1	Henrys Fork near Ashton (13046000)	44.2		1980	7/22/2002	0815		
			total estimated inflow	243				
			total estimated outflow	2				
U2	Henrys Fork below Falls River, near Ashton	38.5		2130	7/22/2002	1100	(91)	(16)
			total estimated inflow	0				
			total estimated outflow	537				
U3	Henrys Fork near Twin Groves	35.6		1670	7/22/2002	1145	77	27
			total estimated inflow	0				
			total estimated outflow	499				
U4	Henrys Fork near St. Anthony (13050500)	32.4		1420	7/22/2002	1315	249	78
				1360	7/22/2002	1145		
			total estimated inflow	0				
			total estimated outflow	618				
U5	Henrys Fork near Parker	25.6		837	7/22/2002	1500	95	14
			total estimated inflow	255				
			total estimated outflow	0				
U6	Henrys Fork near Hibbard	19.0		896	7/22/2002	1540	(196)	(30)
			total estimated inflow	124				
			total estimated outflow	0				
U7	Henrys Fork near Rexburg (13056500)	9.2		1020	7/22/2002	2030	0	0
				1030	7/22/2002	1645		
			total estimated inflow	254				
			total estimated outflow	0				
U8	Henrys Fork at mouth, near Lorenzo	0.2		¹ ---	---	---	---	---

Table C11. Estimates of streamflow gains and losses in specified subreaches of the Henrys Fork between the near Ashton gaging station and the mouth, near Lorenzo, and the Snake River between the near Heise and near Shelley gaging stations, Idaho, July 22-23, 2002--Continued

Site number (see figure 5)	Gaging-station name (number) or intermediate measurement site	River mile		Discharge (ft ³ /s)	Date	Time	Total gain or (loss) (ft ³ /s)	Gain or (loss) per mile (ft ³ /s/mi)
U9	Snake River near Heise (13037500)	853.6		13700	7/22/2002	1500		
			total estimated inflow	1				
			total estimated outflow	4998				
U10	Snake River below Dry Bed, near Heise	849.5		8440	7/22/2002	1700	(263)	(64)
			total estimated inflow	0				
			total estimated outflow	528				
U11	Snake River near Archer	842.8		7580	7/22/2002	1545	(332)	(50)
			total estimated inflow	0				
			total estimated outflow	307				
U12	Snake River at Lorenzo (13038500)	837.9		7860	7/22/2002	1815	587	120
				7860	7/22/2002	1815		
			total estimated inflow	0				
			total estimated outflow	0				
U13	Snake River above Henrys Fork, near Menan	832.5		¹ ---	---	---	---	---
			Henrys Fork estimated inflow	1284				
			total estimated inflow	9				
			total estimated outflow	0				
U14	Snake River near Menan (13057000)	830.0		9380	7/22/2002	2215	² 228	13
				9380	7/23/2002	0515		
			total estimated inflow	0				
			total estimated outflow	392				
U15	Snake River below Deer Parks, near Menan	822.5		8350	7/23/2002	0900	(638)	(85)
			total estimated inflow	0				
			total estimated outflow	0				
U16	Snake River near Roberts	815.3		8540	7/23/2002	0745	190	26
			total estimated inflow	0				
			total estimated outflow	0				
U17	Snake River above Dry Bed, near Roberts	811.9		8470	7/23/2002	1750	(70)	(21)
			total estimated inflow	665				
			total estimated outflow	1124				

Table C11. Estimates of streamflow gains and losses in specified subreaches of the Henrys Fork between the near Ashton gaging station and the mouth, near Lorenzo, and the Snake River between the near Heise and near Shelley gaging stations, Idaho, July 22-23, 2002--Continued

Site number (see figure 5)	Gaging-station name (number) or intermediate measurement site	River mile	Discharge (ft ³ /s)	Date	Time	Total gain or (loss) (ft ³ /s)	Gain or (loss) per mile (ft ³ /s/mi)
U18	Snake River near Lewisville	806.3	³ ---	---	---	---	---
			total estimated inflow			1	
			total estimated outflow			0	
U19	Snake River near Idaho Falls (13057155)	805.0	8230	7/23/2002	1300	218	32
			7150	7/9 - 8/7/2002	30-day average		
			total estimated inflow			1	
			total estimated outflow			665	
U20	Snake River near Shelley (13060000)	787.8	6480	7/9 - 8/7/2002	30-day average	⁴ (6)	(0)

¹ Discharge was not measured because of equipment problems and river conditions.

² Includes gain or loss between Henrys Fork near Rexburg and Henrys Fork at mouth.

³ Discharge was measured but not used in the calculations (see table C13).

⁴ Estimate may be affected by possible large variations in inflows and outflows during the 30-day averaging period.

Table C12. Discharge data from gaging stations along the Henrys Fork between the near Ashton gaging station and the mouth, near Lorenzo, and the Snake River between the near Heise and near Shelley gaging stations, Idaho, July 22-23, 2002

[ft³/s, cubic feet per second]

Site number (see figure C15)	Gaging-station name (number)	Date	Time	Discharge (ft³/s)
U1	Henrys Fork near Ashton (13046000)	7/22/2002	0815	1980
U4	Henrys Fork near St. Anthony (13050500)	7/22/2002	1315	1420
		7/22/2002	1145	1360
U7	Henrys Fork near Rexburg (13056500)	7/22/2002	2030	1020
		7/22/2002	1645	1030
U9	Snake River near Heise (13037500)	7/22/2002	1500	13,700
U12	Snake River at Lorenzo (13038500)	7/22/2002	1815	7860
		7/22/2002	1815	7860
U14	Snake River near Menan (13057000)	7/22/2002	2215	9380
		7/23/2002	0515	9380
U19	Snake River near Idaho Falls (13057155)	7/23/2002	1300	8230
		7/9 - 8/7/2002	30-day average	7150
U20	Snake River near Shelley (13060000)	7/9 - 8/7/2002	30-day average	6480

Table C13. Discharge data from acoustic Doppler measurements along the Henrys Fork between the near Ashton gaging station and the mouth, near Lorenzo, and the Snake River between the near Heise and near Shelley gaging stations, Idaho, July 22-23, 2002

[ft³/s, cubic feet per second; COV, coefficient of variation; σ , standard deviation; μ , mean; ---, no data]

Site number (see figure C15)	Intermediate measurement site	Date	Time	Discharge (ft ³ /s)	COV (σ/μ)
U2	Henrys Fork below Falls River, near Ashton	7/22/2002	1100	2130	0.03
U3	Henrys Fork near Twin Groves	7/22/2002	1145	1670	.05
U5	Henrys Fork near Parker	7/22/2002	1500	837	.03
U6	Henrys Fork near Hibbard	7/22/2002	1540	896	.04
U8	Henrys Fork at mouth, near Lorenzo	¹ ---	---	---	---
U10	Snake River below Dry Bed, near Heise	7/22/2002	1700	8440	.01
U11	Snake River near Archer	7/22/2002	1545	7580	.03
U13	Snake River above Henrys Fork, near Menan	¹ ---	---	---	---
U15	Snake River below Deer Parks, near Menan	7/23/2002	0900	8350	.03
U16	Snake River near Roberts	7/23/2002	0745	8540	.04
U17	Snake River above Dry Bed, near Roberts	7/23/2002	1750	8470	.03
U18	Snake River near Lewisville	7/23/2002	1224	² 7420	.02

¹ Discharge was not measured because of equipment problems and river conditions.

² Discharge was measured but not used in the calculations because of questionable accuracy due to poor measuring conditions.

Table C14. Discharge data for all inspected inflow and outflow sites along the Henrys Fork between the near Ashton gaging station and the mouth, near Lorenzo, and the Snake River between the near Heise and near Shelley gaging stations, Idaho, July 22-23, 2002

[Latitude and longitude in degrees, minutes, seconds referenced in North American Datum of 1983; ft³/s, cubic feet per second; site numbers shown in figure C15; ---, no data; DM, daily mean discharge; values in shaded areas indicate canal withdrawals]

Inspection site name	Gaging-station number	Location		Date	Time	Discharge (ft ³ /s)
		Latitude	Longitude			
Subreach between site numbers U1 and U2						
Arcadia Canal return near Ashton	---	---	---	---	---	---
Snow Creek near Ashton	---	44 04 17	111 31 33	7/22/2002	---	0
Black Spring near Ashton	---	44 02 59	111 32 20	7/22/2002	---	18.6
Sand Creek near Ashton	---	---	---	---	---	---
Farmers Own return near Ashton	---	44 02 32	111 32 20	7/22/2002	---	2
Unnamed tributary near Ashton	---	44 01 40	111 32 57	7/22/2002	---	4.0
Falls River Diversion return near Ashton	---	44 01 40	111 33 20	7/22/2002	---	3.5
Falls River near Chester	² 13049500	44 01 06	111 33 57	7/22/2002	DM	233
Dewey Canal near Chester	13046310	44 01 12	111 34 56	7/22/2002	DM	2
Subreach between site numbers U2 and U3						
Last Chance Canal near Chester	13049550	44 01 01	111 35 10	7/22/2002	DM	52
Cross Cut Canal near Chester	13049560	44 00 58	111 34 57	7/22/2002	DM	485
Subreach between site numbers U3 and U4						
Farmers Friend Canal near Twin Groves	13049705	43 58 29	111 39 02	7/22/2002	---	28.3
Twin Groves Canal near Twin Groves	13049710	43 57 21	111 40 05	7/22/2002	---	48.5
St. Anthony Union Canal near Twin Groves	13049725	43 58 19	111 38 27	7/22/2002	DM	279
Salem Union Canal near St. Anthony	13049805	43 58 20	111 39 01	7/22/2002	DM	143
Subreach between site numbers U4 and U5						
Egin Canal near St. Anthony	13050525	43 57 56	111 41 23	7/22/2002	DM	333
St. Anthony Union Feeder near St. Anthony	13050530	43 57 38	111 41 59	7/22/2002	DM	103
Independent Canal near St. Anthony	13050535	43 57 29	111 42 21	7/22/2002	DM	86
Consolidated Farmers Canal near Parker	13050545	43 53 54	111 46 47	7/22/2002	---	95.6
Unnamed tributary near Parker	---	---	---	---	---	0
Subreach between site numbers U5 and U6						
Roxana Canal return near Teton	---	43 53 55	111 48 31	7/22/2002	---	6.0
North Fork Teton River at Teton	² 13055198	43 53 53	111 40 38	7/22/2002	DM	249
Subreach between site numbers U6 and U7						
Teton Island Canal return near Teton	---	43 50 31	111 49 05	7/22/2002	---	14.1
Unnamed tributary near Teton	---	43 51 31	111 51 29	7/22/2002	---	0
Island Ward Canal return near Rexburg	---	43 51 18	111 51 28	7/22/2002	---	0
Clements Spori Ditch near Rexburg	---	43 50 26	111 51 11	7/22/2002	---	0
South Fork Teton River near Rexburg	² 13055340	43 50 07	111 46 38	7/22/2002	DM	92
St. Anthony / Independent return near Rexburg	---	---	---	7/22/2002	---	17.5
Subreach between site numbers U7 and U8						
Rexburg Canal return near Rexburg	---	43 48 55	111 53 15	7/22/2002	---	11.5
Texas Slough Canal return near Rexburg	---	43 48 00	111 54 48	7/22/2002	---	16.5
Texas Slough near Rexburg	---	43 47 17	111 53 45	7/22/2002	---	176
Liberty Parks Canal return near Rexburg	---	43 47 24	111 55 27	7/22/2002	---	17.9
Bannock Jim Slough near Rexburg	---	43 46 30	111 56 11	7/22/2002	---	31.9
Subreach between site numbers U9 and U10						
Anderson Canal near Heise	13037505	43 36 54	111 39 37	7/22/2002	DM	334
Eagle Rock Canal near Heise	13037975	43 37 48	111 40 48	7/22/2002	DM	635
Farmers Friend Canal near Heise	13037980	43 37 47	111 41 29	7/22/2002	DM	329
Enterprise Canal near Heise	13037985	43 37 49	111 41 29	7/22/2002	DM	211
Dry Bed near Ririe	² 13038000	43 38 21	111 42 55	7/22/2002	DM	3470
Kelly Canyon near Heise	---	43 37 44	111 39 40	7/22/2002	---	.8

Table C14. Discharge data for all inspected inflow and outflow sites along the Henrys Fork between the near Ashton gaging station and the mouth, near Lorenzo, and the Snake River between the near Heise and near Shelley gaging stations, Idaho, July 22-23, 2002--Continued

Inspection site name	Gaging-station number	Location		Date	Time	Discharge (ft ³ /s)
		Latitude	Longitude			
Subreach between site numbers U9 and U10--continued						
Hawley Warm Spring near Heise	---	43 38 56	111 42 15	7/22/2002	---	¹ 0
Sunnydell Canal near Sunnydell ³	13038392	43 38 56	111 42 17	7/22/2002	DM	19
Subreach between site numbers U10 and U11						
Lenroot Canal near Archer	13038426	43 41 18	111 46 40	7/22/2002	---	379
Reid Canal near Archer	13038431	43 42 04	111 48 05	7/22/2002	DM	149
Subreach between site numbers U11 and U12						
Texas & Liberty Canal near Lorenzo	13038434	43 43 06	111 49 37	7/22/2002	DM	263
Bannock Jim Slough near Lorenzo	13038435	43 43 16	111 50 09	7/22/2002	DM	44
Subreach between site numbers U12 and U13						
---	---	---	---	---	---	---
Subreach between site numbers U13 and U14						
Annis Slough near Menan	---	43 44 46	111 56 37	---	---	---
Scotts Slough near Menan	---	43 44 32	111 58 20	7/22/2002	---	8.6
Subreach between site numbers U14 and U15						
Butte & Market Lake Canal	13057025	43 45 13	111 58 51	7/23/2002	DM	392
Subreach between site numbers U15 and U16						
Big Six Canal return near Roberts	---	43 44 21	112 04 43	---	---	---
Spring Creek near Roberts	---	43 43 15	112 04 21	---	---	---
Subreach between site numbers U16 and U17						
---	---	---	---	---	---	---
Subreach between site numbers U17 and U18						
Dry Bed near Roberts	---	43 42 11	112 04 13	7/23/2002	---	620
South Parks Canal return near Roberts	---	43 41 19	112 03 47	7/23/2002	---	44.9
Butte Market Lake Canal return near Roberts	---	43 39 20	112 05 27	7/23/2002	---	.4
Great Western Canal near Lewisville ³	13057135	43 34 48	112 04 12	7/23/2002	DM	214
Idaho Canal near Lewisville	13057145	43 46 48	112 03 00	7/23/2002	DM	910
Subreach between site numbers U18 and U19						
Burgess Canal Drain near Idaho Falls	13057100	43 37 00	112 03 03	7/23/2002	---	.8
Subreach between site numbers U19 and U20						
North Willow Creek near Idaho Falls	---	43 30 42	112 03 04	7/23/2002	---	1
Porter Canal near Idaho Falls ³	13057250	43 30 00	112 03 00	7/23/2002	DM	251
South Willow Creek near Idaho Falls	---	43 30 04	112 02 35	7/23/2002	---	0
Woodville Canal near Idaho Falls	13059505	43 25 48	112 06 00	7/23/2002	DM	43
Snake River Valley Canal near Idaho Falls	13059525	43 27 00	112 04 48	7/23/2002	DM	371

¹ Streamflow resulting from spring discharge; not used in calculation of gain/loss estimates.

² Long-term United States Geological Survey gaging station.

³ Actual canal discharge; spillback portion was accounted for.

EXPLANATION

- ▲ **U12** Streamflow-gaging station and site number
- **U15** Intermediate measurement site and number
- 228 Gain, in cubic feet per second
- (196) Loss, in cubic feet per second

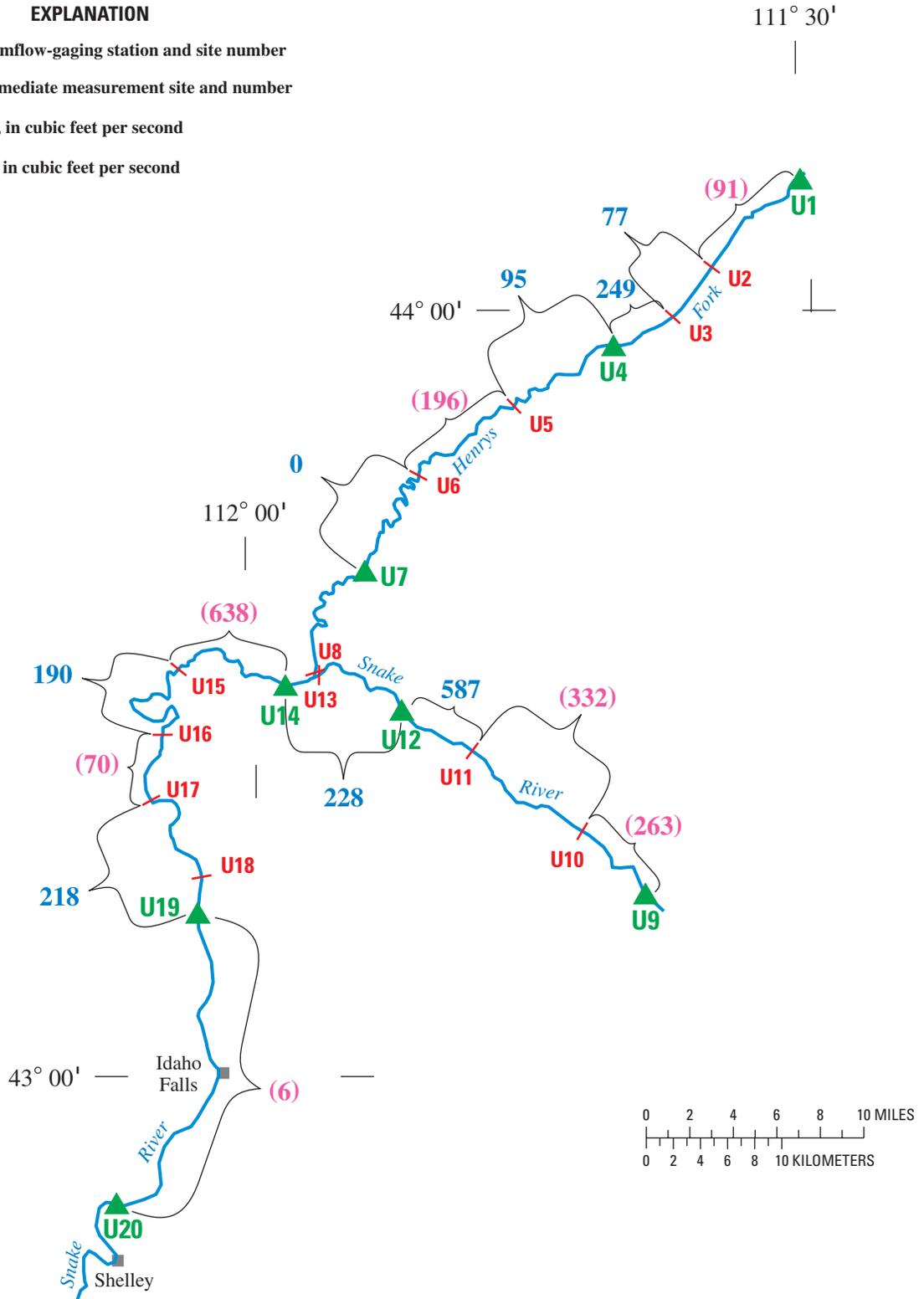


Figure C15. Streamflow gains and losses in the upper reach, along the Henrys Fork between the near Ashton gaging station and the mouth, near Lorenzo, and along the Snake River between the near Heise and near Shelly gaging stations, Idaho, July 22–23, 2002.

Table C16. Estimates of streamflow gains and losses in specified subreaches of the Henrys Fork between the near Ashton gaging station and the mouth, near Lorenzo, and the Snake River between the near Heise and near Shelley gaging stations, Idaho, November 4-5, 2002

[ft³/s, cubic feet per second; mi, mile; ---, no data; estimated gain/loss presented across from the downstream site; values in **boldface** are statistically significant]

Site number (see figure 5)	Gaging-station name (number) or intermediate measurement site	River mile		Discharge (ft ³ /s)	Date	Time	Total gain or (loss) (ft ³ /s)	Gain or (loss) per mile (ft ³ /s/mi)
U1	Henrys Fork near Ashton (13046000)	44.2		929	11/5/2002	0445		
			total estimated inflow	425				
			total estimated outflow	0				
U2	Henrys Fork below Falls River, near Ashton	38.5		1220	11/5/2002	0739	(134)	(24)
			total estimated inflow	0				
			total estimated outflow	75				
U3	Henrys Fork near Twin Groves	35.6		¹ ---	---	---	---	---
			total estimated inflow	0				
			total estimated outflow	40				
U4	Henrys Fork near St. Anthony (13050500)	32.4		1450	11/5/2002	1045	344	56
			total estimated inflow	0				
			total estimated outflow	26				
U5	Henrys Fork near Parker	25.6		1130	11/4/2002	1732	(44)	(6)
			total estimated inflow	210				
			total estimated outflow	0				
U6	Henrys Fork near Hibbard	19.0		1280	11/4/2002	1650	(60)	(9)
			total estimated inflow	118				
			total estimated outflow	0				
U7	Henrys Fork near Rexburg (13056500)	9.2		1380	11/4/2002	2130	(18)	(2)
			total estimated inflow	64				
			total estimated outflow	0				
U8	Henrys Fork at mouth, near Lorenzo	0.2		1370	11/4/2002	1523	(64)	(7)

Table C16. Estimates of streamflow gains and losses in specified subreaches of the Henrys Fork between the near Ashton gaging station and the mouth, near Lorenzo, and the Snake River between the near Heise and near Shelley gaging stations, Idaho, November 4-5, 2002--Continued

Site number (see figure 5)	Gaging-station name (number) or intermediate measurement site	River mile		Discharge (ft ³ /s)	Date	Time	Total gain or (loss) (ft ³ /s)	Gain or (loss) per mile (ft ³ /s/mi)
U9	Snake River near Heise (13037500)	853.6		1550	11/4/2002	1130		
			total estimated inflow	2				
			total estimated outflow	520				
U10	Snake River below Dry Bed, near Heise	849.5		856	11/4/2002	1331	(176)	(43)
			total estimated inflow	0				
			total estimated outflow	36				
U11	Snake River near Archer	842.8		641	11/4/2002	1240	(179)	(27)
			total estimated inflow	0				
			total estimated outflow	2				
U12	Snake River at Lorenzo (13038500)	837.9		570	11/4/2002	1500	(69)	(14)
				558	11/4/2002	1230		
			total estimated inflow	0				
			total estimated outflow	0				
U13	Snake River above Henrys Fork, near Menan	832.5		² ---	---	---	---	---
			Henrys Fork estimated inflow	1370				
			total estimated inflow	5				
			total estimated outflow	0				
U14	Snake River near Menan (13057000)	830.0		2450	11/4/2002	1615	517	30
				2280	11/5/2002	0600		
			total estimated inflow	0				
			total estimated outflow	6				
U15	Snake River below Deer Parks, near Menan	822.5		1980	11/5/2002	0937	(294)	(39)
			total estimated inflow	31				
			total estimated outflow	0				
U16	Snake River near Roberts	815.3		2030	11/5/2002	1524	19	3
			total estimated inflow	0				
			total estimated outflow	0				
U17	Snake River above Dry Bed, near Roberts	811.9		¹ ---	---	---	---	---
			total estimated inflow	231				
			total estimated outflow	0				

Table C16. Estimates of streamflow gains and losses in specified subreaches of the Henrys Fork between the near Ashton gaging station and the mouth, near Lorenzo, and the Snake River between the near Heise and near Shelley gaging stations, Idaho, November 4-5, 2002--Continued

Site number (see figure 5)	Gaging-station name (number) or intermediate measurement site	River mile	Discharge (ft ³ /s)	Date	Time	Total gain or (loss) (ft ³ /s)	Gain or (loss) per mile (ft ³ /s/mi)
U18	Snake River near Lewisville	806.3	2430	11/5/2002	1428	169	19
			total estimated inflow			0	
			total estimated outflow			0	
U19	Snake River near Idaho Falls (13057155)	805.0	2540	11/5/2002	1515	110	85
			2610	10/22 - 11/20/2002	30-day average		
			total estimated inflow			0	
			total estimated outflow			11	
U20	Snake River near Shelley (13060000)	787.8	2450	10/22 - 11/20/2002	30-day average	(149)	(9)

¹ Discharge was not measured because of ice in the river channel.

² Discharge was measured but not used in the calculations (see table C18).

Table C17. Discharge data from gaging stations along the Henrys Fork between the near Ashton gaging station and the mouth, near Lorenzo, and the Snake River between the near Heise and near Shelley gaging stations, Idaho, November 4-5, 2002

[ft³/s, cubic feet per second]

Site number (see figure C20)	Gaging-station name (number)	Date	Time	Discharge (ft³/s)
U1	Henrys Fork near Ashton (13046000)	11/5/2002	0445	929
U4	Henrys Fork near St. Anthony (13050500)	11/5/2002 11/4/2002	1045 1415	1450 1200
U7	Henrys Fork near Rexburg (13056500)	11/4/2002 11/4/2002	2130 1100	1380 1370
U9	Snake River near Heise (13037500)	11/4/2002	1130	1550
U12	Snake River at Lorenzo (13038500)	11/4/2002 11/4/2002	1500 1230	570 558
U14	Snake River near Menan (13057000)	11/4/2002 11/5/2002	1615 0600	2450 2280
U19	Snake River near Idaho Falls (13057155)	11/5/2002 10/22 - 11/20/2002	1515 30-day average	2540 2610
U20	Snake River near Shelley (13060000)	10/22 - 11/20/2002	30-day average	2450

Table C18. Discharge data from acoustic Doppler measurements along the Henrys Fork between the near Ashton gaging station and the mouth, near Lorenzo, and the Snake River between the near Heise and near Shelley gaging stations, Idaho, November 4-5, 2002

[ft³/s, cubic feet per second; COV, coefficient of variation; σ , standard deviation; μ , mean; ---, no data]

Site number (see figure)		Date	Time	Discharge (ft ³ /s)	COV (σ/μ)
C20)	Intermediate measurement site				
U2	Henrys Fork below Falls River, near Ashton	11/5/2002	0739	1220	0.02
U3	Henrys Fork near Twin Groves	¹ ---	---	---	---
U5	Henrys Fork near Parker	11/4/2002	1732	1130	.02
U6	Henrys Fork near Hibbard	11/4/2002	1650	1280	.02
U8	Henrys Fork at mouth, near Lorenzo	11/4/2002	1523	1370	.02
U10	Snake River below Dry Bed, near Heise	11/4/2002	1331	856	.02
U11	Snake River near Archer	11/4/2002	1240	641	.03
U13	Snake River above Henrys Fork, near Menan	11/4/2002	1507	² 614	.02
U15	Snake River below Deer Parks, near Menan	11/5/2002	0937	1980	.03
U16	Snake River near Roberts	11/5/2002	1524	2030	.02
U17	Snake River above Dry Bed, near Roberts	¹ ---	---	---	---
U18	Snake River near Lewisville	11/5/2002	1428	2430	.09

¹ Discharge was not measured because of ice on the river.

² Discharge was measured but not used in the calculations because all of the flow likely was not measured.

Table C19. Discharge data for all inspected inflow and outflow sites along the Henrys Fork between the near Ashton gaging station and the mouth, near Lorenzo, and the Snake River between the near Heise and near Shelley gaging stations, Idaho, November 4-6, 2002

[Latitude and longitude in degrees, minutes, seconds referenced in North American Datum of 1983; ft³/s, cubic feet per second; site numbers shown in figure C20; ---, no data; DM, daily mean discharge; values in shaded areas indicate canal withdrawals]

Inspection site name	Gaging-station number	Location		Date	Time	Discharge (ft ³ /s)
		Latitude	Longitude			
Subreach between map numbers U1 and U2						
Arcadia Canal return near Ashton	---	---	---	---	---	---
Snow Creek near Ashton	---	44 04 17	111 31 33	11/4/2002	---	2.4
Black Spring near Ashton	---	44 02 59	111 32 20	11/4/2002	---	¹ 10.3
Sand Creek near Ashton	---	---	---	---	---	---
Farmers Own return near Ashton	---	44 02 32	111 32 20	11/4/2002	---	0
Unnamed tributary near Ashton	---	44 01 40	111 32 57	11/4/2002	---	1
Falls River Diversion return near Ashton	---	44 01 40	111 33 20	11/4/2002	---	2
Falls River near Chester	² 13049500	44 01 06	111 33 57	11/5/2002	DM	420
Dewey Canal near Chester	13046310	44 01 12	111 34 56	11/4/2002	DM	0
Subreach between map numbers U2 and U3						
Last Chance Canal near Chester	13049550	44 01 01	111 35 10	11/4/2002	DM	15
Cross Cut Canal near Chester	13049560	44 00 58	111 34 57	11/4/2002	DM	60
Subreach between map numbers U3 and U4						
Farmers Friend Canal near Twin Groves	13049705	43 58 29	111 39 02	11/4/2002	---	.5
Twin Groves Canal near Twin Groves	13049710	43 57 21	111 40 05	11/4/2002	---	37.8
St. Anthony Union Canal near Twin Groves	13049725	43 58 19	111 38 27	11/4/2002	DM	0
Salem Union Canal near St. Anthony	13049805	43 58 20	111 39 01	11/4/2002	---	1.5
Subreach between map numbers U4 and U5						
Egin Canal near St. Anthony	13050525	43 57 56	111 41 23	11/4/2002	DM	0
St. Anthony Union Feeder near St. Anthony	13050530	43 57 38	111 41 59	11/4/2002	---	2.5
Independent Canal near St. Anthony	13050535	43 57 29	111 42 21	11/4/2002	---	.2
Consolidated Farmers Canal near Parker	13050545	43 53 54	111 46 47	11/4/2002	---	23.6
Unnamed tributary near Parker	---	---	---	11/4/2002	---	0
Subreach between map numbers U5 and U6						
Roxana Canal return near Teton	---	43 53 55	111 48 31	11/4/2002	---	3.0
North Fork Teton River at Teton	² 13055198	43 53 53	111 40 38	11/4/2002	DM	207
Subreach between map numbers U6 and U7						
Teton Island Canal return near Teton	---	43 50 31	111 49 05	11/4/2002	---	4.5
Unnamed tributary near Teton	---	43 51 31	111 51 29	11/5/2002	---	0
Island Ward Canal return near Rexburg	---	43 51 18	111 51 28	11/5/2002	---	0
Clements Spori Ditch near Rexburg	---	43 50 26	111 51 11	11/5/2002	---	0
South Fork Teton River near Rexburg	² 13055340	43 50 07	111 46 38	11/5/2002	DM	113
St. Anthony / Independent return near Rexburg	---	---	---	11/4/2002	---	0
Subreach between map numbers U7 and U8						
Rexburg Canal return near Rexburg	---	43 48 55	111 53 15	11/4/2002	DM	0
Texas Slough Canal return near Rexburg	---	43 48 00	111 54 48	11/4/2002	DM	0
Texas Slough near Rexburg	---	43 47 17	111 53 45	11/4/2002	---	49.5
Liberty Parks Canal return near Rexburg	---	43 47 24	111 55 27	11/4/2002	---	2.4
Bannock Jim Slough near Rexburg	---	43 46 30	111 56 11	11/4/2002	---	12.3
Subreach between map numbers U9 and U10						
Anderson Canal near Heise	13037505	43 36 54	111 39 37	11/4/2002	DM	0
Eagle Rock Canal near Heise	13037975	43 37 48	111 40 48	11/4/2002	DM	0
Farmers Friend Canal near Heise	13037980	43 37 47	111 41 29	11/4/2002	DM	0
Enterprise Canal near Heise	13037985	43 37 49	111 41 29	11/4/2002	DM	0
Dry Bed near Ririe	² 13038000	43 38 21	111 42 55	11/4/2002	DM	517
Kelly Canyon near Heise	---	43 37 44	111 39 40	11/5/2002	---	1.5

Table C19. Discharge data for all inspected inflow and outflow sites along the Henrys Fork between the near Ashton gaging station and the mouth, near Lorenzo, and the Snake River between the near Heise and near Shelley gaging stations, Idaho, November 4-6, 2002--Continued

Inspection site name	Gaging-station number	Location		Date	Time	Discharge (ft ³ /s)
		Latitude	Longitude			
Subreach between site numbers U9 and U10--continued						
Hawley Warm Spring near Heise	---	43 38 56	111 42 15	11/5/2002	---	¹ 2.4
Sunnydell Canal near Sunnydell ³	13038392	43 38 56	111 42 17	11/5/2002	---	2.5
Subreach between map numbers U10 and U11						
Lenroot Canal near Archer	13038426	43 41 18	111 46 40	11/5/2002	---	0
Reid Canal near Archer	13038431	43 42 04	111 48 05	11/5/2002	---	35.8
Subreach between map numbers U11 and U12						
Texas & Liberty Canal near Lorenzo	13038434	43 43 06	111 49 37	11/5/2002	DM	2
Bannock Jim Slough near Lorenzo	13038435	43 43 16	111 50 09	11/5/2002	DM	0
Subreach between map numbers U12 and U13						
---	---	---	---	---	---	---
Subreach between map numbers U13 and U14						
Annis Slough near Menan	---	43 44 46	111 56 37	---	---	---
Scotts Slough near Menan	---	43 44 32	111 58 20	11/5/2002	---	4.6
Subreach between map numbers U14 and U15						
Butte & Market Lake Canal	13057025	43 45 13	111 58 51	11/5/2002	---	5.9
Subreach between map numbers U15 and U16						
Big Six Canal return near Roberts	---	43 44 21	112 04 43	11/5/2002	---	4.5
Spring Creek near Roberts	---	43 43 15	112 04 21	11/5/2002	---	26.8
Subreach between map numbers U16 and U17						
---	---	---	---	---	---	---
Subreach between map numbers U17 and U18						
Dry Bed near Roberts	---	43 42 11	112 04 13	11/4/2002	DM	231
South Parks Canal return near Roberts	---	43 41 19	112 03 47	11/5/2002	DM	0
Butte Market Lake Canal return near Roberts	---	43 39 20	112 05 27	11/5/2002	DM	0
Great Western Canal near Lewisville ³	13057135	43 34 48	112 04 12	11/5/2002	DM	0
Idaho Canal near Lewisville	13057145	43 46 48	112 03 00	11/5/2002	DM	0
Subreach between map numbers U18 and U19						
Burgess Canal Drain near Idaho Falls	13057100	43 37 00	112 03 03	11/5/2002	---	0
Subreach between map numbers U19 and U20						
North Willow Creek near Idaho Falls	---	43 30 42	112 03 04	11/6/2002	---	0
Porter Canal near Idaho Falls ³	13057250	43 30 00	112 03 00	11/6/2002	DM	10
South Willow Creek near Idaho Falls	---	43 30 04	112 02 35	11/6/2002	---	0
Woodville Canal near Idaho Falls	13059505	43 25 48	112 06 00	11/6/2002	DM	1
Snake River Valley Canal near Idaho Falls	13059525	43 27 00	112 04 48	11/5/2002	DM	0

¹ Streamflow resulting from spring discharge; not used in calculation of gain/loss estimates.

² Long-term United States Geological Survey gaging station.

³ Actual canal discharge; spillback portion was accounted for.

EXPLANATION

- ▲ **U12** Streamflow-gaging station and site number
- **U15** Intermediate measurement site and number
- 517 Gain, in cubic feet per second
- (179) Loss, in cubic feet per second

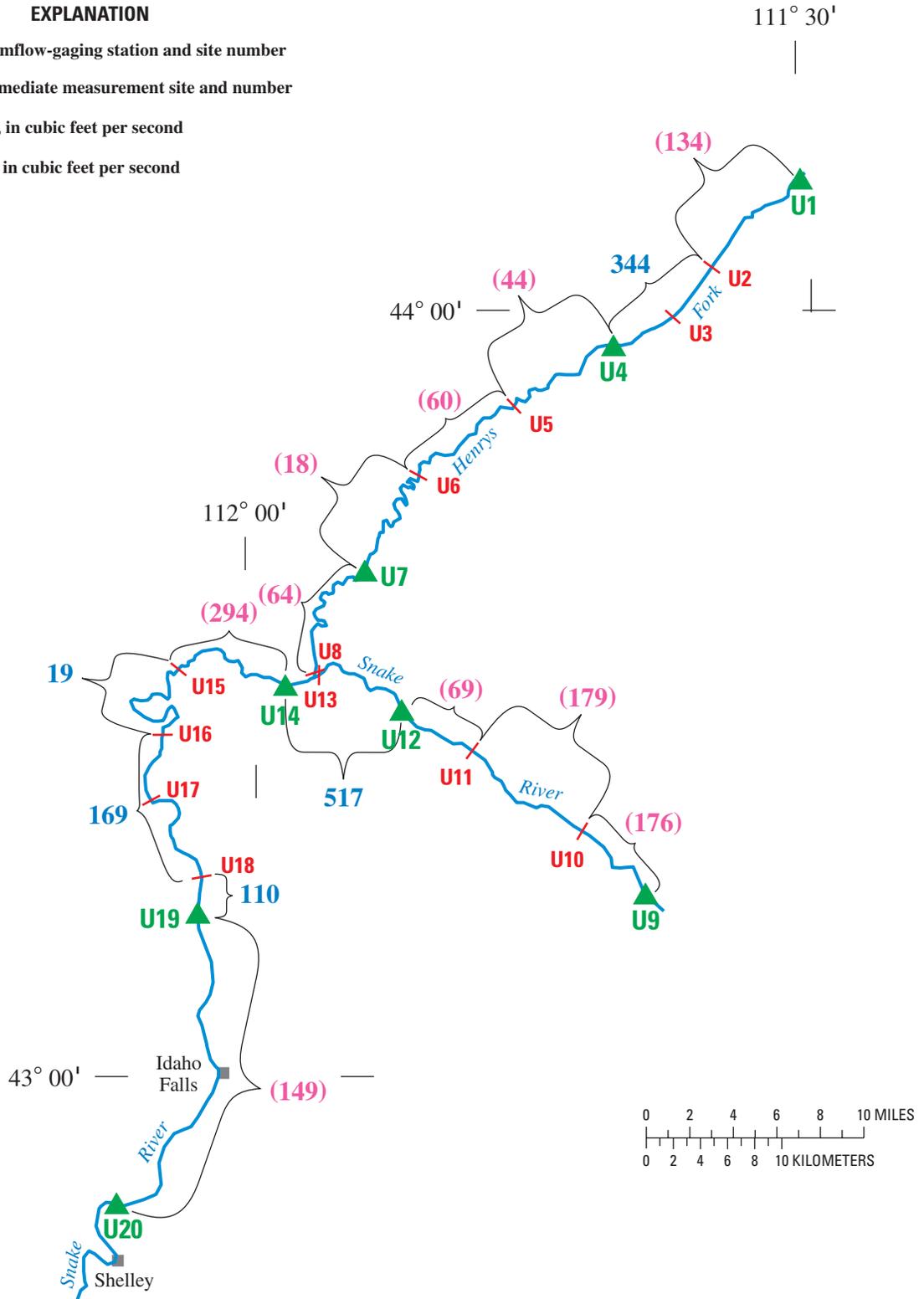


Figure C20. Streamflow gains and losses in the upper reach, along the Henrys Fork between the near Ashton gaging station and the mouth, near Lorenzo, and along the Snake River between the near Heise and near Shelly gaging stations, Idaho, November 4–5, 2002.