

Prepared in cooperation with the
Colorado Springs Utilities, the
Colorado Water Conservation Board, and the
El Paso County Water Authority

Application of a Stream-Aquifer Model to Monument Creek for Development of a Method to Estimate Transit Losses for Reusable Water, El Paso County, Colorado



Scientific Investigations Report 2006–5184

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By Gerhard Kuhn and L. Rick Arnold

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Conversion Factors and Datums

Multiply	By	To obtain
acre-foot (acre-ft)	1,233	cubic meter
cubic foot per second (ft ³ /s)	0.02832	cubic meter per second
foot (ft)	0.3048	meter
foot per day (ft/d)	0.3048	meter per day
foot per second (ft/s)	0.3048	meter per second
foot squared per day (ft ² /d)	0.09290	meter squared per day
inch	25.4	millimeter
mile (mi)	1.609	kilometer
square mile (mi ²)	2.590	square kilometer

Temperature in degrees Fahrenheit (°F) may be converted to degrees Celsius (°C) as follows:
 $^{\circ}\text{C} = (^{\circ}\text{F} - 32)/1.8$

Vertical coordinate information is referenced to the North American Vertical Datum of 1988 (NAVD 88).

Horizontal coordinate information is referenced to the North American Datum of 1983 (NAD 83).

Abbreviations, Acronyms, and Definition of Terms

Altitude As used in this report, refers to distance above the vertical datum.

CSU Colorado Springs Utilities

CWCB Colorado Water Conservation Board

EPCWA El Paso County Water Authority

F Fahrenheit

Hydraulic conductivity The capacity of a rock (geologic formation) to transmit water. It is expressed as the volume of water at the existing kinematic viscosity that will move in unit time under a unit hydraulic gradient through a unit area measured at right angles to the direction of flow (Heath, 1983, p. 12).

Imported water	Water that is taken from one basin (watershed) for use in a different basin; hence, the imported water is not a natural part of the water supply in the basin of use (Radosevich and others, 1976, p. 88–89). The cited reference uses the term “foreign water,” but “imported water” is used herein.
Native water	Surface and underground waters naturally occurring in a watershed (Waskom and Neibauer, 2004).
Phreatophytes	Plants that depend for their water supply upon ground water that lies within the reach of their roots (Robinson, 1958).
Return flow	The amount of water that reaches a surface- or ground-water source after it has been released from the point of use and thus becomes available for further reuse (Waskom and Neibauer, 2004).
Reusable water	As used in this report, reusable water is any type of imported water (including transmountain water) and incorporates the concepts of (1) “re-use” of imported water, or the subsequent use for the same purpose as the original use; (2) “successive use” of imported water, or the subsequent use for a different purpose; and, (3) the “right of disposition,” or the right to sell, lease, exchange, or otherwise dispose of imported water return flows (Radosevich and others, 1976, p. 93).
Specific retention	The ratio of the volume of water retained in a rock after gravity drainage to the volume of the rock (Heath, 1983, p. 8).
Specific yield	The ratio of the volume of water that will drain under the influence of gravity to the volume of saturated rock (Heath, 1983, p. 8).
Station	Streamflow-gaging station
Storage coefficient	The volume of water released from storage in a unit prism of an aquifer when the head is lowered a specific distance. In an unconfined (alluvial) aquifer, storage coefficient is virtually equal to specific yield (Heath, 1983, p. 28–29).
Transmissivity	The rate at which water of the prevailing kinematic viscosity is transmitted through a unit width of an aquifer under a unit hydraulic gradient. It equals the hydraulic conductivity multiplied by the aquifer thickness (Heath, 1983, p. 26). The standard unit for transmissivity is cubic foot per day per square foot times foot of aquifer thickness $[(\text{ft}^3/\text{d})/\text{ft}^2] \text{ ft}$. In this report, the mathematically reduced form, foot squared per day (ft^2/d), is used for convenience.
Transmountain water	A type of imported water in which the water is imported across the Continental Divide.
USGS	U.S. Geological Survey
Water year	A continuous 12-month period representing an annual hydrologic cycle selected to present data relative to hydrologic or meteorological phenomena. The water year used by the U.S. Geological Survey (and herein) runs from October 1 through September 30 and is designated by the year in which it ends.
WWTF	Wastewater-treatment facility

Application of a Stream-Aquifer Model to Monument Creek for Development of Methods to Estimate Transit Losses for Reusable Water, El Paso County, Colorado

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Abstract

The U.S. Geological Survey, in cooperation with Colorado Springs Utilities, the Colorado Water Conservation Board, and the El Paso County Water Authority, began a study in 2004 to (1) apply a stream-aquifer model to Monument Creek, (2) use the results of the modeling to develop a transit-loss accounting program for Monument Creek, (3) revise the existing transit-loss accounting program for Fountain Creek to incorporate new water-management strategies and allow for incorporation of future changes in water-management strategies, and (4) integrate the two accounting programs into a single program with a Web-based user interface. The purpose of this report is to present the results of applying a stream-aquifer model to the Monument Creek study reach.

Transit losses were estimated for reusable-water flows in Monument Creek that ranged from 1 to 200 cubic feet per second (ft^3/s) and for native streamflows that ranged from 0 to 1,000 ft^3/s . Transit losses were estimated for bank-storage, channel-storage, and evaporative losses. The same stream-aquifer model used in the previously completed (1988) Fountain Creek study was used in the Monument Creek study.

Sixteen model nodes were established for the Monument Creek study reach, defining 15 subreaches. Channel length, aquifer length, and aquifer width for the subreaches were estimated from available topographic and geologic maps. Thickness of alluvial deposits and saturated thickness were estimated using lithologic and water-level data from about 100 wells and test holes in or near the Monument Creek study reach. Estimated average transmissivities for the subreaches ranged from 2,000 to 12,000 feet squared per day, and a uniform value of 0.20 was used for storage coefficient.

Qualitative comparison of recorded and simulated streamflow at the downstream node for the calibration and verification simulations indicated that the two streamflows compared reasonably well. No adjustments were made to

the model parameters. Differences between recorded and simulated streamflow volumes for all calibration and verification simulations ranged from about -8.8 to 7.5 percent; the total error for all simulations was about -0.7 percent.

The model was used to estimate bank-storage losses for 10 to 15 native streamflows for each reusable-water flow of 1, 3, 5, 7, 10, 15, 20, 30, 40, 50, 100, and 200 ft^3/s . Then the 10 to 15 bank-storage loss values were used in least-squares linear regression to estimate a relation between bank-storage loss and native streamflow for each of the 12 reusable-water flow rates. The 12 regression relations then were used to develop "look-up" tables of bank-storage loss for reusable-water flows ranging from 1 to 200 ft^3/s (in 1- ft^3/s increments). Additional model simulations indicated that (1) when the ratio of downstream native streamflow to upstream native streamflow was less than 1, bank-storage loss generally increased and (2) when the ratio of downstream native streamflow to upstream native streamflow was larger than 1, bank-storage loss generally decreased. These results were used to develop a bank-storage loss adjustment factor based on the ratio of native streamflow at the downstream node to native streamflow at the upstream node. The model also was used to estimate a recovery period, which is the length of time needed for the bank-storage loss to return to the stream. The recovery period was 1 day for six subreaches; 2 days for four subreaches; between 3 and 12 days for four subreaches; and 28 days for one subreach.

Channel-storage losses are about 10 percent of the reusable-water flow for most of the subreaches, except for two subreaches, where the channel-storage losses are about 20 percent, and one subreach, where the losses are about 30 percent, owing to the greater channel lengths. Evaporative losses were estimated by the use of monthly pan-evaporation data and the incremental increase in stream width resulting from any reusable-water flows. Monthly pan-evaporation data were converted to a daily rate. The daily rate, when multiplied by the stream-width increase (in feet) that results from reusable-water flow and by the subreach length (in miles) gives the daily evaporative loss in cubic feet per second.

Introduction

In 1988, the U.S. Geological Survey (USGS), in cooperation with Colorado Springs Utilities (CSU), completed a study to develop a method to estimate transit losses for return flows of transmountain water (hereinafter, “reusable water”) discharged into Fountain Creek at the CSU Las Vegas Street wastewater-treatment facility (WWTF) (fig. 1). The study, described in detail in Kuhn (1988), used a stream-aquifer model to estimate the volume of reusable return flow in Fountain Creek at a number of locations along the stream reach for a large range of reusable and native discharges. Results from applying the stream-aquifer model were incorporated into a FORTRAN-based transit-loss accounting program (Kuhn and others, 1998). Under Colorado water law, imported (reusable) water can be used and reused to the point of extinction if the imported water can be quantified at the point of intended reuse (Radosevich and others, 1976). The transit-loss accounting program that was developed enabled quantification and, hence, reuse of the reusable return flows at selected locations along Fountain Creek. The accounting program has been in continual use since April 1989 and has provided a tool to effectively administer and manage reusable and native streamflow rights along Fountain Creek on a daily basis (Kuhn and others, 1998). [Note: See “Abbreviations, Acronyms, and Definition of Terms” section for definitions of selected terms used in this report.]

Since implementation of the transit-loss accounting program, the population of Colorado Springs has increased substantially. Primarily because of population growth, the Las Vegas Street WWTF operated at 80-percent capacity by 2001, indicating a need for additional wastewater-treatment capacity in the near future (Colorado Springs Utilities, 2004). Partly because of recent and estimated future population increases in the northern part of Colorado Springs and partly because of increased potential to use reclaimed (return-flow) water (Colorado Springs Utilities, 2004), CSU is constructing the Northern Water Reclamation Facility (scheduled to become operational in 2006) adjacent to Monument Creek, a tributary to Fountain Creek, in the northern part of Colorado Springs (fig. 1). When completed, the facility will receive some of the wastewater currently discharged into Fountain Creek at the Las Vegas Street WWTF. Some of the wastewater discharged into Monument Creek at the Northern Water Reclamation Facility likely will consist of reusable return flows. Management of any reusable water discharged into Monument Creek at the facility may include transportation along Monument Creek downstream to some undetermined location; this management requires estimation of transit losses.

In addition, a number of other municipal entities in the Monument Creek basin, such as Monument, Palmer Lake, and Woodmoor (fig. 1), also either currently (2006) derive a portion of their water from reusable sources or in the future

plan to derive a portion of their water from reusable sources. Wastewater return flows from these municipal entities usually are discharged into Monument Creek or one of its tributaries. Management of any reusable water by these municipal entities likely would include transportation of the reusable water along Monument Creek downstream to some undetermined location; this management also requires estimation of transit losses.

Because no methods are available to reliably estimate transit losses along Monument Creek and because of the increasing needs to manage and account for native and reusable water along Monument and Fountain Creeks, the USGS, in cooperation with CSU, the Colorado Water Conservation Board (CWCB), and the El Paso County Water Authority (EPCWA), began a study in 2004 with the following objectives: (1) Apply a stream-aquifer model to Monument Creek; (2) use the results of the modeling to develop a transit-loss accounting program for Monument Creek, (3) revise the existing transit-loss accounting program for Fountain Creek to incorporate new water-management strategies and allow for incorporation of future changes in water-management strategies without significant expenditure of time or money, and (4) integrate the two accounting programs into a single program with a Web-based user interface that incorporates simple and reliable data input that is automated to the fullest extent possible.

Purpose and Scope

The purpose of this report is to present the results of applying a stream-aquifer model (hereinafter “model”) to Monument Creek and a small portion of Fountain Creek (fig. 2) (hereinafter, “the Monument Creek study reach”). The Monument Creek study reach extends from streamflow-gaging station (hereinafter, “station”) 07103747 Monument Creek at Palmer Lake downstream to the Las Vegas Street WWTF (fig. 2; table 1), which was the beginning point for the previously completed Fountain Creek transit-loss study (Kuhn, 1988). It is important, however, to remember that the Monument Creek study reach includes about 2 mi along Fountain Creek from the confluence with Monument Creek downstream to the Las Vegas Street WWTF (fig. 2).

Transit losses were estimated and will be applied on a daily basis; therefore, average daily streamflow, diversion, and return-flow data were used in the analysis. Transit losses were estimated for reusable-water flows that ranged from 1 to 200 ft³/s and for native streamflows that ranged from 0 to 1,000 ft³/s. Transit losses were estimated for bank-storage, channel-storage, and evaporative losses. Results from applying the model to the Monument Creek study reach (objective [1]) will provide the “building blocks” for developing the transit-loss accounting program for Monument Creek (objective [2]).

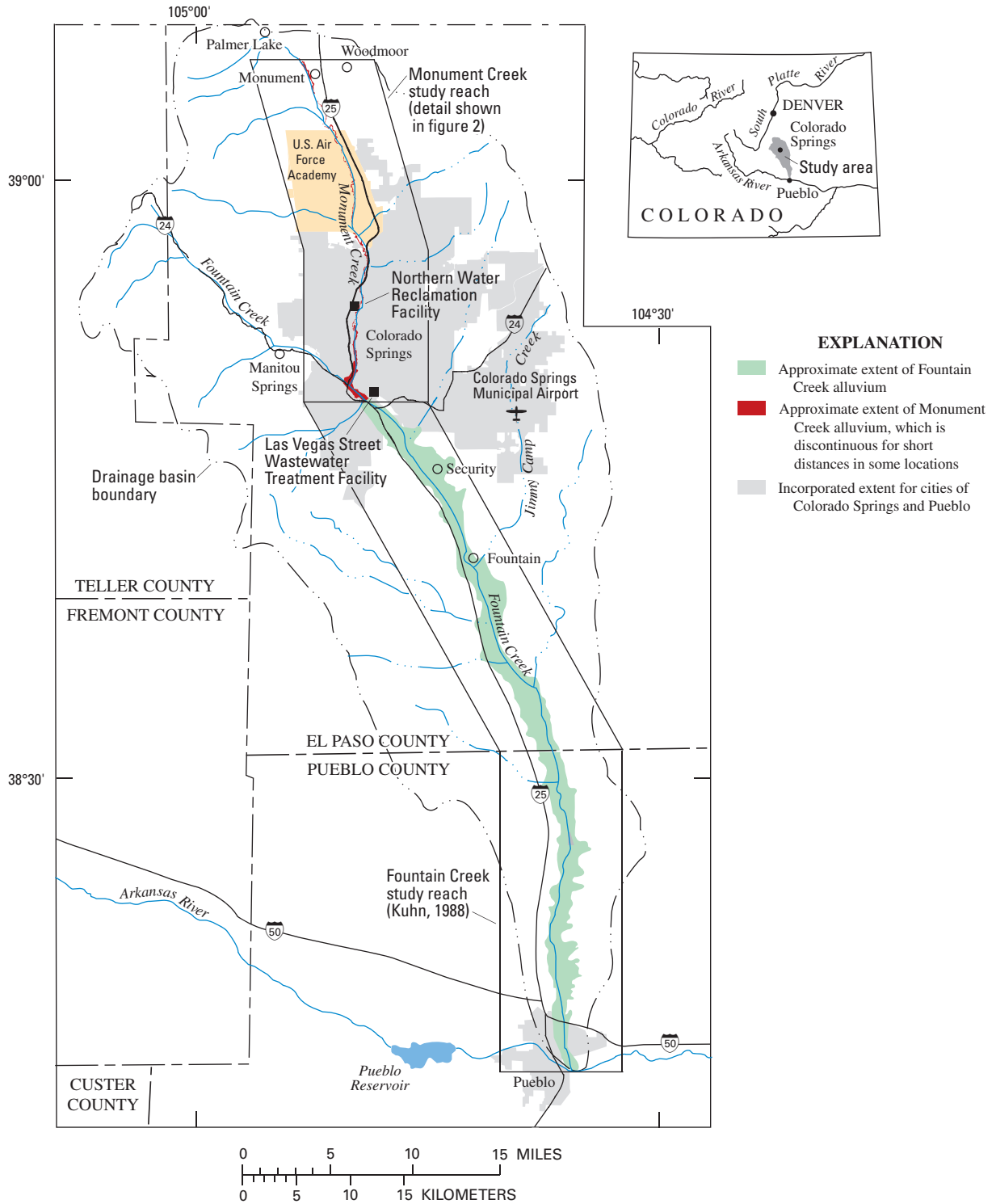


Figure 1. Study reaches along Monument and Fountain Creeks used in application of stream-aquifer model for development of transit-loss accounting programs.

4 Application of a Stream-Aquifer Model to Monument Creek for Development of Methods to Estimate Transit Losses

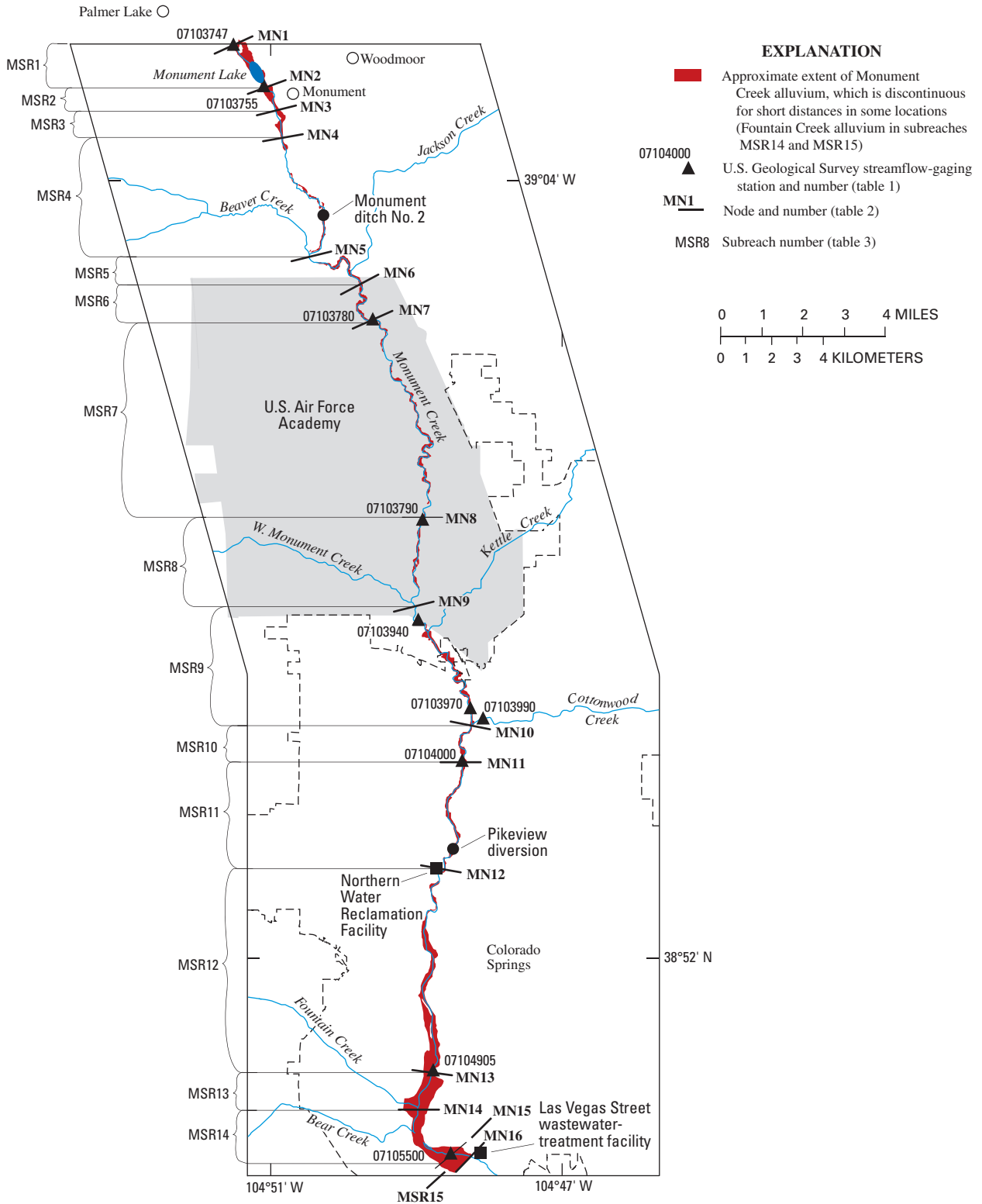


Figure 2. Monument Creek study reach and adjacent area used in application of stream-aquifer model to estimate transit losses for reusable water.

Table 1. Streamflow-gaging stations along Monument Creek study reach used in application of stream-aquifer model to estimate transit losses for reusable water.

[A, active; D, discontinued; --, station was established during December, 2005]

Station number	Station name	Drainage area (square miles)	Station status ¹	Period of record ² (water years)
07103747	Monument Creek at Palmer Lake	25.9	A	1977–1990; 2004–2005
07103755	Monument Creek below Monument Lake near Monument	28.3	A	--
07103780	Monument Creek above Northgate Boulevard at U.S. Air Force Academy	81.7	A	1985–2005
07103785	Deadmans Creek above Deadmans Lake at U.S. Air Force Academy	1.55	D	2000–2003
07103790	Monument Creek below sewage treatment plant at U.S. Air Force Academy	122	D	2000–2003
07103800	West Monument Creek at U.S. Air Force Academy	14.9	A	1970–2005
07103930	West Monument Creek at mouth at U.S. Air Force Academy	23.5	D	2000–2003
07103940	Monument Creek at south boundary at U.S. Air Force Academy	150	D	2000–2003
07103960	Kettle Creek above U.S. Air Force Academy	16.0	D	2000–2003
07103970	Monument Creek above Woodmen Road at Colorado Springs	181	A	1997–2005
07103990	Cottonwood Creek at mouth at Pikeview	18.7	A	1986–2005
07104000	Monument Creek at Pikeview	204	A	1976–2005
07104905	Monument Creek at Bijou Street at Colorado Springs	235	A	2003–2005
07105000	Bear Creek near Colorado Springs	6.89	A	1992–2005
07105490	Cheyenne Creek at Evans Avenue at Colorado Springs	21.7	A	1992–2005
07105500	Fountain Creek at Colorado Springs	392	A	1976–2005

¹Station status as of October 1, 2005 (beginning of water year 2006).²Records before water year 1970 not included in listed period of record.

Approach

Transit loss in a complex stream-aquifer system, such as the Monument Creek study reach (see “Description of Study Area” section in this report), can be estimated most effectively by use of computer-based models. These models provide the capability to simulate streamflow in a given stream and to simulate the interaction of the streamflow with an alluvial aquifer with reasonable accuracy. The same model developed by the USGS (Land, 1977) and used in the previously completed Fountain Creek transit-loss study (Kuhn, 1988) was selected for use in the Monument Creek study. This model, however, has no provision for computing evaporative losses. Therefore, these losses were computed using the evaporation-loss component from another model that has been used to estimate transit losses for reservoir releases on the lower Arkansas River (Livingston, 1978). Estimation of transit losses for Monument Creek consisted of five steps: (1) Identification of all potential transit losses and evaluation of applicability to the present study, (2) compilation and analysis of data to define the physical and hydraulic characteristics of the study reach, (3) calibration and verification of the model, (4) estimation of bank-storage and channel-storage losses with the calibrated and verified model, and (5) estimation of evaporative losses.

Description of Study Area

The Monument Creek study reach consists of the alluvial valleys along Monument Creek and a small part of Fountain Creek, from north of Monument downstream to the Las Vegas Street WWTF in Colorado Springs (fig. 2); the area is about 22 mi long and ranges in width from about 100 to 3,000 ft. In the study area, the alluvial valleys along Monument and Fountain Creeks are bordered by small ridges that rise about 20 to 100 ft above the valley floor. Altitude in the area ranges from about 6,950 ft at Monument to about 5,850 ft at the Las Vegas Street WWTF. Climate in the area is semiarid, and annual precipitation averages about 22.9 inches at Palmer Lake and 17.5 inches at Colorado Springs (Western Regional Climate Center, 2005a, 2005b). Precipitation during winter and spring is substantially larger at Palmer Lake than at Colorado Springs (fig. 3A), owing to the general increase in precipitation with increasing elevation. Precipitation during June, July, and August is somewhat larger at Colorado Springs than at Palmer Lake (fig. 3A), owing to the increased intensity of thunderstorms east of the mountain front. Monthly temperatures are similar at both stations but generally are about 5°F less at Palmer Lake (fig. 3B), primarily owing to the higher elevation.

The Monument Creek alluvium ranges in width from about 0 to 2,000 ft at its widest point at the confluence with Fountain Creek (fig. 2). The alluvium generally is less than

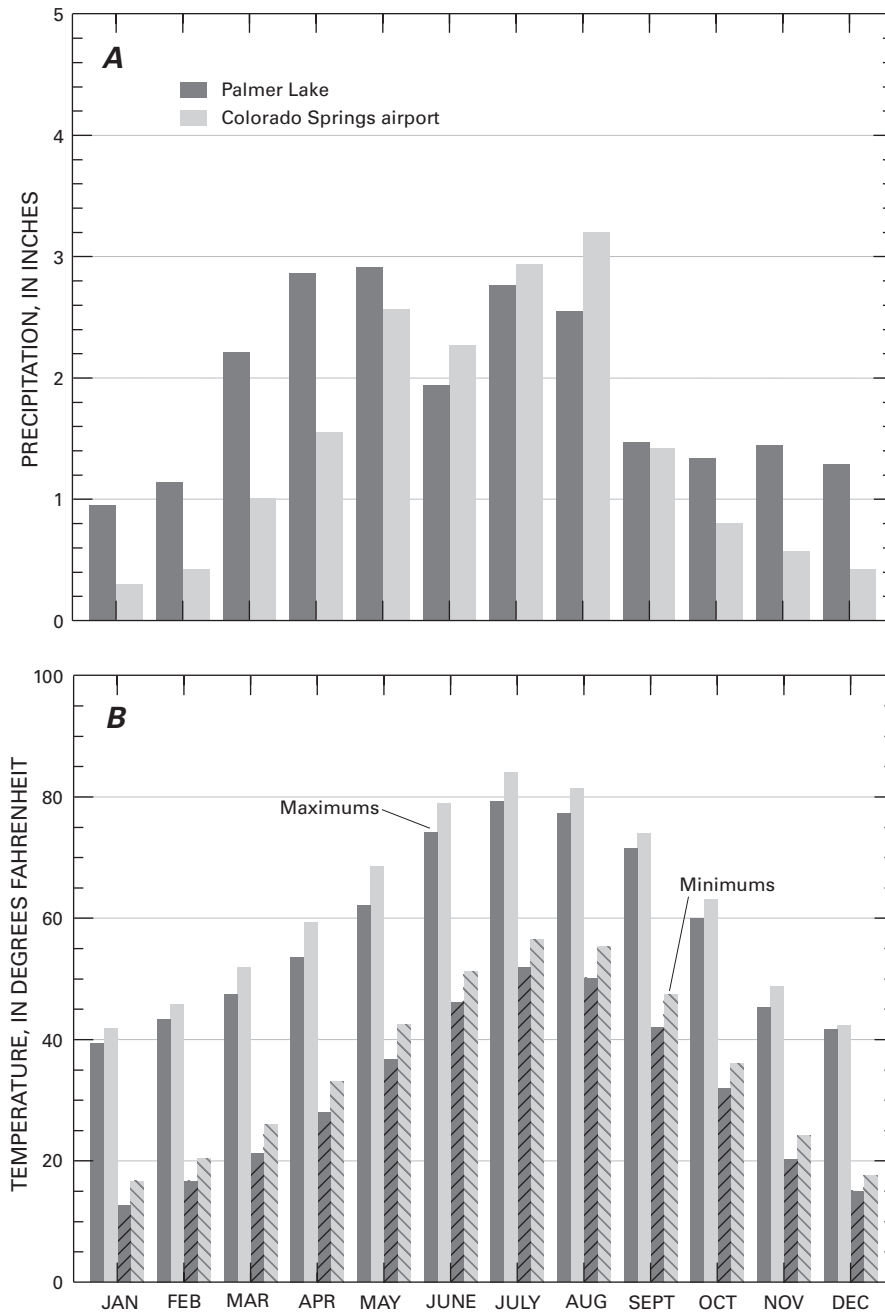


Figure 3. Monthly average precipitation (A) and air temperature (B) for two weather stations in or near the Monument Creek study reach, 1971–2000. [Source: Western Regional Climate Center, 2005a, 2005b.]

10 ft thick and is discontinuous or absent in a number of places along the stream channel; extent of the alluvium is largest near the confluence with Fountain Creek and northwest of Monument Lake; sediments may be about 20 to 40 ft thick in these two locations. From the confluence of Monument and Fountain Creeks downstream to the Las Vegas WWTF, the Fountain Creek alluvium ranges in width from about 1,000 to 3,000 ft and the thickness ranges from about 10 to 50 ft (Radell and others, 1995).

Monument Creek is incised into Cretaceous- and Tertiary-age sandstone and shale bedrock formations along most of its length, and the stream commonly flows directly across exposed bedrock outcrops (Carroll and Crawford, 2000; Thorson and Madole, 2003; Thorson and others, 2001; Trimble and Machette, 1979). Stream-channel and flood-plain alluvium along Monument Creek is composed of Holocene-age sand, gravel, silt, and clay with lesser amounts of pebbles and cobbles. Hydraulic conductivity of the Monument Creek

alluvium is estimated to range from about 100 to 1,000 ft/d with an average value of about 400 ft/d. Several alluvial terrace and sheetwash deposits are present along the margins of the incised stream channel. These deposits are estimated to be as much as 40 ft thick but generally appear to be hydraulically disconnected from the stream-channel and flood-plain deposits of Monument Creek and usually are not associated with bank storage along the stream. The Quaternary Fountain Creek alluvium is composed of gravel and sand and lesser quantities of silt and clay and is underlain by the Cretaceous Pierre Shale (Jenkins, 1964, p. 15, pl. 2).

Most streamflow in Monument Creek is derived from (1) snowmelt runoff from the mountainous headwaters (outside the study reach), primarily during April, May, and June; (2) rainfall runoff from thunderstorms in the basin, usually during May through September; (3) return flows from municipal, agricultural, and industrial water use; and (4) ground-water discharge from the alluvium to Monument Creek (Livingston and others, 1976). Streamflow often is highly variable from day to day (fig. 4), especially during the summer months when thunderstorms are frequent. The statistics of daily average streamflow (fig. 4) are “smoothed” values, so the actual day-to-day variability often is greater than that shown in figure 4. The sharp increase in the higher percentile values near the end of April (fig. 4) are attributable to a large storm in the Monument and Fountain Creek basins during April 29–May 4, 1999, that resulted in a major flood (Stogner, 2000; Edelmann and others, 2002). Average monthly streamflow at the Pikeview station generally is about two to three times larger than at the Northgate Boulevard station (fig. 5), partly owing to the increase in drainage area (table 1) and partly owing to the larger urbanized area upstream from the downstream station (fig. 2).

Because the stream-channel and flood-plain deposits along Monument Creek generally are thin and ground-water storage in the alluvium is small, the alluvial aquifer is not used extensively for water supply. Fountain Creek and the Fountain Creek alluvium were described as being important sources of water (Kuhn, 1988); however, water usage is relatively small from the confluence with Monument Creek downstream to the Las Vegas Street WWTF. Two streamflow diversions are located along the Monument Creek study reach. Monument Ditch No. 2 diverts streamflow at a location about 1.25 mi upstream from Beaver Creek (fig. 2); average annual diversion was about 243 acre-ft during 1928–2004 (Colorado Water Conservation Board and Colorado Division of Water Resources, 2005). Pikeview diversion diverts streamflow at a location about 0.25 mi upstream from the Northern Water Reclamation Facility (fig. 2); average annual diversion was about 1,210 acre-ft during 1996–2005 (A.J. Ortega, Colorado Springs Utilities, written commun., 2005).

Acknowledgments

The governmental agencies (CSU, CWCB, and EPCWA) participating in the study described herein are referenced in the “Introduction” section; however, a number of individuals associated with these agencies have been highly important during the completion of the study as well as during a 2-year planning period prior to the study initiation in 2004. This is true in particular for the EPCWA, which is a consortium of many water-use and water-management agencies throughout El Paso County; these various agencies are not specifically included in the list of cooperators. Therefore, the participation of the following individuals in the planning and completion of the study described herein is gratefully acknowledged:

Water-use or water-management agency	Acknowledged persons, title, and additional affiliation
City of Fountain	Ron Woolsey, Water Department; Larry Patterson, Utility Director
Colorado Center Metropolitan District	Al Testa, District Manager
Colorado Department of Water Resources	Bill Tyner, Assistant Division Engineer; Rich Snyder, District 10 Water Commissioner
Colorado Springs Utilities	Scott Howell, Water-Rights Administrator
Colorado Water Conservation Board	Steve Miller, Senior Water-Resource Specialist
Donala Water and Sanitation District	Dana Duthie, District Manager; also Treasurer, EPCWA
El Paso County	Cole Emmons, Assistant County Attorney
El Paso County Water Authority	Gary Barber, Manager
Forest Lakes Metropolitan District	Ann Nichols, District Manager
Fountain Mutual Irrigation Company	Gary Steen, Manager
Security Water and Sanitation District	Roy Heald, District Manager
Town of Monument	Richard Landreth, Department of Public Works; Betty Konarski; Vice President, EPCWA Ron Simpson
Triview Metropolitan District	
Widefield Water and Sanitation District	Larry Bishop, General Manager; also President, EPCWA John McGinn, JDS Hydro, District Consulting Engineers
Woodmoor Water and Sanitation District	Phil Steininger, General Manager

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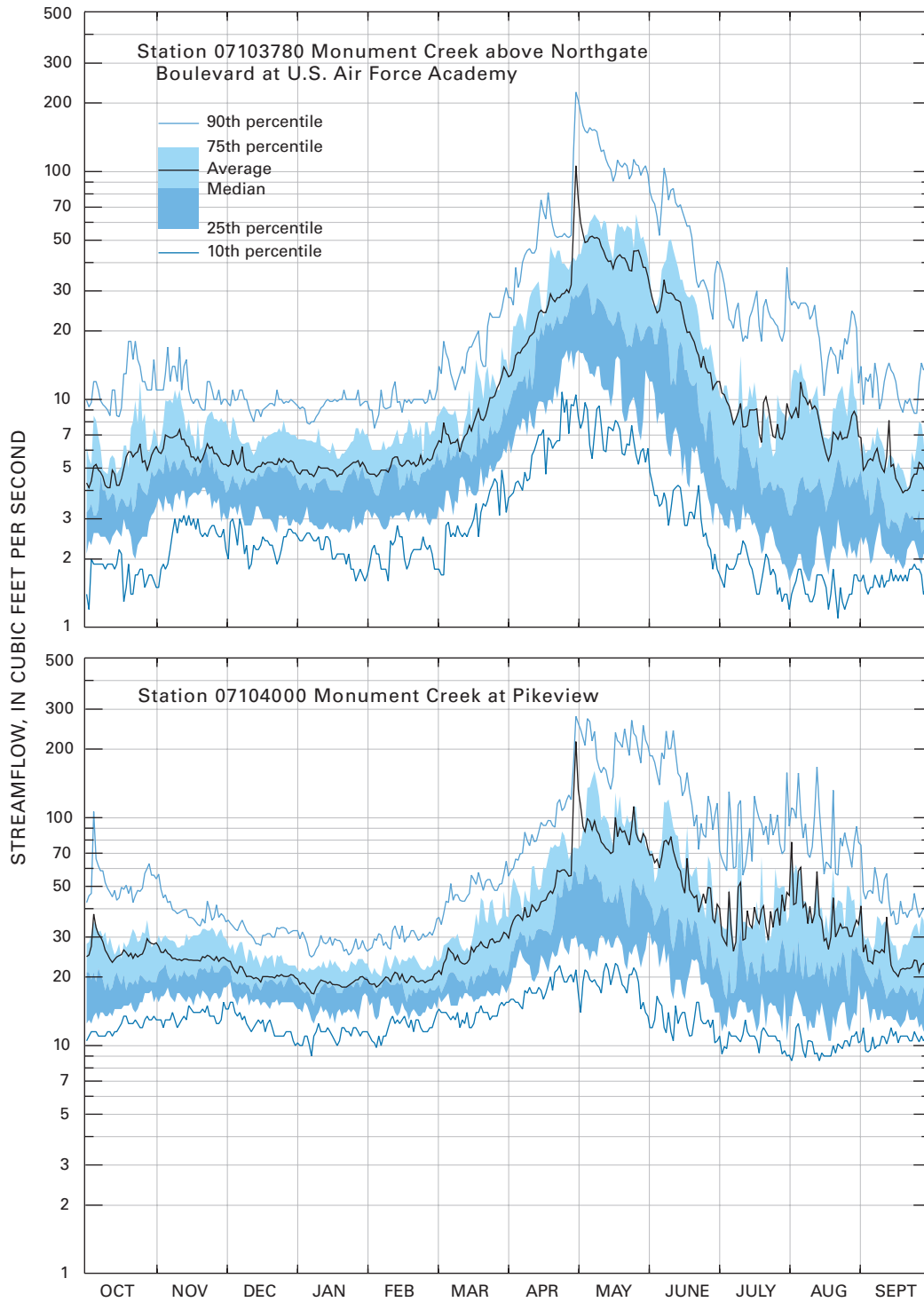


Figure 4. Selected statistics of daily average streamflow for two stations on Monument Creek, water years 1985–2004.

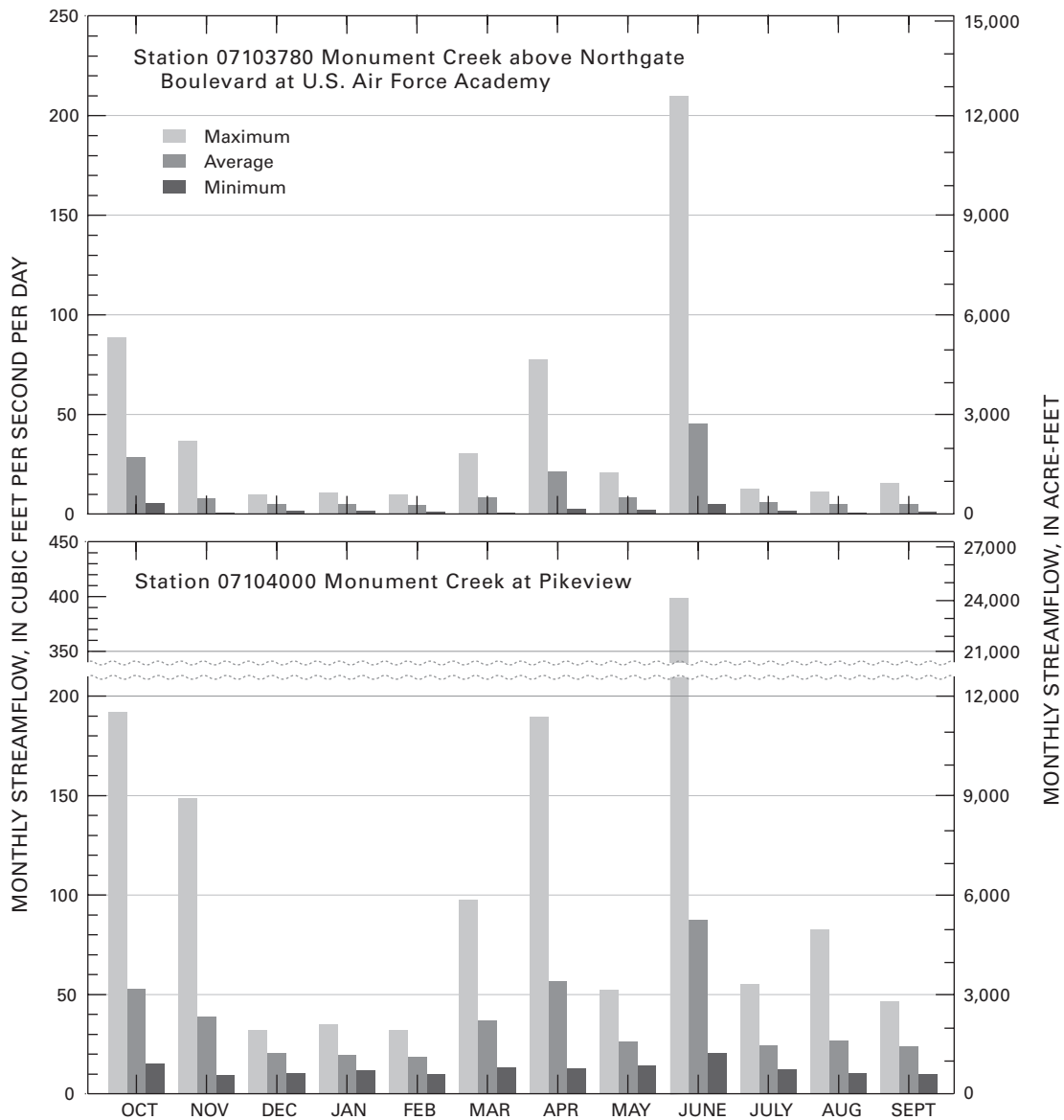


Figure 5. Monthly streamflow for two stations on Monument Creek, water years 1985–2004.

Potential Transit Losses for Reusable Water

Potential transit losses associated with transportation of reusable water along Monument Creek that were identified are bank storage, channel storage, evaporation, transpiration, and inadvertent diversion. A discussion of each of these potential transit losses and its applicability to the Monument study reach follows. Ground-water withdrawal was a potential source of transit loss for the previously completed Fountain Creek transit-loss study (Kuhn, 1988) but is not a substantial source of transit loss for the Monument Creek study because the few wells that have been completed in the northern part of the study area are used only for domestic purposes and have small pumping capacities.

Bank Storage

In a typical stream-aquifer system, water flows from the alluvium to the stream under base-flow conditions. The introduction of a water wave in the stream increases the head (water level) in the stream to a level greater than the head in the alluvium, resulting in either a decrease in the rate of flow from the alluvium to the stream or in the flow of water from the stream to the alluvium. The flow of water from the stream to the alluvium results in bank storage. For this study, the water wave results from introduction of reusable water into Monument Creek, and the flow antecedent to the water wave is native streamflow, including any return flows of native water.

After passage of the water wave, head in the stream decreases and bank-storage water returns to the stream when the head in the aquifer is greater than the head in the stream.

However, the rate at which bank-storage water returns to the stream is less than the rate at which the water flowed into the alluvium. The rate of return initially may be large but decreases steadily with time. Therefore, a long period (termed "recovery period" in this report) is necessary for the bank-storage water resulting from a given water wave to return to the stream. In theory, if the recovery period is sufficiently long, virtually all bank-storage loss could return to the stream; thus, bank-storage loss only would be a temporary loss. In practice, though, it is impracticable to consider long recovery periods because the quantities of water in consideration after long time periods are too small to measure accurately. Thus, some volume of reusable water generally will be permanently lost to bank storage.

Any given volume of reusable water in bank storage also is subject to three additional potential sources of loss: (1) specific retention, (2) evaporation through soil surfaces, and (3) transpiration by plants. Specific retention will be discussed here; the other two potential losses will be discussed in the "Evaporation" and "Transpiration" sections of this report.

Specific retention of a rock or soil is defined as the ratio of (1) the volume of water which a rock or soil, after being saturated, will retain against the pull of gravity to (2) the volume of the rock or soil (Lohman, 1972; Heath, 1983). Loss of bank-storage water to specific retention is a loss that only needs to be considered once, and this loss largely has been previously fulfilled by the existing streamflows in Monument Creek. Release volumes of reusable water will be small in comparison to the volume of streamflow in Monument Creek, resulting in only small, one-time increases in specific retention losses. Therefore, the specific retention losses for reusable water would be small compared to other long-term transit losses and will not be considered in this study.

Channel Storage

Channel storage is the volume of water in a reach of a stream at any given time. The introduction of a water wave results in an increase in channel storage in the reach. Changes in channel storage can have a substantial temporary effect on the volume of reusable water in Monument Creek at various locations; however, the volume of water lost to channel storage is only a temporary loss because after passage of the water wave, channel storage rapidly decreases, forming a part of the downstream flow.

Evaporation

Reusable water could be evaporated either by (1) direct evaporation from the stream surface or (2) indirect evaporation through soil surfaces of water in bank storage. Transit loss resulting from direct evaporation was considered to be a permanent transit loss and was included in the study. Evaporation

only from the incremental increase in stream width resulting from the reusable water was considered. Transit losses resulting from indirect evaporation were not considered to be substantial; moreover, these losses would, to some extent, be derived from the permanent losses to bank storage.

Transpiration

Transpiration is the process by which water vapor escapes from the tissues of plants and enters the atmosphere. For purposes of this discussion, the actual use of water by plants for growth and development of tissue is included in the process of transpiration. Only transpiration from naturally growing riparian vegetation along Monument Creek, some of which consists of phreatophytes, was considered in the present analysis. The quantity of water transpired by phreatophytes depends, to some extent, on the depth to water in the alluvium (Robinson, 1958).

Introduction of reusable water into Monument Creek increases head in the stream and induces flow into the alluvium; this flow results in a head increase in the alluvium and a decrease in depth to water below land surface. Head increase in the stream because of reusable water could be as much as 0.2 ft; often the increase would be much less. Head increases in the alluvium, on the other hand, are considerably less than head increases in the stream. Studies to estimate the rate of water use by phreatophytes as a function of depth to water below land surface indicate that very small decreases in depth to water do not result in substantial increases of water use by phreatophytes (Robinson, 1958, p. 18, 22). Therefore, the increase in transpiration by riparian vegetation along Monument Creek, owing to a decrease in depth to water resulting from head increases in the stream because of reusable water, was assumed to be inconsequential. Again, some of these losses would be derived from the permanent transit losses to bank storage. For these reasons, transpiration losses will not be included in estimation of transit losses for the Monument Creek study reach.

Inadvertent Diversion

An increase in head in the stream, whatever the cause, results in a head increase at a streamflow diversion structure. Consequently, a ditch may divert a quantity of water greater than that intended; the additional quantity of diverted water is termed inadvertent diversion. Inadvertent diversion was not considered to be a transit loss for the transportation of reusable water down Monument Creek. All appropriations of surface water in Monument Creek within the study area are based on native streamflow. With proper administration of appropriated water rights in the study area within the priority system as established by Colorado water law, reusable water should not sustain losses from diversion.

Stream-Aquifer Model

The model (Land, 1977) selected for this study has two basic components: a bank-storage-discharge component, and a streamflow-routing component that enables estimation of channel storage. A detailed description of the model is beyond the scope of this report; the model documentation (Land, 1977) and the references cited therein provide ample discussion of theory of operation. The model used in this study has been applied to estimate transit losses on several streams in southeastern Kansas (Carswell and Hart, 1985; Jordan and Hart, 1985). A similar model also was used to estimate transit losses along the Arkansas River in Colorado (Livingston, 1973, 1978). All of these studies estimated transit losses associated with reservoir releases.

System of Nodes and Subreaches

For use of the model, a stream reach to be studied is divided into one or more subreaches; the end points of the subreaches are referred to as “nodes.” Sixteen nodes (fig. 2; table 2) were established for the Monument Creek study reach, defining 15 subreaches (fig. 2; table 3). Nodes were established to be at or near (1) WWTFs, where reusable water would be discharged into Monument Creek; (2) major tributaries, some of which may have implications in management of reusable water; (3) streamflow diversions; (4) gaging stations; and (5) other locations where reusable water might be discharged or withdrawn. Only two diversions (table 2) are in the study reach (Rich Snyder, Colorado Division of Water resources, oral commun., 2005), compared to 23 diversions in the Fountain Creek transit-loss study reach (Kuhn, 1988).

Table 2. Nodes along Monument Creek study reach used in application of stream-aquifer model to estimate transit losses for reusable water.

[WWTF, wastewater-treatment facility; station, streamflow-gaging station; see table 1 for description of stations]

Node number (fig. 2)	Node description	Diversions at node
MN1	Monument Creek at station 07103747	None
MN2	Monument Creek at station 07103755	None
MN3	Monument Creek at Dirty Woman Creek	None
MN4	Monument Creek at Tri-Lakes WWTF	Monument Ditch No. 2
MN5	Monument Creek at Beaver Creek	None
MN6	Monument Creek below Jackson Creek at Upper Monument Regional WWTF	None
MN7	Monument Creek at station 07103780	None
MN8	Monument Creek at U.S. Air Force Academy WWTF	None
MN9	Monument Creek at West Monument Creek	None
MN10	Monument Creek at Cottonwood Creek	None
MN11	Monument Creek at station 07104000	None
MN12	Monument Creek at Northern Water Reclamation Facility	Pikeview diversion
MN13	Monument Creek at station 07104905	None
MN14	Fountain Creek at confluence with Monument Creek	None
MN15	Fountain Creek at station 07105500	None
MN16	Fountain Creek at Las Vegas Street WWTF	None

Model Parameters

To apply the model, the physical and hydraulic characteristics of the subreaches need to be defined. Physical characteristics data needed are channel (stream) length, aquifer length, and aquifer width for each subreach. Hydraulic characteristics data are needed to define the channel hydraulics (wave celerity and wave dispersion coefficient) and the aquifer hydraulics (transmissivity and storage coefficient). The hydraulic characteristics are the model parameters, and initial estimates of the parameters can be adjusted during the model calibration process; physical characteristics data typically are not adjusted.

Physical Characteristics

Mapping of the alluvium along Monument Creek consisted of estimating the thickness and extent of alluvial deposits in hydraulic connection with Monument Creek and the hydraulic characteristics of the alluvial deposits. Mapping was completed using published geologic maps in conjunction with lithologic, water-level, and hydraulic-property data from public databases, published reports, and consultant reports.

The extent of the Monument Creek alluvium (fig. 2) was estimated from geologic maps published at a scale of 1:24,000 for the Colorado Springs (Carroll and Crawford, 2000), Pikeview (Thorson and others, 2001), and Monument (Thorson and Madole, 2003) quadrangles. The extent of Monument Creek alluvium within the Palmer Lake quadrangle was estimated on the basis of geologic mapping by Trimble and Machette (1979) at a scale of 1:100,000.

Field inspection and verification of alluvial extent was conducted in September 2004 and indicated that the Monument Creek stream channel generally is incised into

Table 3. Characteristics of subreaches in the Monument Creek study.

Subreach number (fig. 2)	Channel length (miles)	Aquifer length (miles)	Average width of aquifer ¹ (feet)	Average transmissivity (feet squared per day)	Average storage coefficient	Cumulative channel length (miles)
MSR1	1.36	1.23	730	7,000	0.20	1.36
MSR2	.48	.42	540	6,000	.20	1.84
MSR3	1.00	.84	180	2,000	.20	2.84
MSR4	1.98	1.59	120	2,000	.20	4.82
MSR5	1.46	1.17	240	3,000	.20	6.28
MSR6	1.53	.89	270	4,000	.20	7.81
MSR7	5.48	3.67	160	3,000	.20	13.29
MSR8	1.77	1.61	170	2,000	.20	15.06
MSR9	3.28	2.44	200	4,000	.20	18.34
MSR10	.80	.57	300	3,000	.20	19.14
MSR11	2.25	2.08	240	3,000	.20	21.39
MSR12	4.23	3.79	230	5,000	.20	25.62
MSR13	.71	.68	1,600	9,000	.20	26.33
MSR14	1.28	1.25	1,250	9,000	.20	27.61
MSR15	.67	.60	3,000	12,000	.20	28.28

¹One-half of average aquifer width is used for input to stream-aquifer model.

bedrock, and Monument Creek commonly flows directly on bedrock. Because of stream incision, stream-channel and flood-plain deposits along the creek generally are hydraulically disconnected from adjacent alluvial terrace deposits. Therefore, alluvial extent was defined primarily by stream-channel and flood-plain deposits immediately adjacent to the stream except in areas where Monument Creek flows directly across terrace deposits or where terrace deposits appear to have substantial continuous contact with stream-channel and flood-plain deposits. In these areas, the mapped alluvial extent includes the low-level terrace deposits.

Thickness of alluvial deposits and saturated thickness were estimated using lithologic and water-level data from about 100 wells and test holes in or near the Monument Creek study reach. Only 10 of these wells and test holes, however, were located directly within the flood plain deposits of Monument Creek; the other wells and test holes were used as a general guide to thickness estimations. Field observations and continuity and width of the mapped alluvial extent also were used to guide thickness estimations. Lithologic and water-level data were compiled from the USGS National Water Information System; data files of the USGS Colorado Water Science Center and Colorado Division of Water Resources; CTL/Thompson Inc. (2001); HRS Water Consultants (1999); Hutchinson and Hillier (1978); Kumar and Associates, Inc. (2002); and Varnes and Scott (1967).

Channel length, aquifer length, and aquifer width (table 3) were estimated from available topographic and geologic maps at a scale of 1:24,000. Average width of the alluvium for each subreach (table 3; fig. 2) was estimated as the average of cross-sectional width measurements made at intervals of about 1,000 ft along the stream. The average aquifer width (table 3) was estimated from one valley side to the

other valley side; one-half of this width is used in the model input. Estimation of aquifer width included stream width, which normally is not included in the model input of aquifer width (Land, 1977, p. 16). However, the error in aquifer width because of inclusion of stream width is no greater than the uncertainty in defining the extent of the alluvium and, hence, the "true" aquifer width. Moreover, changes in width as large as 50 percent have been shown to have no effect on the model results (Land, 1977, p. 12), and studies by Pinder and Sauer (1971) also show that estimation of bank storage is insensitive to aquifer width.

Channel Hydraulics

Values for wave celerity and wave-dispersion coefficient are needed for input to the model to define the channel hydraulics for purposes of streamflow routing and to estimate channel-storage losses. Wave celerity provides a measure of the rate of movement of a water wave through a stream reach, whereas wave-dispersion coefficient provides a measure of the amount of attenuation of a water wave within a stream reach. Methods presented in Land (1977) were used to make preliminary estimates of wave celerity and wave-dispersion coefficient for a range of streamflows for each station. Although there is some variation in the computed values among the stations, especially for wave celerity, the estimated relations between streamflow and wave celerity and wave-dispersion coefficient (fig. 2) were considered to provide the best available estimates of wave celerity and wave-dispersion coefficient because of the variability in channel conditions along Monument Creek and because the cross sections used to make streamflow measurements at the gaging stations represent only a small proportion of the channel variability.

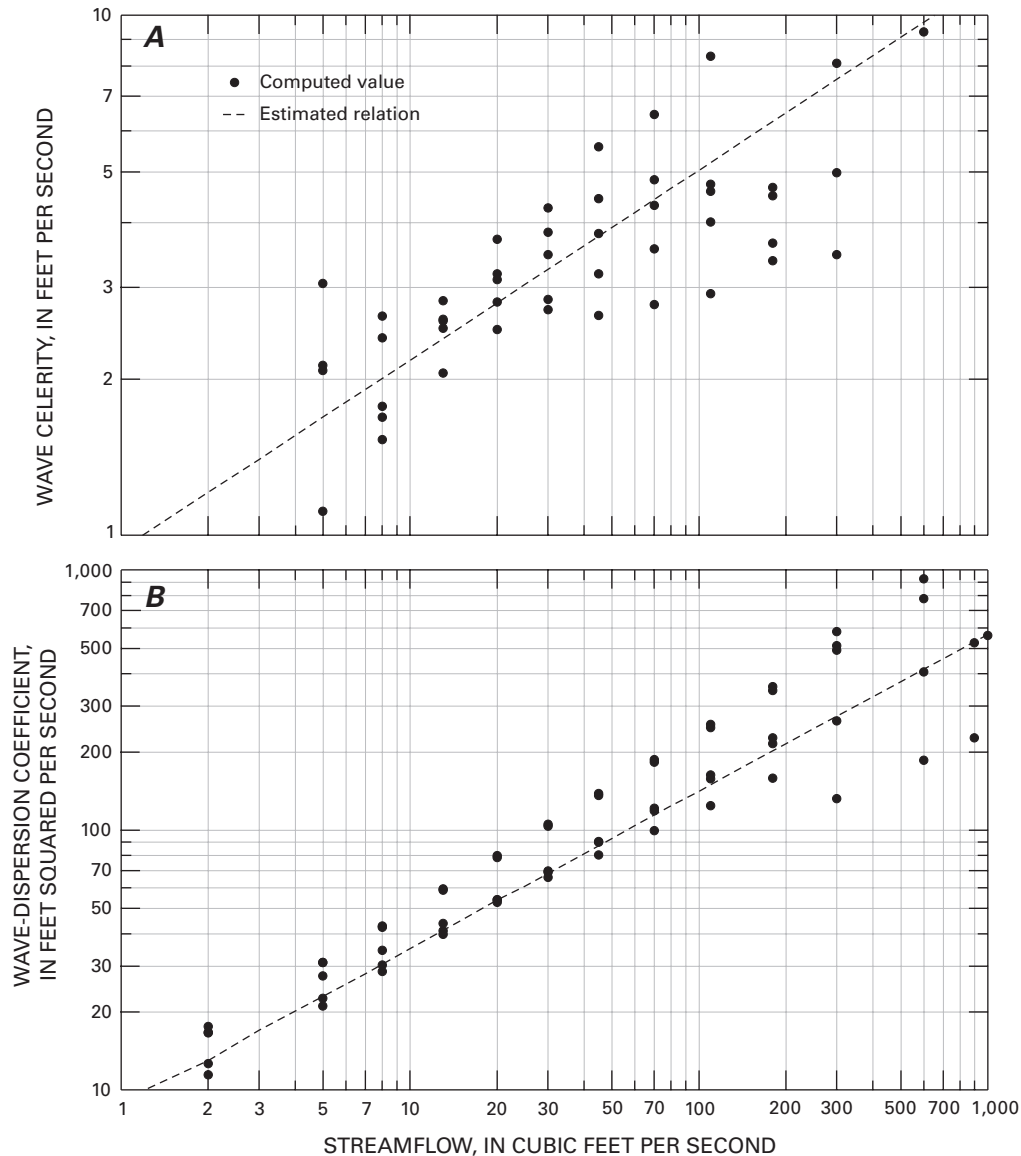


Figure 6. Relations between streamflow and wave celerity (A) and wave-dispersion coefficient (B) for the Monument Creek study reach.

Aquifer Hydraulics

Values of transmissivity and storage coefficient are needed for input to the model to estimate bank storage. Transmissivity is a measure of the rate at which water can be transmitted through an aquifer under standardized conditions and is equal to the product of hydraulic conductivity and saturated thickness. Storage coefficient is a measure of the volume of water that an aquifer can take into or release from storage (Heath, 1983; Lohman, 1972). In an unconfined aquifer, such as the Monument Creek alluvium, the storage coefficient is approximately equal to specific yield. Transmissivity of the Monument Creek alluvium was determined using aquifer thickness and hydraulic conductivity data for unconsolidated sediments in the Colorado Springs area

(HRS Water Consultants, 1999) and stream-valley sediments in El Paso County (Wilson, 1965). Average transmissivities for subreaches MSR1–MSR14 were estimated to range from 2,000 to 9,000 ft²/d (table 3). Average transmissivities for subreaches in the Fountain Creek study were estimated from available hydrogeologic maps and aquifer-test data and ranged from 8,000 to 20,000 ft²/d (Kuhn, 1988). Transmissivity for subreach MSR15 (12,000 ft²/d) was estimated by interpolating the values estimated for subreach MSR14 in the Monument Creek study and subreach 1 in the Fountain Creek transit-loss study (Kuhn, 1988). Values for storage coefficient (specific yield) were estimated from values presented by Jenkins (1964) for specific yield of sediments in Fountain and Jimmy Camp Creek valleys (fig. 1) and from typical specific-yield values for unconsolidated alluvium presented by Johnson (1967). A

uniform value of 0.20 was used for storage coefficient in the Monument Creek study (table 3) compared to a uniform value of 0.25 that was used in the Fountain Creek study (Kuhn, 1988).

Stage-Discharge Relations

To use the bank-storage-discharge component of the model, discharge must be converted to stage (head) because the computation of bank-storage discharge is head dependent. Thus, stage-discharge relations, commonly known as rating curves (or rating tables), are required for input to the model. Stage-discharge relations were available for the nodes located at or near gaging stations (fig. 2). For other nodes, stage-discharge relations were estimated by applying Manning’s equation and step-backwater analysis (Davidian, 1984) (J.M. Kuzmiak, U.S. Geological Survey, written commun., 2004).

Stage-discharge relations also were estimated by the same methods for two of the nodes at gaging stations for comparison to actual ratings; an example is shown in figure 7. Although the difference between the actual and estimated stage-discharge relations (fig. 7) may seem substantial, the function of the stage-discharge relations in the model primarily is to enable estimation of change in head for a given change in discharge at the various nodes. Both the actual and the estimated stage-discharge relations (fig. 7) show a somewhat similar change in gage height (head) for a given change in discharge. In addition, channel cross sections used to develop the theoretical stage-discharge relations at the gaged nodes did not necessarily coincide with the control sections

for the actual stage-discharge relations. Channel conditions along Monument Creek vary considerably, resulting in somewhat different stage-discharge relations at different locations. Therefore, because the intended use of a stage-discharge relation in the model is not to determine a specific stage (head) to a great degree of accuracy, but rather to reasonably estimate change in head from one discharge to another, the estimated stage-discharge relations were considered to be adequate for the intended use (J.M. Kuzmiak, U.S. Geological Survey, written commun., 1986).

Model Calibration and Verification

Before estimation of the transit losses, the model was calibrated and verified for the Monument Creek system of nodes and subreaches. Calibration and verification consisted of three steps: (1) Selection of streamflow hydrographs, (2) simulations of streamflow for purposes of adjusting model parameters (calibration), and (3) additional simulations of streamflow to ensure adjusted model parameters are appropriate (verification).

Selection of Streamflow Hydrographs

For a calibration or verification simulation, concurrent hydrographs are needed for two adjacent stations (fig. 2; table 1) that consist of an initial period of steady streamflow followed by a noticeable increase in streamflow that then is followed by a return to steady streamflow similar in magnitude to the streamflow before the increase. If tributary streamflow

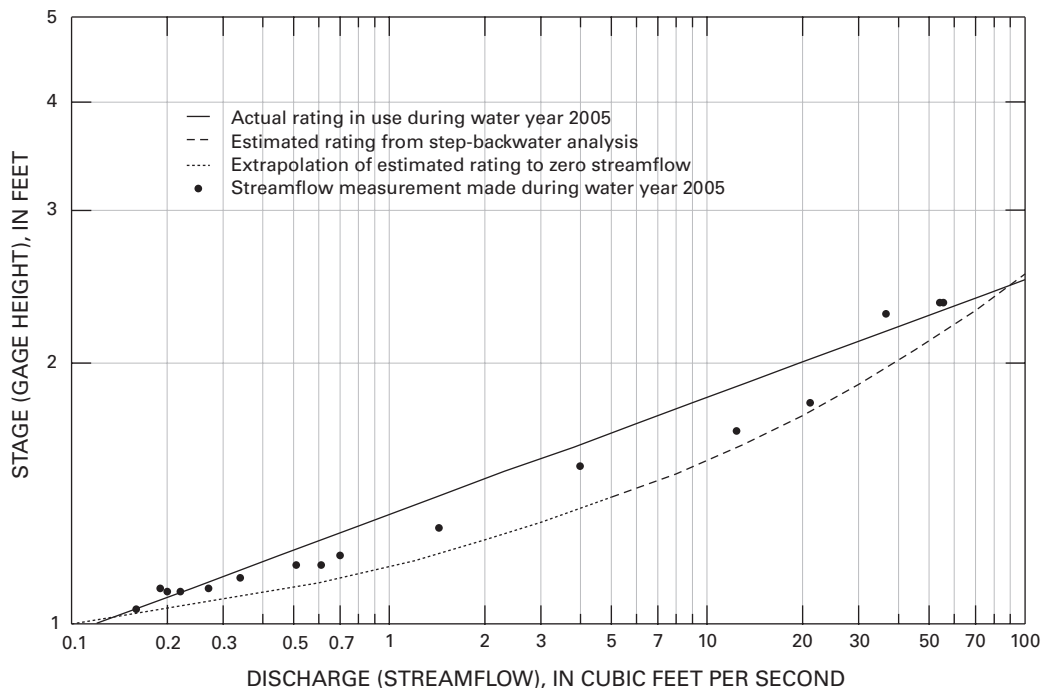


Figure 7. Actual and estimated stage-discharge relations for station 07103747 Monument Creek at Palmer Lake.

or diversions are large enough to affect model results, hydrographs for tributaries and diversion amounts also are required. Because of the large variations in daily streamflow on Monument Creek (fig. 8), there were a limited number of paired hydrographs that met these criteria.

For subreach MSR10, for example, streamflow at station 07104000 usually is substantially larger than streamflow at station 07103970 (fig. 8A), partly because of tributary streamflow from Cottonwood Creek (fig. 2). If the actual streamflows at the two stations are considered (fig. 8A), no hydrographs suitable for calibration or verification of

subreach MSR10 were available during water year 2000; however, when tributary streamflow for Cottonwood Creek (station 07103990, table 1) is subtracted from the streamflow at station 07104000, the streamflow is more similar to the streamflow at station 07103970 (fig. 8A). Even with the effect of tributary streamflow in Cottonwood Creek removed from the streamflow at station 07104000, concurrent hydrographs at stations 07103970 and 07104000 during water year 2000 were suitable for use in a calibration or verification simulation only during one time period, May 7–10 (although not clearly evident in fig. 8A).

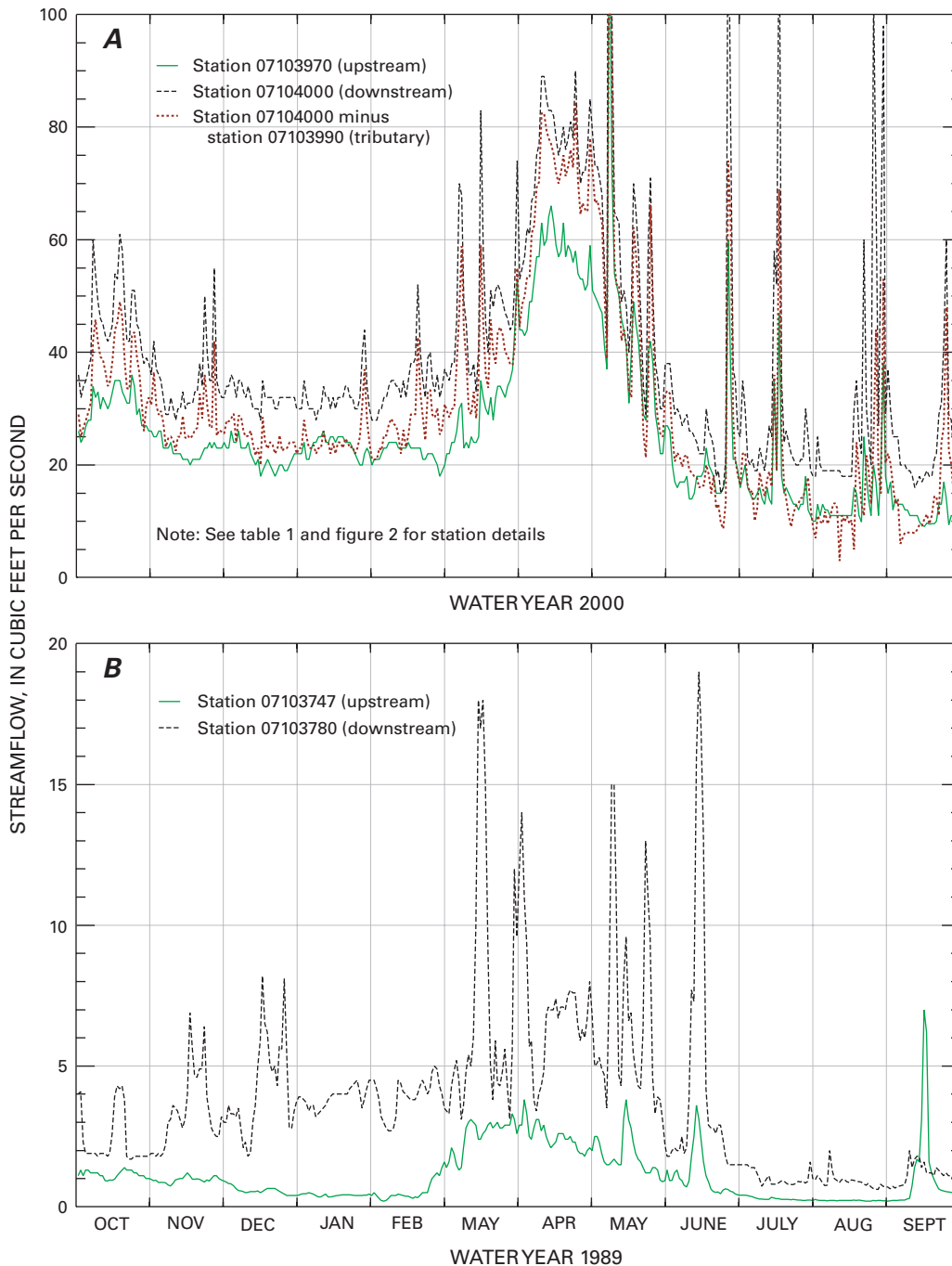


Figure 8. Hydrographs of daily average streamflow for selected stations along Monument Creek.

Hydrographic analysis of all available concurrent streamflow records for stations along the Monument Creek study reach resulted in selection of 18 streamflow hydrograph sets for calibration and verification of subreaches MSR7–MSR14. For subreaches MSR1–MSR6 (fig. 2), concurrent streamflow records were available only for stations 07103747 and 07103780 (table 1). There is a substantial increase in drainage area between the two stations (table 1), and much of the increase is attributable to tributaries, such as Beaver Creek, originating in the mountains to the west of Monument Creek (figs. 1 and 2). Therefore, streamflow at the downstream station (07103780) always is substantially larger than at the upstream station (07103747) (fig. 8B). Because no streamflow records are available for tributaries between the two stations, no hydrographs were available for calibration and verification of the model for subreaches MSR1–MSR6.

For the hydrograph sets that were selected, unit-value streamflows at 1-hour intervals were used to provide the sensitivity that is necessary for adequate comparison of simulated and recorded streamflow. For each hydrograph set, streamflows at the stations on Monument Creek were adjusted for the effects of tributary inflow that was gaged (table 1) and, for subreach MSR11, streamflow hydrographs also were adjusted for the effects of the Pikeview diversion. For each calibration or verification simulation, streamflow at the upstream node (at a gaging station) was input to the model and routed through one or more subreaches, and the simulated streamflow at the downstream node (station) was compared to the recorded downstream streamflow. Although stations 07103940 and 07103970 are located a short distance from nodes MN9 and MN10 (fig. 2), the effect on the calibration and verification simulations was not substantial because the distance from the nodes is less than 10 percent of the subreach length, and it is unlikely that streamflow changes substantially between the two nodes and the adjacent gaging stations.

Calibration and Verification Results

Hydrographs of recorded and simulated streamflow at the downstream node (station) for selected calibration simulations indicated that simulated streamflow compared reasonably to recorded streamflow (fig. 9). Simulated streamflow peaks often were less than recorded peaks; some of the differences may be attributed to (1) ungaged inflow from tributaries or runoff from urbanized areas, (2) errors in the computation of streamflow at gaging stations, and (3) inability of both the model and the physical description of the Monument Creek study reach to precisely simulate the natural system. No adjustments were made to the model parameters during the calibration simulations. Hydrographs of recorded and simulated streamflow at the downstream node (station) for selected verification simulations also indicate that simulated streamflow compares reasonably to recorded streamflow (fig. 10). Differences between recorded and simulated streamflow (base flow) before and after the streamflow peak for

station 07104905 (fig. 10) probably are attributable to highly variable base-flow conditions in Monument Creek resulting from the frequent changes in streamflow magnitude (fig. 8). In most cases, however, simulated streamflow recessions are reasonably similar to recorded streamflow recessions.

Differences between recorded and simulated streamflow volumes for all calibration and verification simulations ranged from about –8.8 percent to about 7.5 percent; the total error for all simulations was about –0.7 percent (table 4). Effects of evaporation, transpiration, and withdrawal of ground water were not considered in the calibration and verification simulations, but these effects would not be substantial because of the larger streamflow volumes and relatively short periods of streamflow that were available for comparative simulations. Therefore, the model was considered calibrated and verified for subreaches MSR7–MSR14 of the Monument Creek study reach (fig. 2).

As mentioned in the previous section of this report, calibration and verification of the model could not be performed for subreaches MSR1–MSR6 because streamflow information was insufficient. However, because the results for subreaches MSR7–MSR14 (figs. 9–10; table 4) were reasonable without any adjustment of the estimated physical characteristics or model parameters (table 3; figs. 6–7), application of the model to subreaches MSR1–MSR6 for estimation of transit losses was considered to be acceptable.

Estimation of Transit Losses

From the discussions in the “Potential Transit Losses for Reusable Water” section of this report, it was established that the transit losses to be estimated in the present study were bank storage, channel storage, and evaporation; also, it was specified that channel storage is not a permanent transit loss. Bank-storage and channel-storage losses were estimated by using the calibrated model; evaporative losses were estimated by other methods. The following sections of this report describe the methods by which these losses were quantified.

Bank-Storage Loss

Stream-aquifer models such as the one used in the Monument Creek study (Land, 1977) typically are intended to estimate transit losses for single-event hydrographs, such as reservoir releases (Carswell and Hart, 1985; Jordan and Hart, 1985; Livingston, 1973, 1978). Idealized streamflow hydrographs illustrating a model application for a single-event hydrograph for which transit losses readily could be estimated are shown in figure 11. Unfortunately, neither reusable-water flow nor native streamflow conditions in Monument Creek are ideal—both flow quantities generally are variable, and the release of reusable water is expected to be continuous (fig. 12). Therefore, to apply the model to the Monument Creek study,

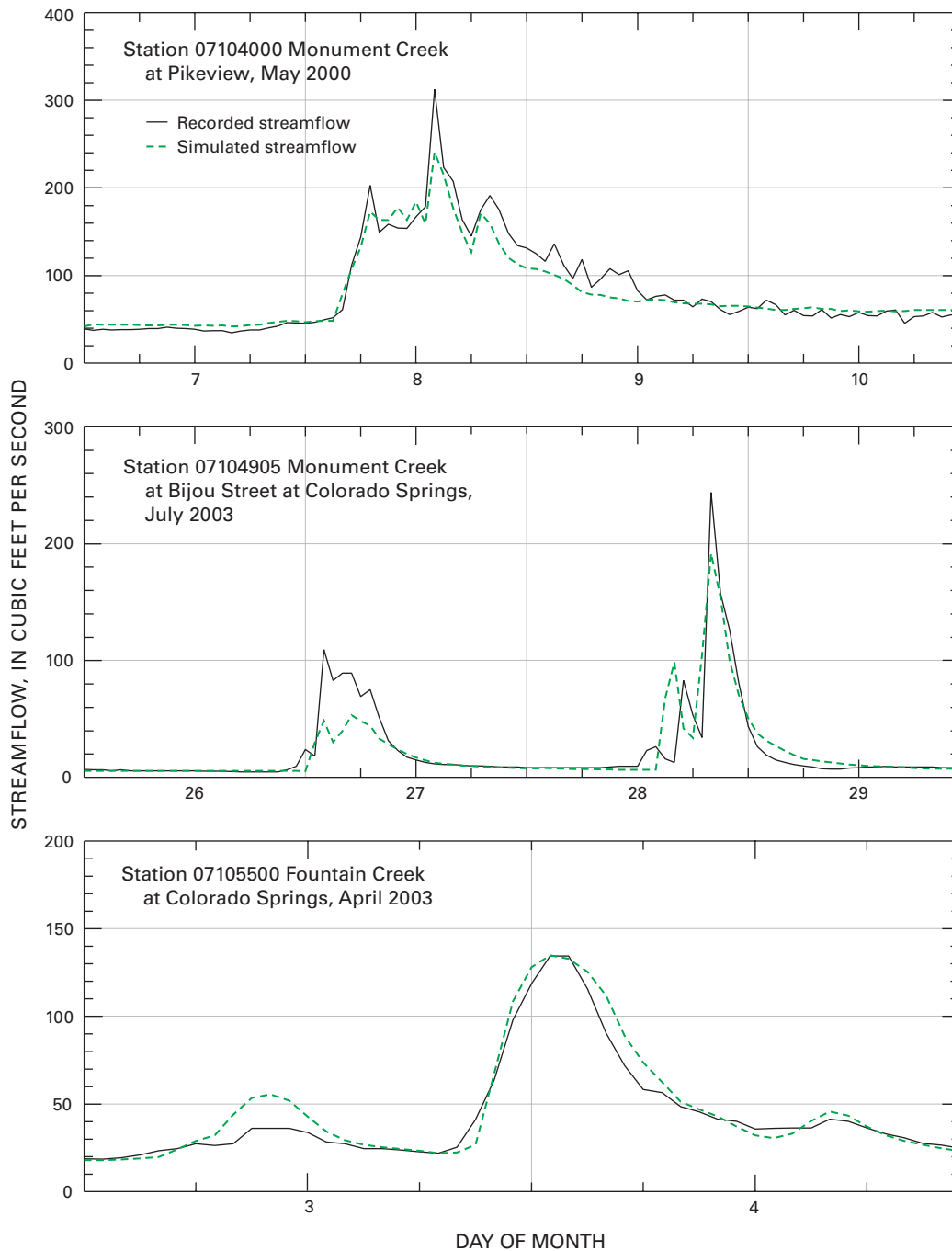


Figure 9. Recorded and simulated streamflow for selected model-calibration hydrographs.

each day of the various return-flow and native-streamflow conditions possible along Monument Creek (fig. 12) was considered to be a single 1-day “ideal” condition (fig. 13). For each 1-day ideal condition, bank-storage losses and gains readily can be estimated using the model; this approach is identical to that previously used in the Fountain Creek study (Kuhn, 1988). Estimating bank-storage loss involved three steps: (1) Estimating a bank-storage loss for the 1-day reusable-water release, (2) estimating an adjustment factor for bank-storage loss, and (3) estimating a rate of return (gain) for bank-storage water.

For a given 1-day reusable-water flow and native streamflow condition, bank-storage loss occurs only on the day of the reusable-water release; on succeeding days, water lost to bank storage returns to the stream (fig. 13). By use of the model, a bank-storage loss value was estimated for 10 to 15 native streamflows for each reusable-water flow of 1, 3, 5, 7, 10, 15, 20, 30, 40, 50, 100, and 200 ft³/s for each subreach. The 10 to 15 bank-storage loss values then were used in least-squares linear regression to estimate a relation between bank-storage loss and native streamflow for each of the 12 reusable-water

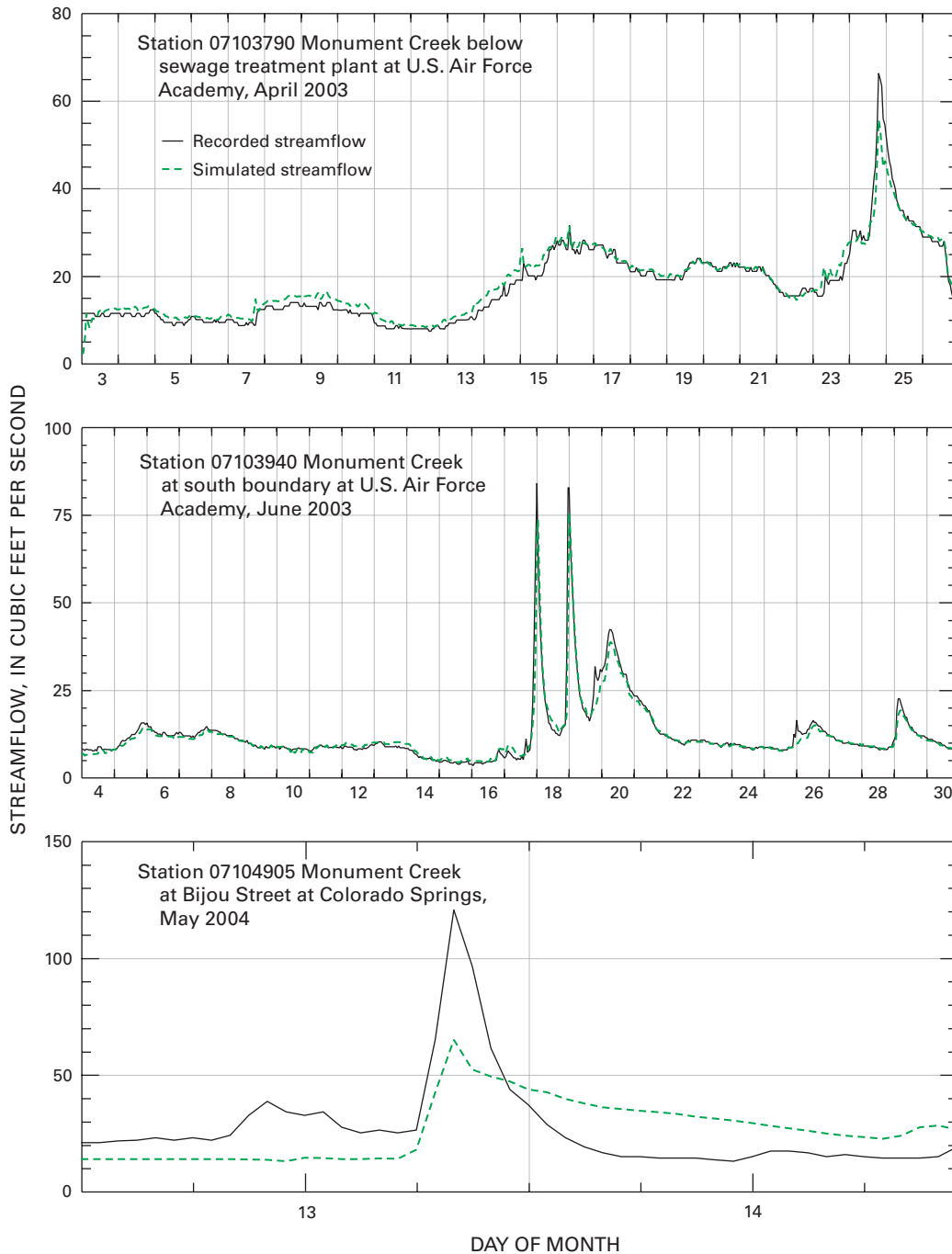


Figure 10. Recorded and simulated streamflow for selected model-verification hydrographs.

flow rates. An example of the bank-storage losses computed by the model and the estimated relations is shown in figure 14. The regression relations for all 15 subreaches (fig. 2; table 3) are shown in figures 19–33 in the “Supplemental Information” section at the back of this report; however, for purposes of clarity, the bank-storage loss values computed by the model are not shown in these figures. The coefficient of determination (R-square) for the regressions (120 total; figs. 19–33) ranged from 0.896 to 0.996.

It was not feasible to make the numerous model simulations for each subreach and each reusable-water flow between 1 and 200 ft³/s (in 1-ft³/s increments) for purposes of developing a least-squares regression relation for each increment of reusable-water flow; therefore, the 12 relations for each subreach (figs. 19–33) were used to develop “look-up” tables of bank-storage loss for reusable-water flows ranging from 1 to 200 ft³/s. First, bank-storage loss was computed for 15 selected native streamflows by using each of the 12 regression relations

Table 4. Recorded and simulated streamflow and differences between the streamflows for selected time periods for subreaches in the Monument Creek study.

[Cal, Calibration; Ver, Verification]

Simulation period	Subreach number (fig. 2)	Simulation type	Recorded downstream streamflow (acre-feet)	Simulated downstream streamflow (acre-feet)	Difference ¹ (acre-feet)	Difference ² (percent)
April 2–30, 2001	MSR7	Cal	1,062.6	1,045.4	-17.2	-1.6
April 3–26, 2003	MSR7	Ver	847.1	882.1	34.9	4.1
October 3–12, 2001	MSR8	Cal	237.7	225.8	-12.0	-5.1
June 4–30, 2003	MSR8	Ver	650.9	631.8	-19.1	-2.9
October 3–13, 2001	MSR9	Cal	350.1	351.8	1.7	0.5
April 13–22, 2003	MSR9	Ver	455.3	459.2	3.8	0.8
May 7–10, 2000	MSR10	Cal	664.1	637.6	-26.5	-4.0
April 28–30, 2003	MSR10	Ver	269.6	265.9	-3.7	-1.4
July 19–20, 2003	MSR11–MSR12	Cal	72.3	72.0	-0.3	-0.3
July 26–29, 2003	MSR11–MSR12	Cal	182.2	166.8	-15.4	-8.5
August 9–10, 2003	MSR11–MSR12	Cal	84.6	80.9	-3.7	-4.4
September 6–7, 2003	MSR11–MSR12	Ver	104.3	110.0	5.8	5.5
May 13–14, 2004	MSR11–MSR12	Ver	107.8	104.9	-3.0	-2.7
July 9–10, 2004	MSR11–MSR12	Ver	472.5	495.0	22.4	4.7
April 3–4, 2003	MSR13–MSR14	Cal	174.6	187.7	13.1	7.5
May 15–16, 2003	MSR13–MSR14	Cal	164.9	150.5	-14.4	-8.8
May 23–24, 2003	MSR13–MSR14	Ver	120.2	121.2	1.0	0.8
September 4–5, 2004	MSR13–MSR14	Ver	255.0	242.5	-12.5	-4.9
All simulations:			6,275.8	6,231.1	-44.7	-0.7

¹Difference = simulated – recorded.

²Difference = [(simulated – recorded) / recorded] × 100.

for each subreach (figs. 19–33). Then, for each of the selected native streamflows, the bank-storage losses for reusable-water flows in 1-ft³/s increments were estimated by logarithmic interpolation between the relations. Because bank-storage losses for a native streamflow of 0 ft³/s could not be estimated from the regression relations, a value was estimated by linear extrapolation to zero, before the interpolation. The resulting tables are presented in the “Supplemental Information” section at the back of this report (tables 8–22). Bank-storage losses for native streamflows other than those listed in tables 8–22 are estimated by linear interpolation between the native streamflows; this interpolation will be made within the transit-loss accounting program planned to be developed. Tables 8–22, then, will be an integral component of the transit-loss accounting program.

The maximum native streamflow used for the model simulations in estimating bank-storage loss ranged from 300 ft³/s for the upstream subreaches to 900 ft³/s for the downstream subreaches (figs. 19–33), whereas the look-up tables were developed for native streamflows as large as 1,000 ft³/s (tables 8–22). This represents a substantial extrapolation of the regression relations for some subreaches. However, it is very unlikely that native streamflow in the upstream subreaches would exceed the maximum value used in the simulations; hence, it is very unlikely that the extrapolated look-up values will ever be used. The ranges of streamflow used in the

look-up tables were made the same for each subreach primarily for dimensional uniformity when incorporating into the transit-loss accounting program.

Bank-Storage-Loss Adjustment Factor

Estimation of bank-storage loss for a given reusable-water flow and native streamflow condition was based on a uniform native streamflow at the upstream and downstream nodes of each subreach. However, native streamflow normally will be either increasing or decreasing in the subreach because of tributary inflow, loss to or gain from bank storage in native streamflow, diversion, and other factors. For a given reusable-water flow, a gain or loss in native streamflow within a subreach will result in a change in head at the downstream node different from the change in head at the upstream node. This results in computation of a bank-storage loss by the model that is different from the loss previously computed with a uniform native streamflow (uniform change in head at both upstream and downstream node). Estimation of an adjustment factor allows for adjustment of the bank-storage loss on the basis of gains or losses in native streamflow in a subreach.

Bank-storage-loss adjustment factors also were estimated by simulation of ideal 1-day flow conditions, but the quantity of native streamflow at the downstream node was both increased and decreased from the quantity at the upstream

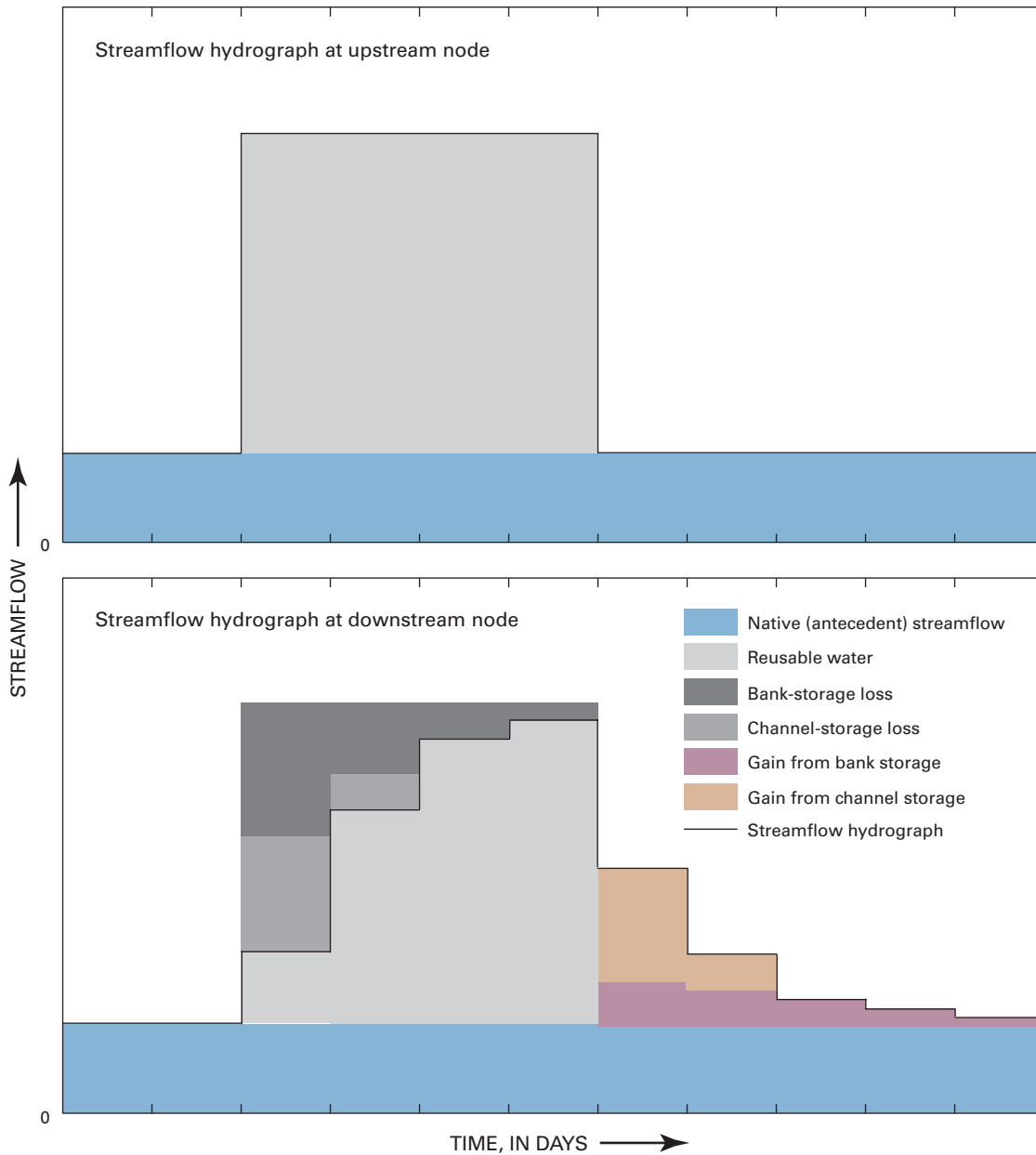


Figure 11. Ideal streamflow conditions during application of a stream-aquifer model to estimate transit losses for transportation of reusable water through a subreach.

node. The results of these simulations indicated the following: (1) when the ratio of downstream native streamflow to upstream native streamflow was less than 1, bank-storage loss generally increased; and (2) when the ratio of downstream native streamflow to upstream native streamflow was greater than 1, bank-storage loss generally decreased. The results of these simulations then were used in least-squares regression to develop relations between the bank-storage-loss adjustment factor and the ratio of native streamflow at the downstream node to native streamflow at the upstream node; an example of these relations is shown in figure 15. The coefficients of determination for

these regressions were greater than 0.90 for 21 of the relations, and between 0.65 and 0.89 for 9 of the relations, indicating a relatively large degree of correlation between the adjustment factor and the ratio of downstream to upstream native streamflow. The regression relations (using log-transformed data) were developed on the assumption of a zero intercept (note: logarithm of 1 equals 0; fig. 15); hence, the slopes of the regression relations were the only result (table 5).

The slopes of the regression relations (table 5) then are used to estimate the bank-storage-loss adjustment factor for a given subreach by the following equation:

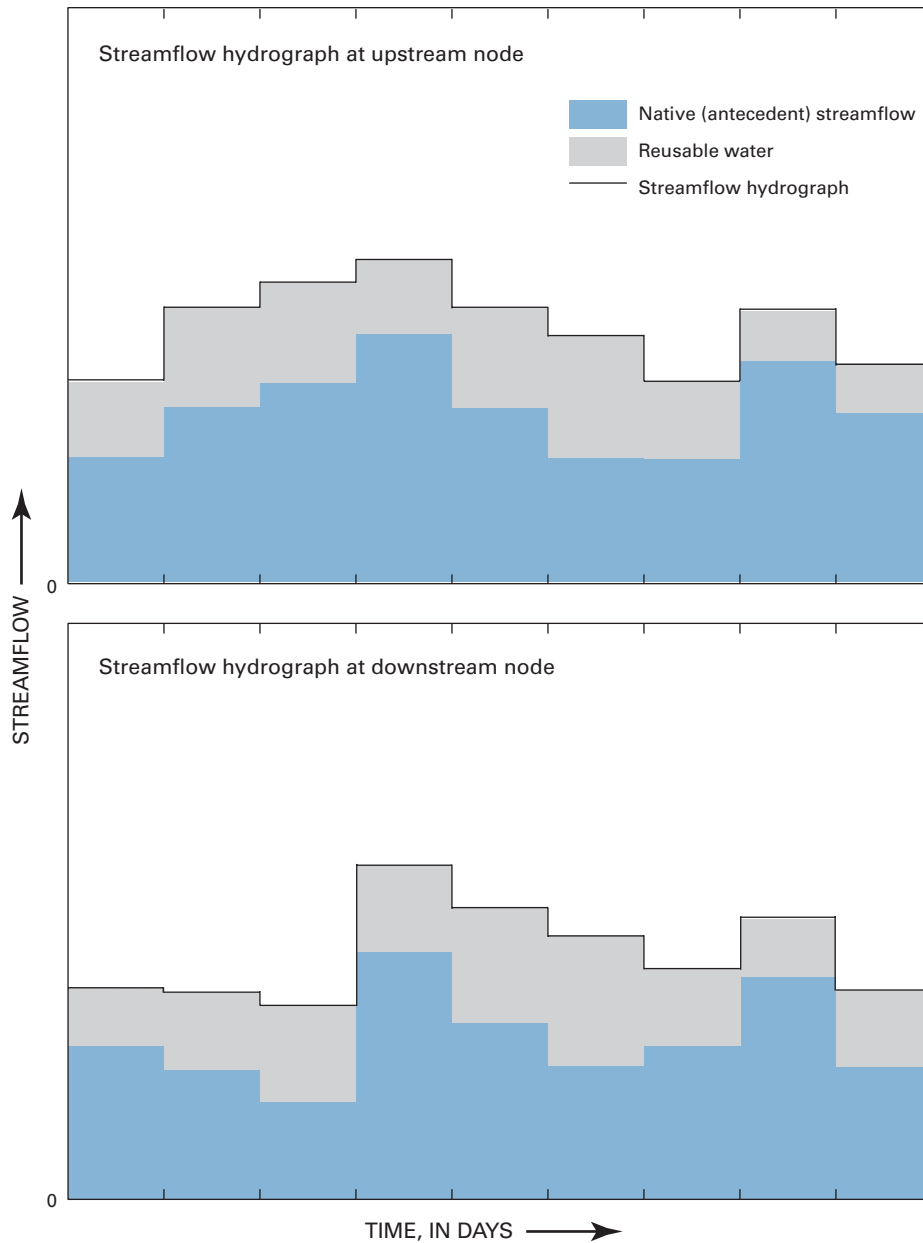


Figure 12. Actual streamflow conditions along Monument Creek during transportation of reusable water through a subreach.

$$BSLAF = (DSNQ/USNQ)^{slp} \quad (1)$$

where

- BSLAF is bank-storage loss adjustment factor;
- DSNQ is native streamflow at downstream node, in cubic feet per second;
- USNQ is native streamflow at upstream node, in cubic feet per second;

and

- slp is slope of the subreach relation between BSLAF and DSNQ/USNQ as listed in table 5.

For example: For subreach 1, assume that native streamflow at the upstream node is 100 ft³/s and that native streamflow at the downstream node is 125 ft³/s; the ratio of DSNQ/USNQ equals 1.25; 1.25^{-0.137} equals 0.97; therefore the bank-storage loss (for a native streamflow of 100 ft³/s and any specified reusable-water flow) would be adjusted by a factor of 0.97. Typically, the adjustment factor will range from about 0.80 to 1.20. It was assumed that if native streamflow is 0 at either the downstream or the upstream node, then bank-storage-loss adjustment factor is 1.00.

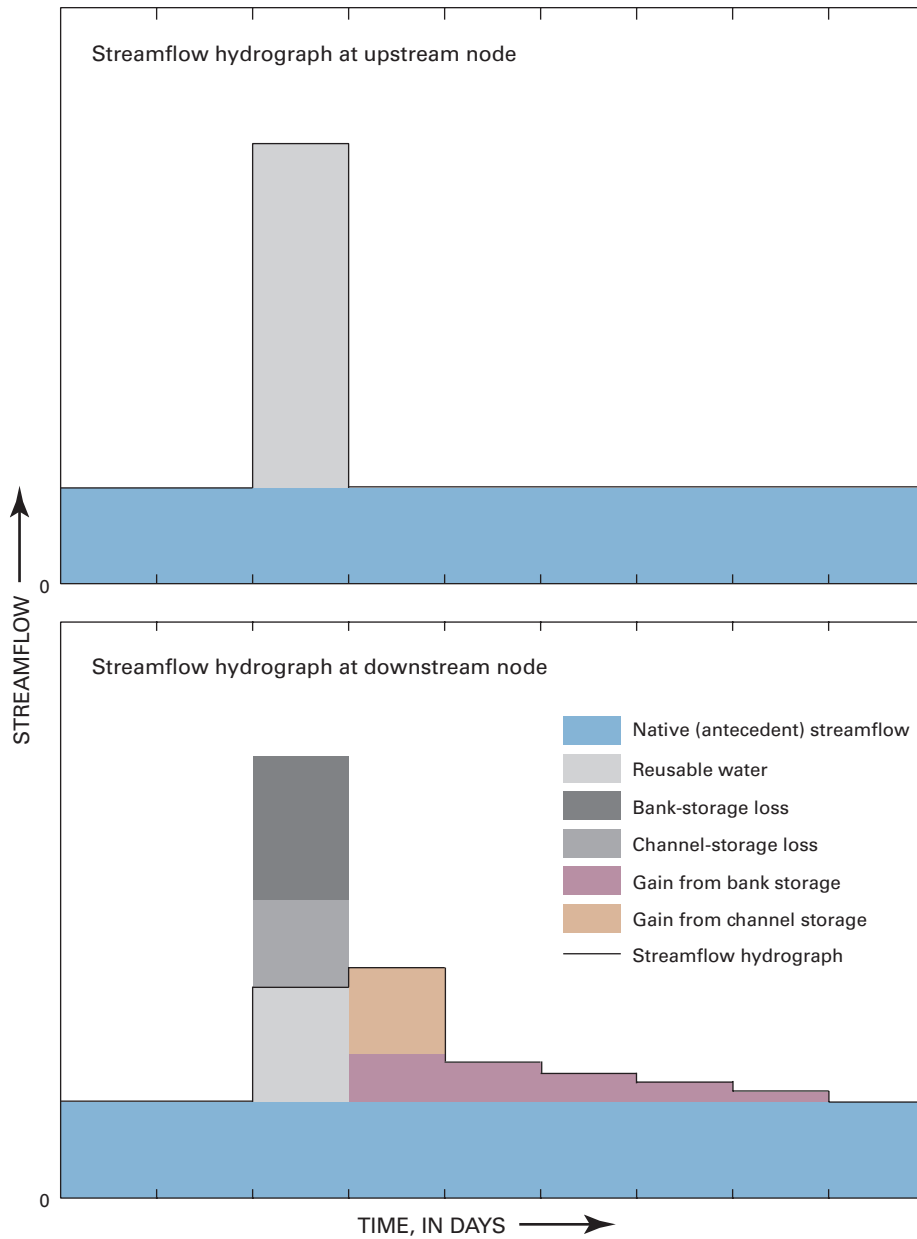


Figure 13. Ideal 1-day streamflow conditions used to estimate transit losses during transportation of reusable water through a subreach.

Return of Bank-Storage Water

Knowing what part of the bank-storage loss remains in bank storage after a given period of time (recovery period) is necessary to correctly estimate the actual bank-storage loss for the period. Analysis of the quantity of water remaining in bank storage after a given recovery period, again using the model, indicated a large degree of variability among the subreaches between quantity of water remaining in bank storage and length of the recovery period (fig. 16). The rapid return of practically all bank-storage water after a 1-day reusable-water flow release for most of the subreaches results from the limited extent of the Monument Creek alluvium. The recovery

period is about 4 days or less for 10 subreaches (fig. 16A and B), 7–10 days for subreaches MSR1 and MSR2 at the upstream end of the study reach (fig. 16C), about 20–30 days for subreaches MSR13 and MSR14, and about 60 days for subreach MSR15 (fig. 16C). The relation for subreach MSR15 is most similar to the single relation that was used in the previously completed transit-loss study for Fountain Creek (fig. 16C; Kuhn, 1988). Because of the variability in the relations between percentage of bank-storage loss remaining in bank storage and the recovery-period day (fig. 16), the relation for each subreach will be used in the transit-loss accounting program rather than a single relation as used in the program for Fountain Creek.

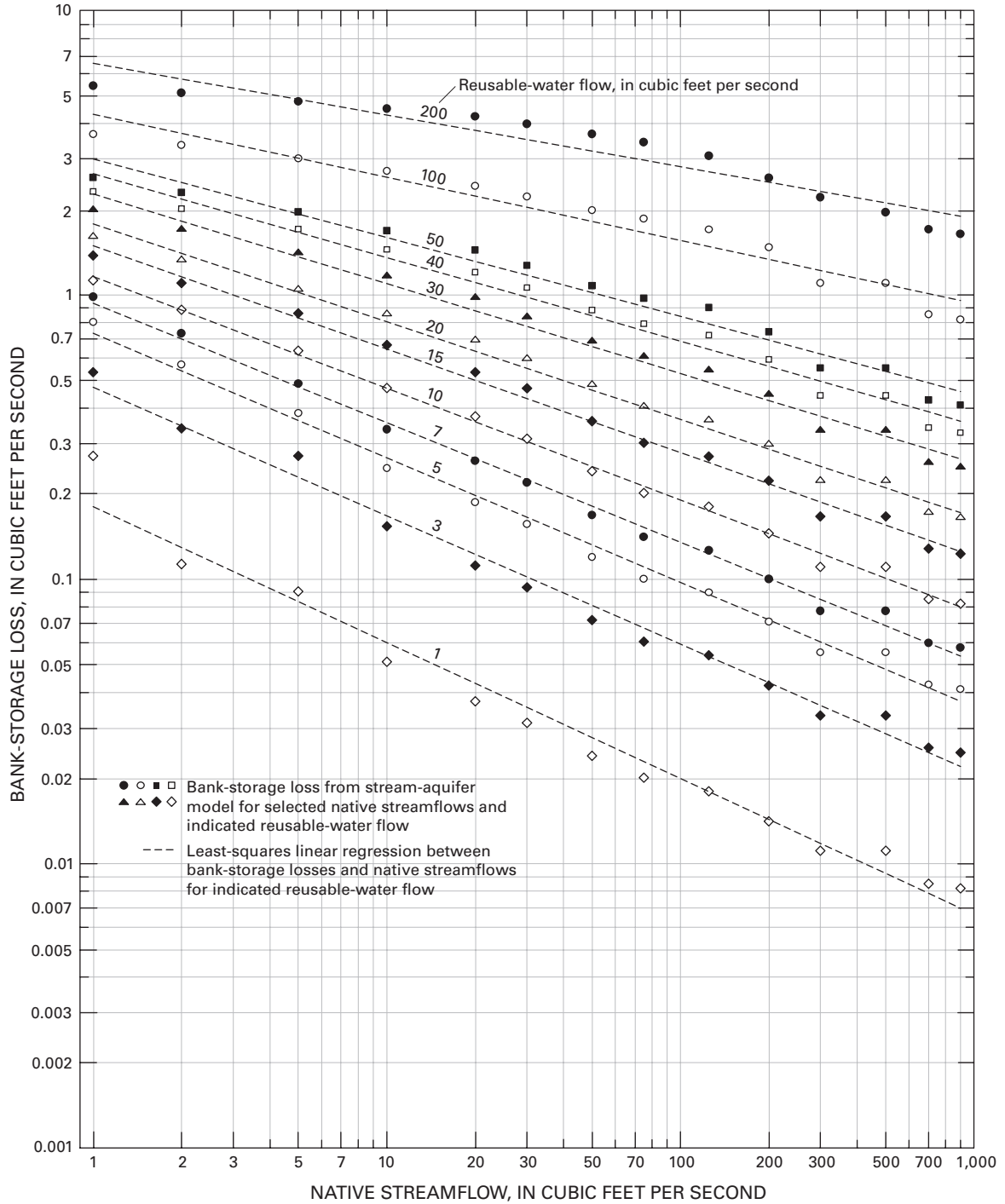


Figure 14. Bank-storage losses from stream-aquifer model for selected native streamflows and reusable-water flows, and least-squares linear regressions between the bank-storage losses and native streamflows for the indicated reusable-water flows for subreach MSR12, Monument Creek at Northern Reclamation Facility downstream to station 07104905 Monument Creek at Bijou Street at Colorado Springs.

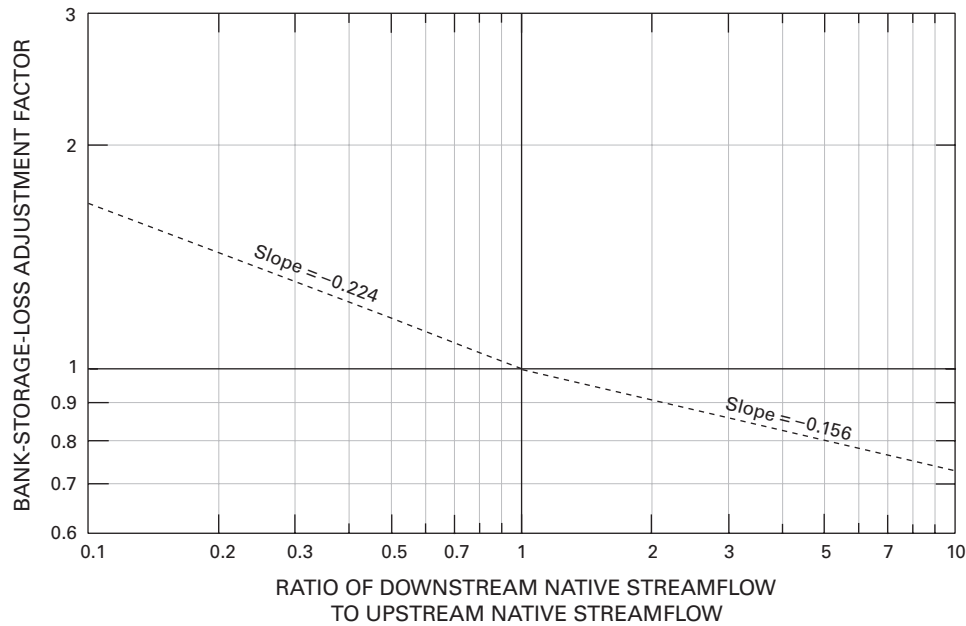


Figure 15. Relation between ratio of downstream native streamflow to upstream native streamflow and bank-storage-loss adjustment factor for subreach MSR6, Monument Creek below Jackson Creek at Upper Monument Regional wastewater-treatment facility downstream to station 07103780 Monument Creek above Northgate Boulevard at U.S. Air Force Academy.

For the Fountain Creek study, the single relation between percentage of bank-storage loss remaining in bank storage and the recovery-period day (fig.16C) actually was determined for a recovery period of 180 days (Kuhn, 1988). Reasons for the longer recovery period on Fountain Creek result from the greater extent and depth of the alluvium. For development of the Fountain Creek transit-loss accounting program, it was necessary to specify a length of the recovery period, during which return of bank-storage water would be accounted for. When the program was implemented, the Colorado Department of Water Resources Division 2 Engineer (the administrator of water rights in the study area) and CSU jointly agreed to use a 60-day recovery period (Colorado Division Engineer and Colorado Springs Utilities, oral comm., 1988). After a 60-day recovery period, about 8.4 percent of the bank-storage loss remains in bank storage (fig. 16C) and by allowing some percentage of the return flow to remain in bank storage, it was thought that existing water rights along Fountain Creek would not be compromised because of any inaccuracies in the transit-loss accounting methods.

As in the case of the Fountain Creek study, a length for the recovery period needs to be specified for development of the Monument Creek transit-loss accounting program. In order to follow the same logic used in selection of the recovery period for the Fountain Creek study, the Division 2 Engineer and the water-use and water-management organizations involved in completing the Monument Creek study also administratively accepted that accounting of gains from bank

storage would be truncated at 8.4 percent of the bank-storage loss. Revised relations between percentage of bank-storage loss remaining in bank storage and the recovery-period day that will be used in the accounting program for Monument Creek (fig. 17) indicate that the maximum recovery period is 28 days for subreach MSR15; between 3 and 12 days for

Table 5. Slopes of relations between bank-storage-loss adjustment factor and ratio of downstream to upstream native streamflows.

[DSNQ, native streamflow at downstream node, in cubic feet per second; USNQ, native streamflow at upstream node, in cubic feet per second; >, greater than; <, less than]

Subreach number (fig. 2)	Slope when		Slope when	
	DSNQ USNQ	is >1	DSNQ USNQ	is <1
MSR1	-0.137		-0.139	
MSR2	-.151		-.153	
MSR3	-.151		-.162	
MSR4	-.177		-.199	
MSR5	-.234		-.205	
MSR6	-.156		-.224	
MSR7	-.221		-.227	
MSR8	-.147		-.125	
MSR9	-.160		-.131	
MSR10	-.183		-.155	
MSR11	-.123		-.091	
MSR12	-.165		-.208	
MSR13	-.191		-.194	
MSR14	-.215		-.163	
MSR15	-.168		-.160	

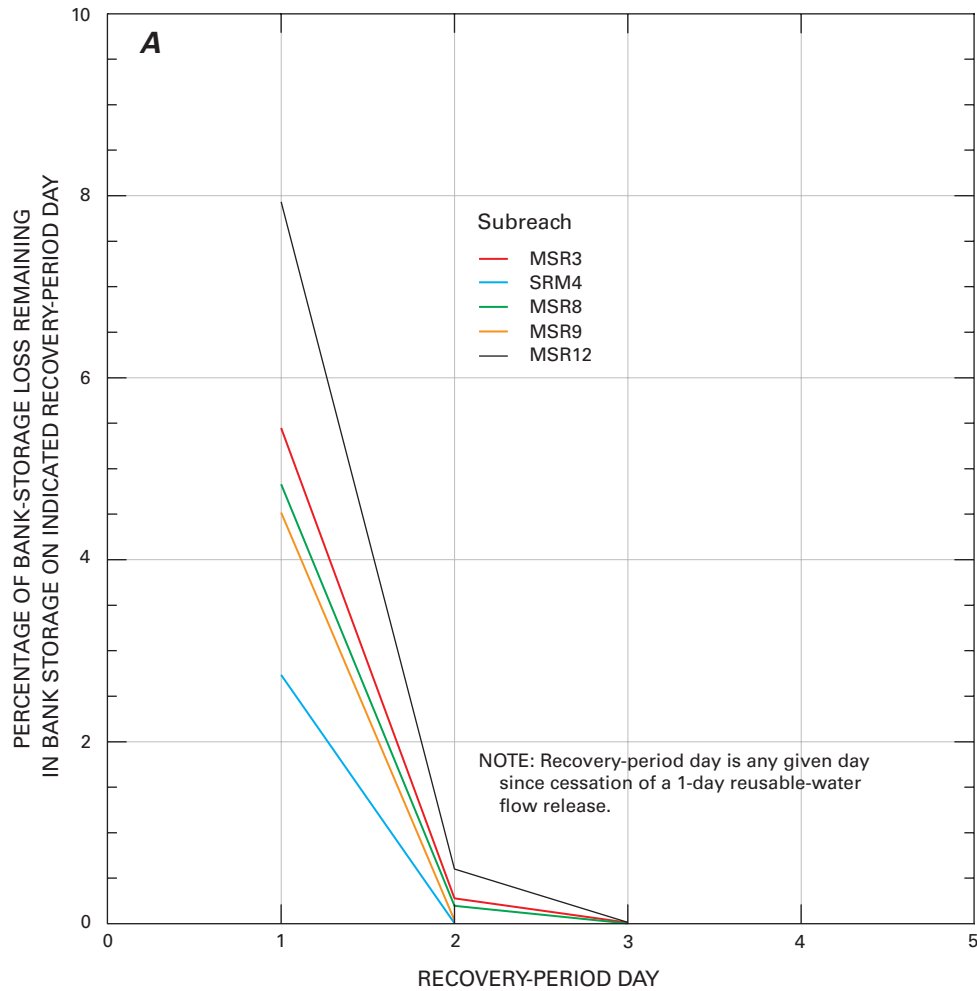


Figure 16. Relation between percentage of bank-storage loss remaining in bank storage and recovery-period day.

subreaches MSR1, MSR2, MSR13, and MSR14; and 2 days for subreaches MSR5, MSR6, MSR10, and MSR11. For subreaches MSR3, MSR4, MSR7, MSR8, MSR9, and MSR12, the recovery period is only one day, although that is not clearly evident in figure 17. The primary intent of the horizontal line across the bottom portion of figure 17 is to indicate that the accounting of gains from bank storage will be truncated at 8.4 percent.

Because the percentage of bank-storage loss remaining in bank storage on any given day of the recovery period is known (fig. 17), the percentage of bank-storage loss returned to the stream (gains from bank storage) on any given day of the recovery period can be directly estimated. This percentage is the difference between the computed percentage remaining in storage on the day in question and the computed percentage remaining in storage on the previous day (table 6). Data listed in table 6 for each subreach will be programmed into the transit-loss accounting program for Monument Creek; however, only the percentage of bank-storage loss returned to the stream on each recovery-period day is needed in the program.

Data for recovery-period day 0 (the day of bank-storage loss) as well as one additional day beyond the end of the actual recovery period (fig. 17) also are listed in table 6 for purposes of clarity.

Channel-Storage Loss

The effect of channel storage on a water wave is diagrammed in figures 12 and 14. Channel-storage loss initially is quite large but rapidly decreases to small values or zero. Also, any channel-storage loss is totally recovered in the form of gains from channel storage after passage of the water wave. The effect of channel storage on reusable water for the Monument Creek study was estimated with the model in conjunction with the simulations used to estimate bank-storage loss. Additional simulations also were made to estimate if channel-storage loss extended beyond the day of a reusable-water release. These simulations indicated that channel-storage loss was zero after 1 day and that all water in channel

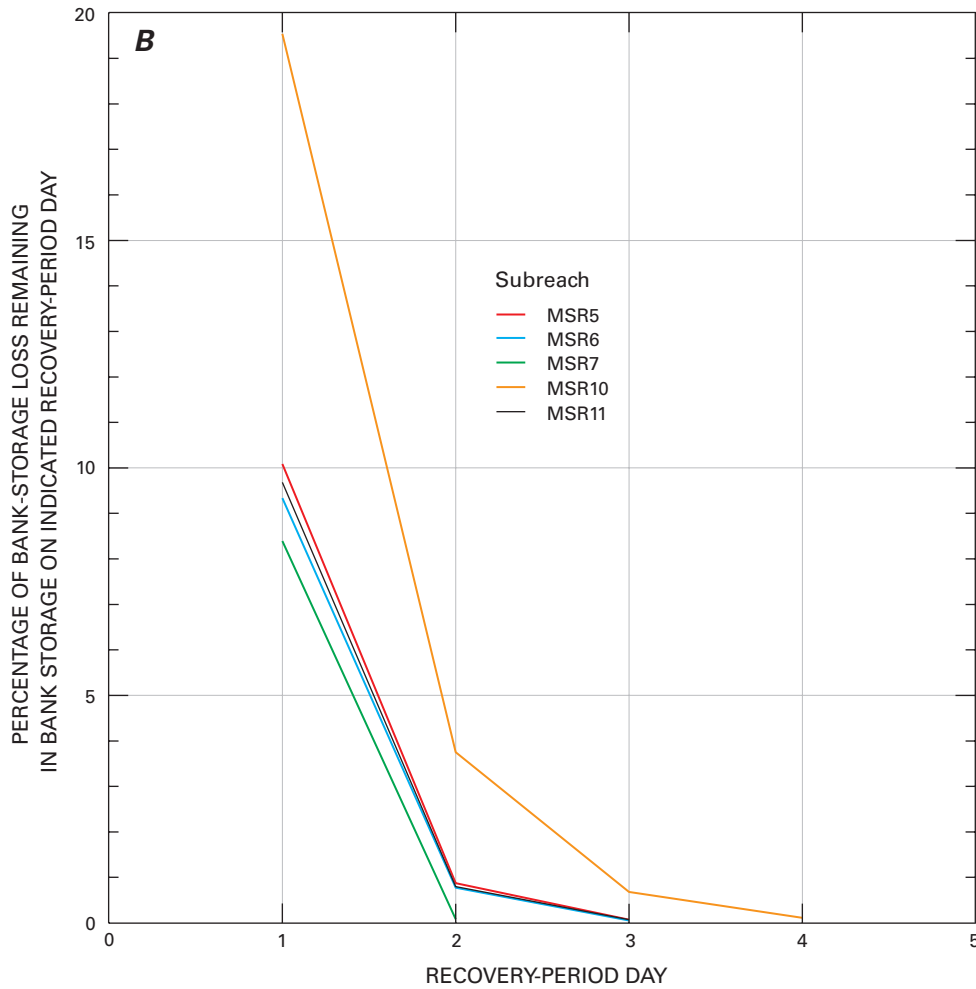


Figure 16. Relation between percentage of bank-storage loss remaining in bank storage and recovery-period day.—Continued

storage was released from storage the day after the 1-day reusable-water release. These conditions existed because of the generally short lengths of the subreaches.

Channel-storage losses are about 10 percent of the reusable-water flow for most of the subreaches, except for subreaches MSR9 and MSR12, where the channel-storage losses are about 20 percent, and subreach MSR7, where the losses are about 30 percent, owing to the much greater channel lengths (table 3). These channel-storage losses will be used in the accounting program to be developed. The losses apply only to the day of the reusable water release. The channel-storage loss on any given day results in an equivalent gain in reusable-water flow in the subreach on the subsequent day.

Evaporative Loss

Evaporative loss for transportation of reusable water in Monument Creek was estimated by the same method used in the Fountain Creek study (Kuhn, 1988), which was modified

from the transit-loss estimations for reservoir releases on the lower Arkansas River (Livingston, 1978). The method is based on the use of monthly pan-evaporation data and the incremental increase in stream width resulting from any reusable water. The evaporative losses were estimated independently of the model simulations used to estimate bank-storage and channel-storage losses.

Measured monthly pan-evaporation data are not available in or near the Monument Creek study area; however, monthly pan evaporation has been estimated by the National Weather Service for the Colorado Springs airport (table 7) by using measured meteorological data and a modified form of the Penman equation (Western Regional Climate Center, 2006). The estimated monthly pan-evaporation data and a daily rate that will be programmed into the accounting program are listed in table 7. For computation of the daily evaporation, the monthly pan-evaporation data were adjusted by a pan coefficient of 0.72 (Farnsworth and others, 1982). The daily rate, when multiplied by the stream-width increase (in feet) that

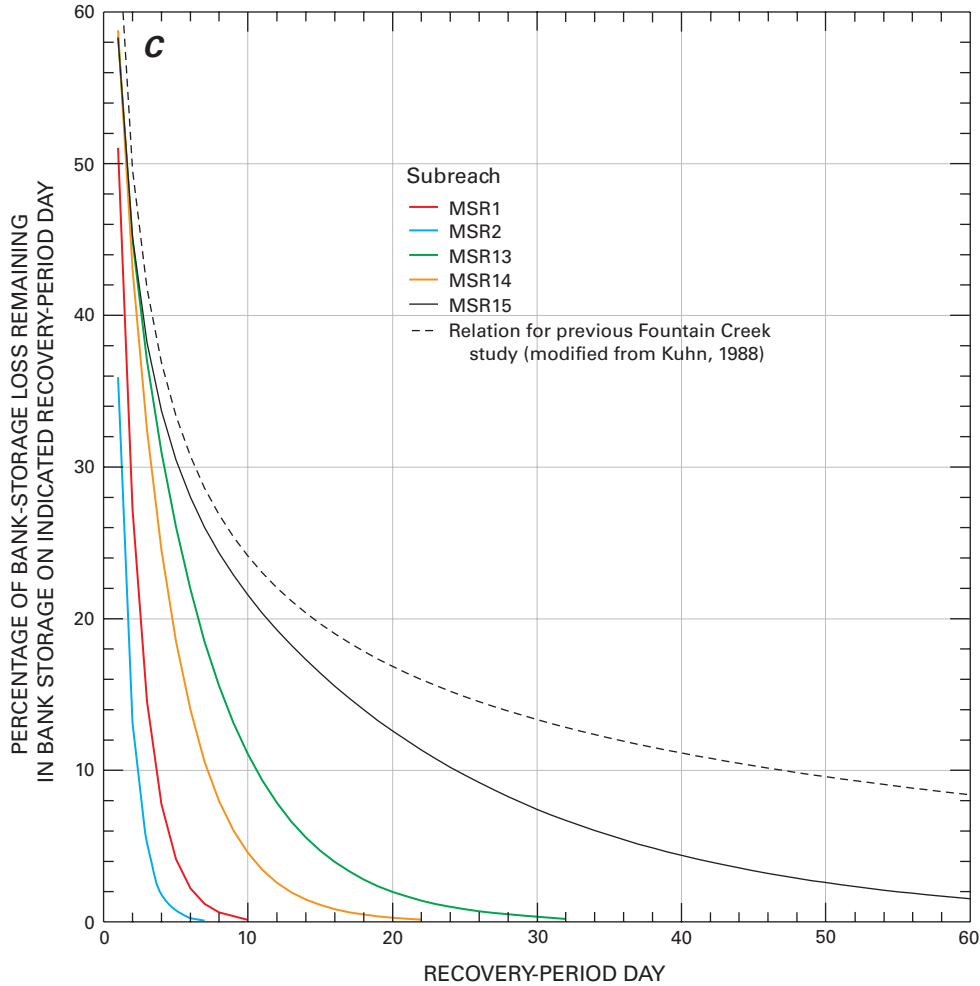


Figure 16. Relation between percentage of bank-storage loss remaining in bank storage and recovery-period day.—Continued

results from reusable-water flow and by the subreach length (in miles), gives the daily evaporative loss in cubic feet per second. In the accounting program, daily evaporative loss will be estimated last, after losses to and gains from bank storage and channel storage have been estimated. Thus, evaporative losses will be estimated on the net quantity of reusable water in any subreach.

Incremental stream-width increase resulting from reusable-water flow will be estimated by the difference between stream width on the basis of all streamflow in Monument Creek and stream width on the basis of only native streamflow. To develop a method for estimating stream width, stream width and streamflow were compared (fig. 18) for a selected number of streamflow measurements made at eight stations on Monument and Fountain Creeks (table 1; fig. 2). Although there is some variability in the relation between stream width and streamflow at each station and between each station, a general trend clearly is evident. Therefore, a single relation between stream width and streamflow (fig. 18) for the entire Monument Creek study reach was estimated by

least-squares regression of log-transformed stream-width and streamflow data for the eight stations. The equation for the relation is:

$$\bar{w} = 6.00 \times (Q^{0.434}) \tag{2}$$

where

\bar{w} is estimated stream width, in feet;

and

Q is streamflow, in cubic feet per second.

About 890 data pairs were used to develop the relation, which had a coefficient of determination of 0.80. To estimate evaporative transit loss, equation 2 will be programmed into the transit-loss accounting program, together with the daily evaporation rates (table 7) and the subreach channel lengths (table 3). Assuming an average width increase of 5 ft, the daily evaporative loss for all subreaches would be about 0.16 ft³/s per day during the month of July. Average width increase, however, will be much less than 5 ft most of the time; therefore, evaporative losses usually will be relatively small.

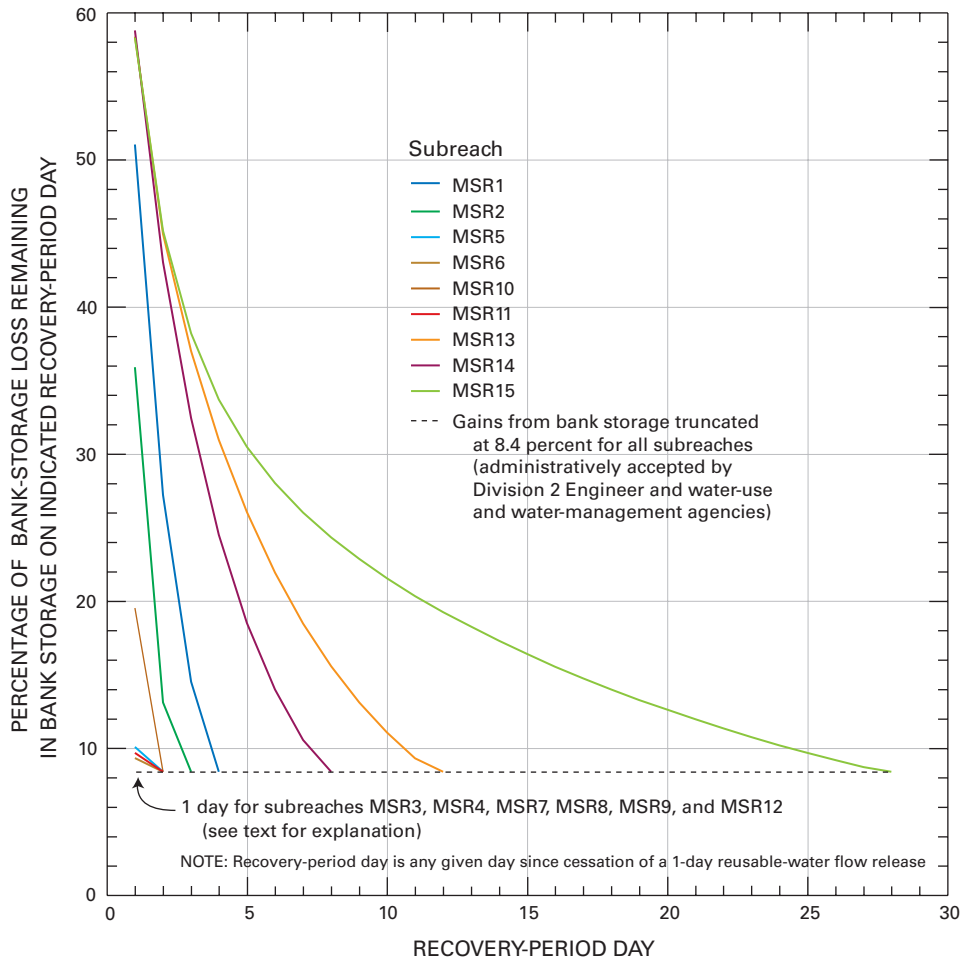


Figure 17. Relation between percentage of bank-storage loss remaining in bank storage and recovery-period day to be used in transit-loss accounting program for the Monument Creek study.

Development of Application Method

As mentioned in the “Introduction” and “Purpose and Scope” sections of this report, application of the model in the Monument Creek study is only part of a multiobjective study. The ultimate objectives of the study are to develop a transit-loss accounting program for Monument Creek and to integrate the program with the existing transit-loss accounting program for Fountain Creek, while making the programs adaptable to future changes in management of native and reusable streamflows and incorporating a Web-based interface. Results from application of the model to the Monument Creek study reach, which have been described in the previous sections of this report, will provide the building blocks for developing the transit-loss accounting program for Monument Creek. These building blocks, developed by applying the model to the Monument Creek study reach (fig. 2) and other methods as needed, consist of the following:

1. The nodes along the study reach (table 2) and the subreach channel lengths (table 3) because the same system of nodes and subreaches used herein will be an integral part of the accounting program.

2. The look-up tables of bank-storage loss for reusable-water flows ranging from 0 to 200 ft³/s and selected native streamflows for each subreach (tables 8–22).
3. The slopes of the relations between bank-storage loss adjustment factor and ratio of downstream to upstream native streamflows for each subreach (table 5) and equation 1 that are used to compute the bank-storage-loss adjustment factor for each subreach on the basis of the data in table 5.
4. The percentages of bank-storage loss returned to stream on each recovery-period day for each subreach (table 6).
5. The percentages of channel-storage loss (10, 20, or 30 percent).
6. The estimated daily evaporation rates for each subreach (table 7) and equation 2 used to estimate stream width.

A copy of the existing accounting program for Fountain Creek, with appropriate revisions, will be used as a starting template for development of the accounting program for the Monument Creek study reach. The building blocks described

Table 6. Percentages of bank-storage loss returned to stream and percentages of bank-storage loss remaining in bank storage on each recovery-period day for subreaches in the Monument Creek study.

Recovery-period day ¹	Percentage of bank-storage loss returned to stream	Percentage of bank-storage loss remaining in bank storage
Subreach MSR1		
0	0.00	100.00
1	48.96	51.04
2	23.83	27.21
3	12.68	14.53
4	6.13	8.40
5	0.00	8.40
Subreach MSR2		
0	0.00	100.00
1	64.09	35.91
2	22.80	13.12
3	4.72	8.40
4	0.00	8.40
Subreach MSR3		
0	0.00	100.00
1	91.60	8.40
2	0.00	8.40
Subreach MSR4		
0	0.00	100.00
1	91.60	8.40
2	0.00	8.40
Subreach MSR5		
0	0.00	100.00
1	89.91	10.09
2	1.69	8.40
3	0.00	8.40
Subreach MSR6		
0	0.00	100.00
1	90.66	9.34
2	0.94	8.40
3	0.00	8.40
Subreach MSR7		
0	0.00	100.00
1	91.60	8.40
2	0.00	8.40
Subreach MSR8		
0	0.00	100.00
1	91.60	8.40
2	0.00	8.40
Subreach MSR9		
0	0.00	100.00
1	91.60	8.40
2	0.00	8.40
Subreach MSR10		
0	0.00	100.00
1	80.46	19.54
2	11.14	8.40
3	0.00	8.40
Subreach MSR11		
0	0.00	100.00
1	90.32	9.68
2	1.28	8.40
3	0.00	8.40
Subreach MSR12		
0	0.00	100.00
1	91.60	8.40
2	0.00	8.40

Table 6.—Continued

Recovery-period day ¹	Percentage of bank-storage loss returned to stream	Percentage of bank-storage loss remaining in bank storage
Subreach MSR13		
0	0.00	100.00
1	41.63	58.37
2	13.41	44.96
3	7.97	36.99
4	6.03	30.97
5	4.91	26.05
6	4.11	21.95
7	3.47	18.48
8	2.91	15.57
9	2.45	13.12
10	2.06	11.07
11	1.75	9.32
12	0.92	8.40
13	0.00	8.40
Subreach MSR14		
0	0.00	100.00
1	41.20	58.80
2	15.75	43.05
3	10.62	32.44
4	7.93	24.51
5	5.99	18.52
6	4.53	13.99
7	3.42	10.57
8	2.17	8.40
9	0.00	8.40
Subreach MSR15		
0	0.00	100.00
1	41.70	58.30
2	13.13	45.17
3	6.97	38.20
4	4.50	33.70
5	3.22	30.48
6	2.46	28.02
7	1.99	26.02
8	1.68	24.34
9	1.47	22.87
10	1.32	21.55
11	1.21	20.35
12	1.09	19.26
13	1.00	18.26
14	0.96	17.30
15	0.90	16.40
16	0.86	15.54
17	0.78	14.76
18	0.77	13.99
19	0.72	13.27
20	0.65	12.62
21	0.65	11.97
22	0.62	11.35
23	0.59	10.76
24	0.56	10.20
25	0.51	9.69
26	0.50	9.19
27	0.47	8.72
28	0.32	8.40
29	0.00	8.40

¹Recovery-period day 0 is day that bank-storage loss occurred.

Table 7. Estimated monthly pan evaporation and estimated daily evaporation for the Monument Creek study reach.

Month	Estimated monthly pan evaporation ¹ (inches)	Estimated daily evaporation ² (feet squared per second per mile)
January	2.4	0.000284
February	2.5	.000327
March	3.8	.000449
April	5.9	.000721
May	7.9	.000934
June	9.4	.001149
July	9.5	.001124
August	8.6	.001017
September	6.7	.000819
October	5.1	.000603
November	3.0	.000367
December	2.4	.000284

¹Source: Western Regional Climate Center, 2006.

²Pan coefficient of 0.72 (Farnsworth and others, 1982) was used in computation of daily evaporation values for each month.

in the previous paragraph will replace similar components that apply to Fountain Creek. In addition, similar types of daily data used in the accounting program for Fountain Creek also will be required for the accounting program for Monument Creek. Some of these data are (1) daily streamflow for selected stations on Monument Creek and on tributary streams (table 1); (2) daily quantities of reusable-water flow for any municipal or water-use entity wanting to reuse their reusable water; (3) locations (nearest node) where the reusable water enters Monument Creek; (4) the node where there is a change in the disposition of the reusable-water flow (other than changes in transit loss resulting from application of the results described herein); and (5) diversion of native streamflow at the two diversion structures. There may be other types of daily input data that will be defined during development of the accounting program. Description of the transit-loss accounting program for Monument Creek, the revisions to the existing transit-loss accounting program for Fountain Creek, and the integration of both accounting programs is beyond the scope of this report.

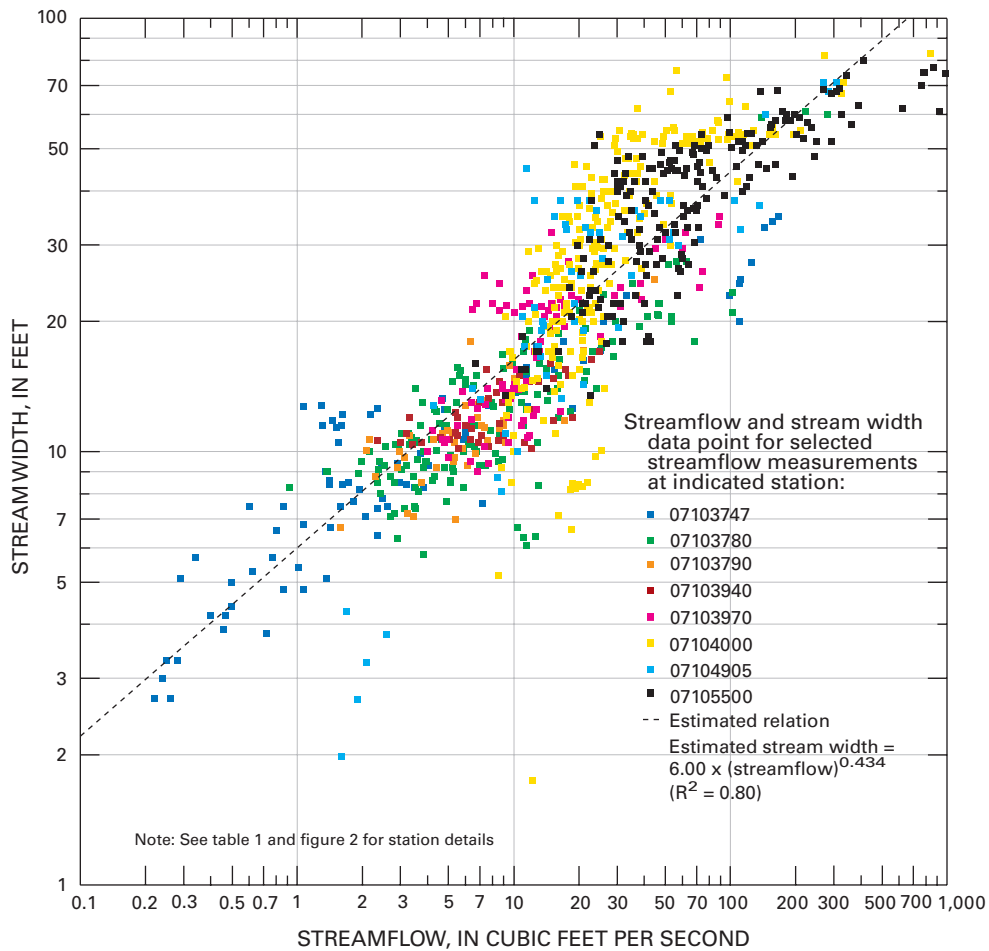


Figure 18. Scatter plots of streamflow and stream width for selected stations used in the Monument Creek study and the estimated least-squares relation for all stations.

Summary

In 1988, the U.S. Geological Survey, in cooperation with Colorado Springs Utilities, completed a study to develop a method to estimate transit losses for return flows of reusable water discharged into Fountain Creek at the Las Vegas Street wastewater-treatment facility. Results from applying the stream-aquifer model were incorporated into a FORTRAN-based transit-loss accounting program that has been in continual use since April 1989.

Since implementation of the accounting program, the population of Colorado Springs has increased substantially, resulting in construction of a new water-reclamation facility adjacent to Monument Creek in the northern part of Colorado Springs. It is likely that some of the wastewater discharged into Monument Creek at the Northern Water Reclamation Facility will consist of reusable return flows. In addition, a number of other municipal entities in the Monument Creek basin also either currently (2006) derive a portion of their water from reusable sources, or in the future plan to derive a portion of their water from reusable sources. Management of these reusable return flows likely would include transportation of the reusable water along Monument Creek downstream to some undetermined location; this transportation would require estimation of transit losses.

Because no methods are available to reliably estimate transit losses along Monument Creek and because of the increasing needs to manage and account for native and reusable water along Monument and Fountain Creeks, the USGS, in cooperation with Colorado Springs Utilities, the Colorado Water Conservation Board, and the El Paso County Water Authority, began a study in 2004 with the following objectives: (1) Apply a stream-aquifer model to Monument Creek, (2) use the results of the modeling to develop a transit-loss accounting program for Monument Creek, (3) revise the existing transit-loss accounting program for Fountain Creek to incorporate new water-management strategies and allow for incorporation of future changes in water-management strategies without significant expenditure of time or money, and (4) integrate the two accounting programs into a single program with a Web-based user interface. The purpose of this report is to present the results of applying a stream-aquifer model (model) to Monument Creek and a small portion of Fountain Creek. Transit losses were estimated for reusable-water flows that ranged from 1 to 200 cubic feet per second (ft^3/s) and for native streamflows that ranged from 0 to 1,000 ft^3/s . Transit losses were estimated for bank-storage, channel-storage, and evaporative losses.

The Monument Creek study reach consists of the alluvial valleys along Monument Creek and a small part of Fountain Creek, from north of Monument downstream to the Las Vegas Street wastewater-treatment facility; the area is about 22 miles long and ranges in width from about 100 to 3,000 feet (ft). The Monument Creek alluvium ranges in width from about 0 to 2,000 ft at its widest point at the confluence with Fountain

Creek. The alluvium generally is less than 10 ft thick and is discontinuous or absent in a number of places along the stream channel; extent of the alluvium is largest near the confluence with Fountain Creek and northwest of Monument Lake, where sediments may be about 20 to 40 ft thick in these two locations. From the confluence of Monument and Fountain Creeks downstream to the Las Vegas Street facility, the Fountain Creek alluvium ranges in width from about 1,000 to 3,000 ft and the thickness ranges from about 10 to 50 ft.

The same stream-aquifer model used in the previously completed Fountain Creek study was used in the Monument Creek study. The model has two basic components: a bank-storage-discharge component, and a streamflow-routing component, which enables estimation of channel storage. For use of the model, a stream reach to be studied was divided into one or more subreaches; the end points of the subreaches are referred to as "nodes." Sixteen nodes were established for the Monument Creek study reach, defining 15 subreaches. To apply the model, the physical and hydraulic characteristics of the subreaches were defined. Physical characteristics data needed were channel (stream) length, aquifer length, and aquifer width for each subreach. Hydraulic characteristics data were needed to define the channel hydraulics (wave celerity and wave dispersion coefficient) and the aquifer hydraulics (transmissivity and storage coefficient). Stage-discharge relations also were needed for each node.

Channel length, aquifer length, and aquifer width were estimated from available topographic and geologic maps at a scale of 1:24,000. Field inspection and verification of alluvial extent were conducted in September 2004 and indicated that the Monument Creek stream channel generally is incised into bedrock and Monument Creek commonly flows directly on bedrock. Thickness of alluvial deposits and saturated thickness were estimated using lithologic and water-level data from about 100 wells and test holes in or near the Monument Creek study reach. Estimated average transmissivities for subreaches in the Monument Creek study reach ranged from 2,000 to 12,000 feet squared per day, and a uniform value of 0.20 was used for storage coefficient. Single relations between streamflow and wave celerity and wave-dispersion coefficient were estimated by using the methods presented in the model documentation. Stage-discharge relations were available for the nodes located at or near gaging stations and were estimated for other nodes by application of Manning's equation and step-backwater analysis.

Before transit losses were estimated, the model was calibrated and verified for the Monument Creek system of nodes and subreaches. Eighteen streamflow hydrograph sets were available for calibration and verification of subreaches MSR7–MSR14. Streamflows at the stations on Monument Creek were adjusted for the effects of tributary inflow that was gaged and for the effects of diversion at the Pikeview diversion. For each calibration or verification simulation, streamflow at the upstream node was input to the model, and routed through one or more subreaches, and the simulated streamflow at the downstream node was compared to the recorded downstream streamflow. Because

no suitable streamflow hydrographs were available for subreaches MSR1–MSR6, the model was not calibrated or verified for those subreaches.

Qualitative comparison of recorded and simulated streamflow at the downstream node for the calibration and verification simulations indicated that the two flows compared reasonably well. Simulated streamflow peaks often were less than recorded peaks, primarily due to data errors and the inability of both the model and the physical description of the Monument Creek study reach to precisely simulate the natural system. No adjustments were made to the model parameters. Differences between recorded and simulated streamflow volumes for all calibration and verification simulations ranged from about –8.8 percent to about 7.5 percent; the total error for all simulations was about –0.7 percent. Because the results for subreaches MSR7–MSR14 were reasonable without any adjustment of the estimated physical characteristics or model parameters, application of the model to subreaches MSR1–MSR6 and MSR15 was considered to be acceptable.

Bank-storage loss values were estimated for 10 to 15 native streamflows for each reusable-water flow of 1, 3, 5, 7, 10, 15, 20, 30, 40, 50, 100, and 200 ft³/s. The 10 to 15 bank-storage-loss values were used in least-squares linear regression to estimate a relation between bank-storage loss and native streamflow for each of the 12 reusable-water flow rates. The 12 relations for each subreach then were used to develop “look-up” tables of bank-storage loss for reusable-water flows ranging from 1 to 200 ft³/s. First, a bank-storage loss was computed for 15 selected native streamflows by using each of the 12 regression relations for each subreach. Then, for each of the selected native streamflows, the bank-storage losses for reusable-water flows in 1-ft³/s increments were estimated by logarithmic interpolation between the relations. Bank-storage losses for native streamflows other than the 15 selected values are estimated by linear interpolation between the 15 native streamflows; this interpolation will be made within the transit-loss accounting program for Monument Creek.

Native streamflow normally will be either increasing or decreasing in a subreach because of tributary inflow, loss to or gain from bank storage in native streamflow, diversion, and other factors. This will result in computation of a bank-storage loss by the model that is different from the loss previously computed with a uniform native streamflow at the upstream and downstream nodes. Additional model simulations indicated that (1) when the ratio of downstream native streamflow to upstream native streamflow was less than 1, bank-storage loss generally increased; and (2) when the ratio of downstream native streamflow to upstream native streamflow was larger than 1, bank-storage loss generally decreased. The results of these simulations then were used to develop relations between the bank-storage-loss adjustment factor and the ratio of native streamflow at the downstream node to native streamflow at the upstream node. Typically, the adjustment factor will range from about 0.80 to 1.20.

Analysis of the quantity of water remaining in bank storage after a given length of time (recovery period), again using the model, indicated a large degree of variability among the

subreaches between quantity of water remaining in bank storage and length of the recovery period. The computed recovery period was about 4 days or less for 10 subreaches, about 7–10 days for subreaches MSR1 and MSR2, about 20–30 days for subreaches MSR13 and MSR14, and about 60 days for subreach MSR15. Because of the variability in the relations between percentage of bank-storage loss remaining in bank storage and the recovery-period day, the relation for each subreach will be used in the transit-loss accounting program rather than a single relation that was derived for the Fountain Creek study.

When the Fountain Creek transit-loss accounting program was implemented, the Colorado Department of Water Resources Division 2 Engineer and Colorado Springs Utilities jointly agreed to use a 60-day recovery period. After a 60-day recovery period, about 8.4 percent of the bank-storage loss remains in bank storage. The Division Engineer and the water-use organizations involved in completing the Monument Creek study also agreed that accounting of gains from bank storage for the Monument Creek study would be truncated at 8.4 percent of the bank-storage loss. The administratively accepted recovery period, then, was 1 day for six subreaches, 2 days for four subreaches, between 3 and 12 days for four subreaches, and 28 days for one subreach. The percentage of bank-storage loss returned to the stream on any given day of the recovery period was computed as the difference between the computed percentage remaining in storage on any given day and the percentage remaining in storage on the previous day; the daily return percentages will be used in the accounting program.

Channel-storage losses were estimated with the model in conjunction with the simulations used to estimate bank-storage loss. Channel-storage loss initially is quite large but rapidly decreases to small values or zero. Also, any channel-storage loss is totally recovered in the form of gains from channel storage after passage of the water wave. Channel-storage losses are about 10 percent of the reusable-water flow for most of the subreaches, except for subreaches MSR9 and MSR12, where the channel-storage losses are about 20 percent, and subreach MSR7, where the losses are about 30 percent, owing to the greater channel lengths.

Evaporative losses for transportation of reusable water in Monument Creek were estimated by the same method used in the Fountain Creek study, which is based on the use of monthly pan-evaporation data and the incremental increase in stream width resulting from any reusable water. Monthly pan-evaporation data estimated by the National Weather Service for the Colorado Springs airport were converted to a daily rate that will be programmed into the accounting program. The daily rate, when multiplied by the stream-width increase (in feet) that results from reusable-water flow and by the subreach length (in miles), gives the daily evaporative loss in cubic feet per second. Incremental stream-width increase resulting from reusable-water flow was estimated by the difference between stream width on the basis of all flow in Monument Creek and stream width on the basis of only native streamflow. Stream width, in turn, will be estimated in the accounting program

from a single relation between stream width and stream-flow derived for the entire Monument Creek study reach by least-squares regression of log-transformed, stream-width and streamflow data for the eight stations along the study reach.

The ultimate objectives of the study are to develop a transit-loss accounting program for Monument Creek and to integrate the program with the existing transit-loss accounting program for Fountain Creek, while making the programs adaptable to future changes in management of native and reusable streamflows and incorporating a Web-based interface. Results from application of the model to the Monument Creek study reach provide the building blocks for developing the transit-loss accounting program for Monument Creek.

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Supplemental Information

Figures 19–33

Tables 8–22

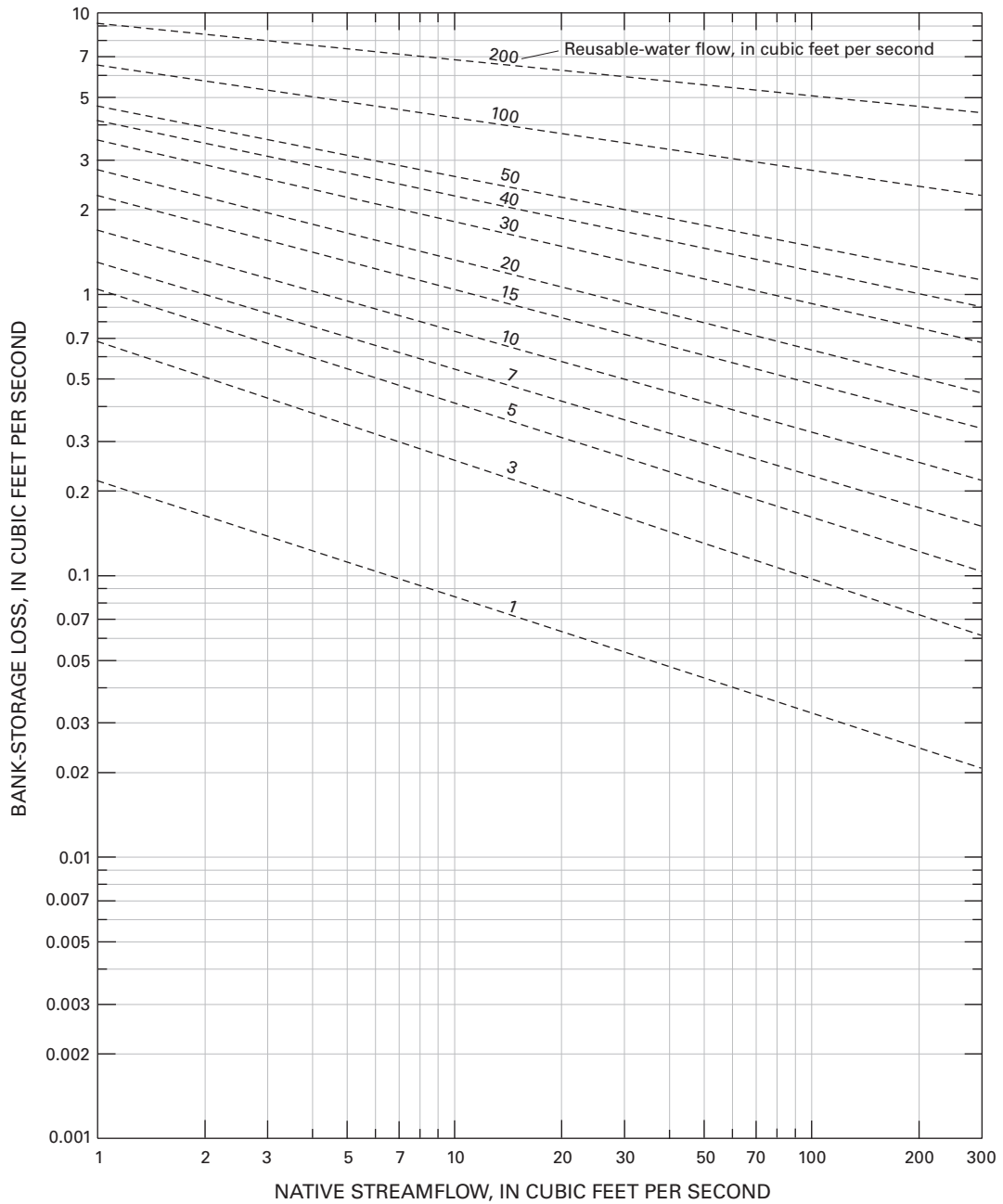


Figure 19. Relation between bank-storage loss and native streamflow for selected rates of reusable-water flow for subreach MSR1, station 07103747 Monument Creek at Palmer Lake downstream to station 07103755 Monument Creek below Monument Lake near Monument.

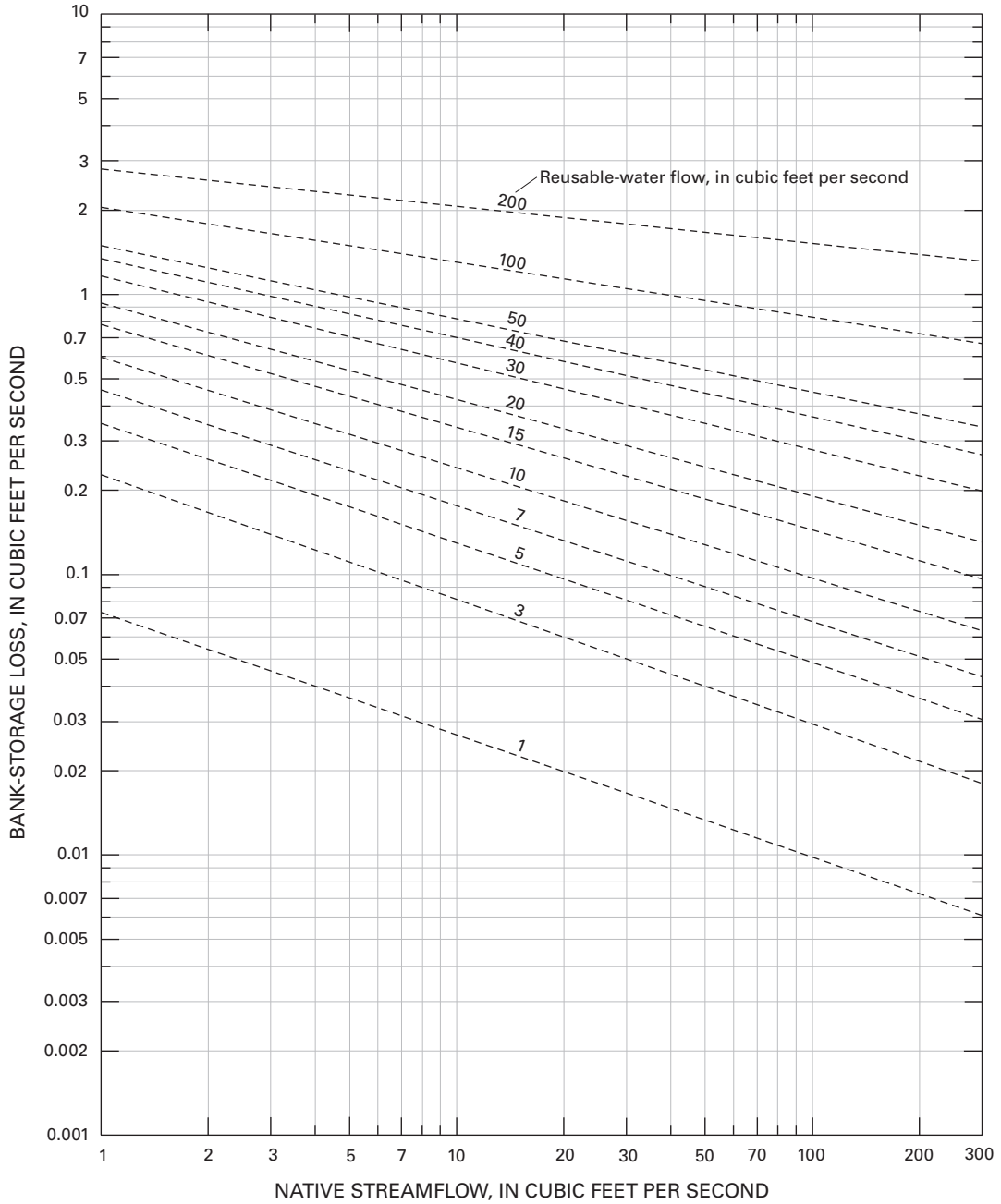


Figure 20. Relation between bank-storage loss and native streamflow for selected rates of reusable-water flow for subreach MSR2, station 07107755 Monument Creek below Monument Lake near Monument downstream to Monument Creek at Dirty Woman Creek.

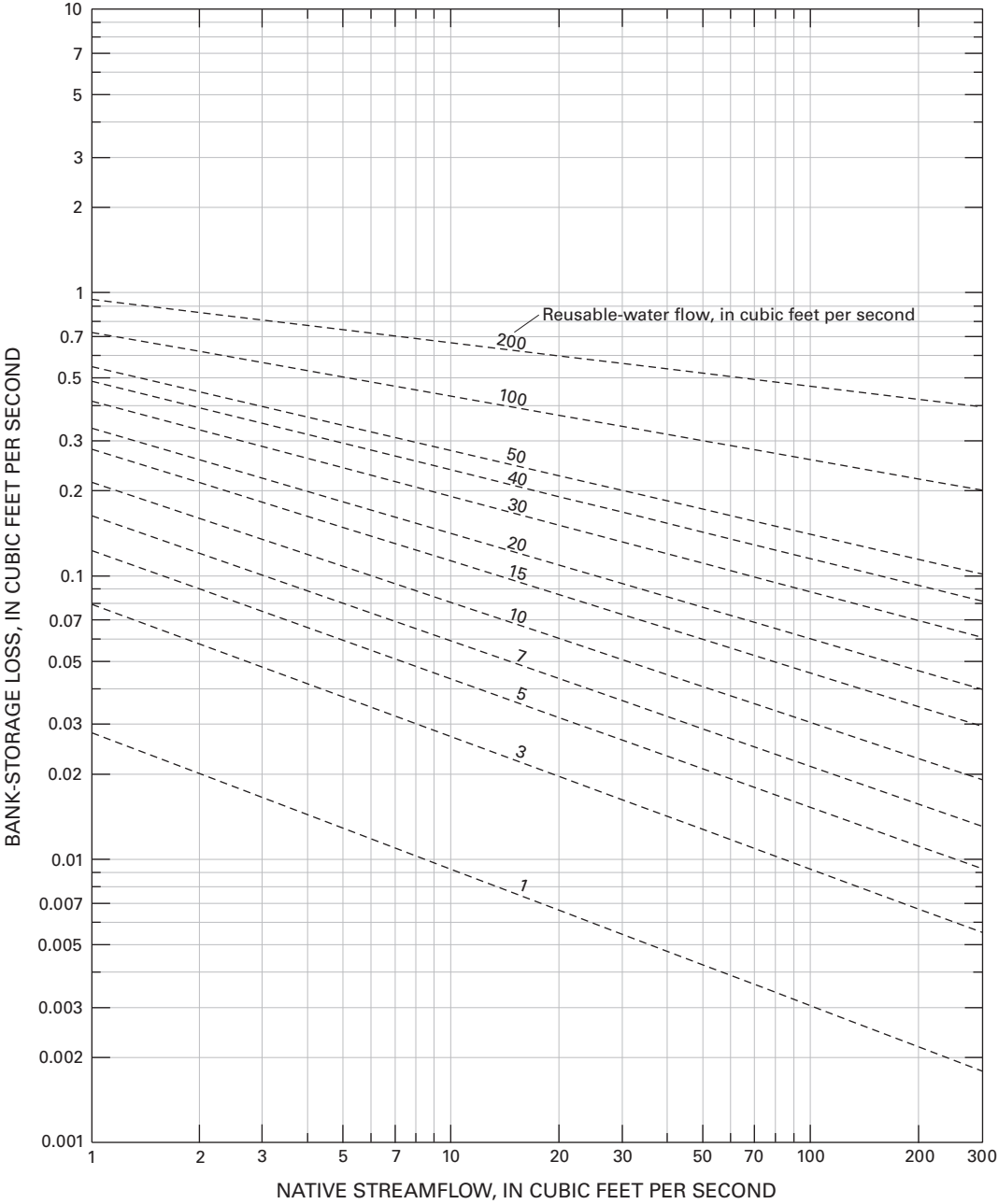


Figure 21. Relation between bank-storage loss and native streamflow for selected rates of reusable-water flow for subreach MSR3, Monument Creek at Dirty Woman Creek downstream to Monument Creek at Tri-Lakes wastewater-treatment facility.

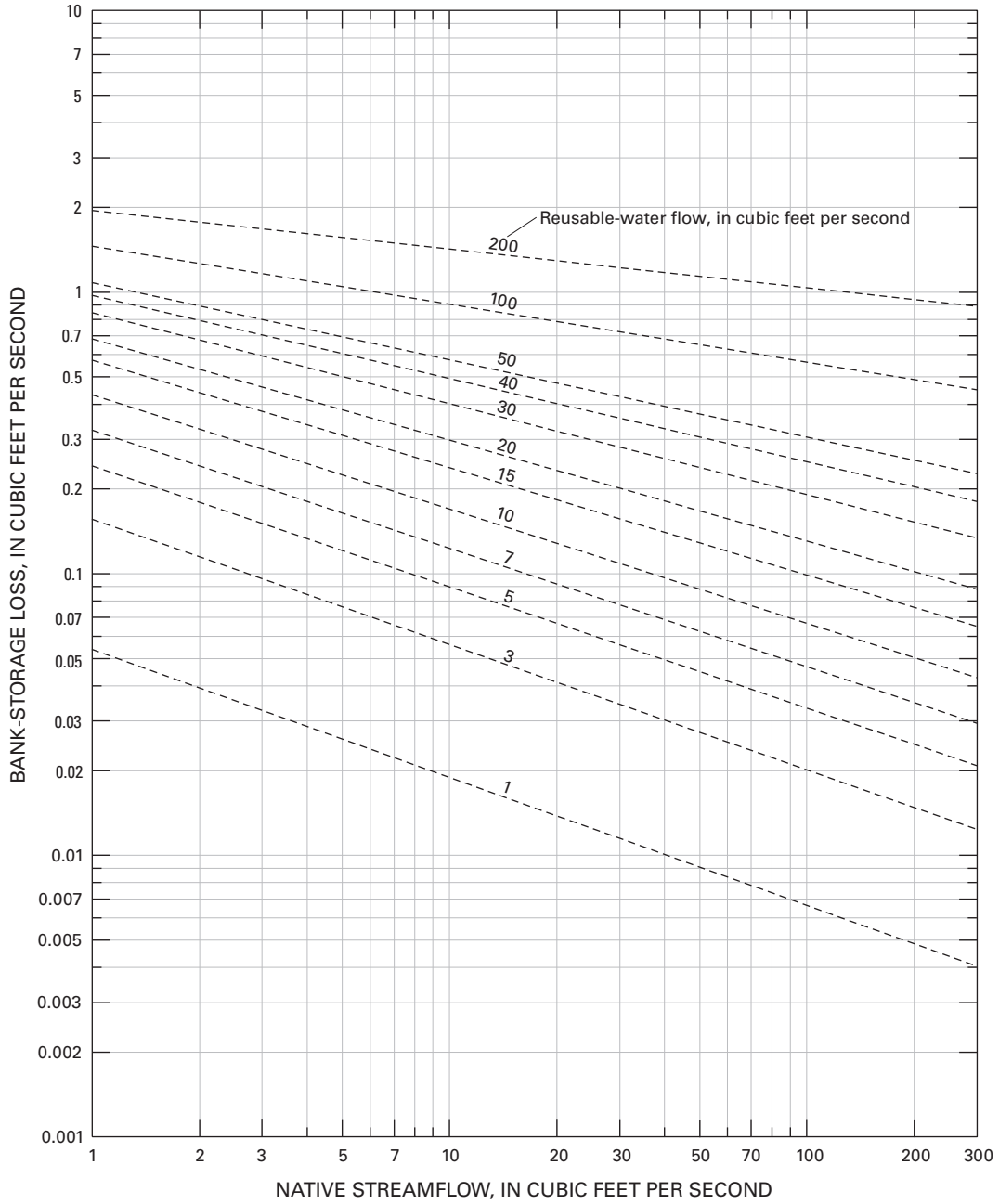


Figure 22. Relation between bank-storage loss and native streamflow for selected rates of reusable-water flow for subreach MSR4, Monument Creek at Tri-Lakes wastewater-treatment facility downstream to Monument Creek at Beaver Creek.

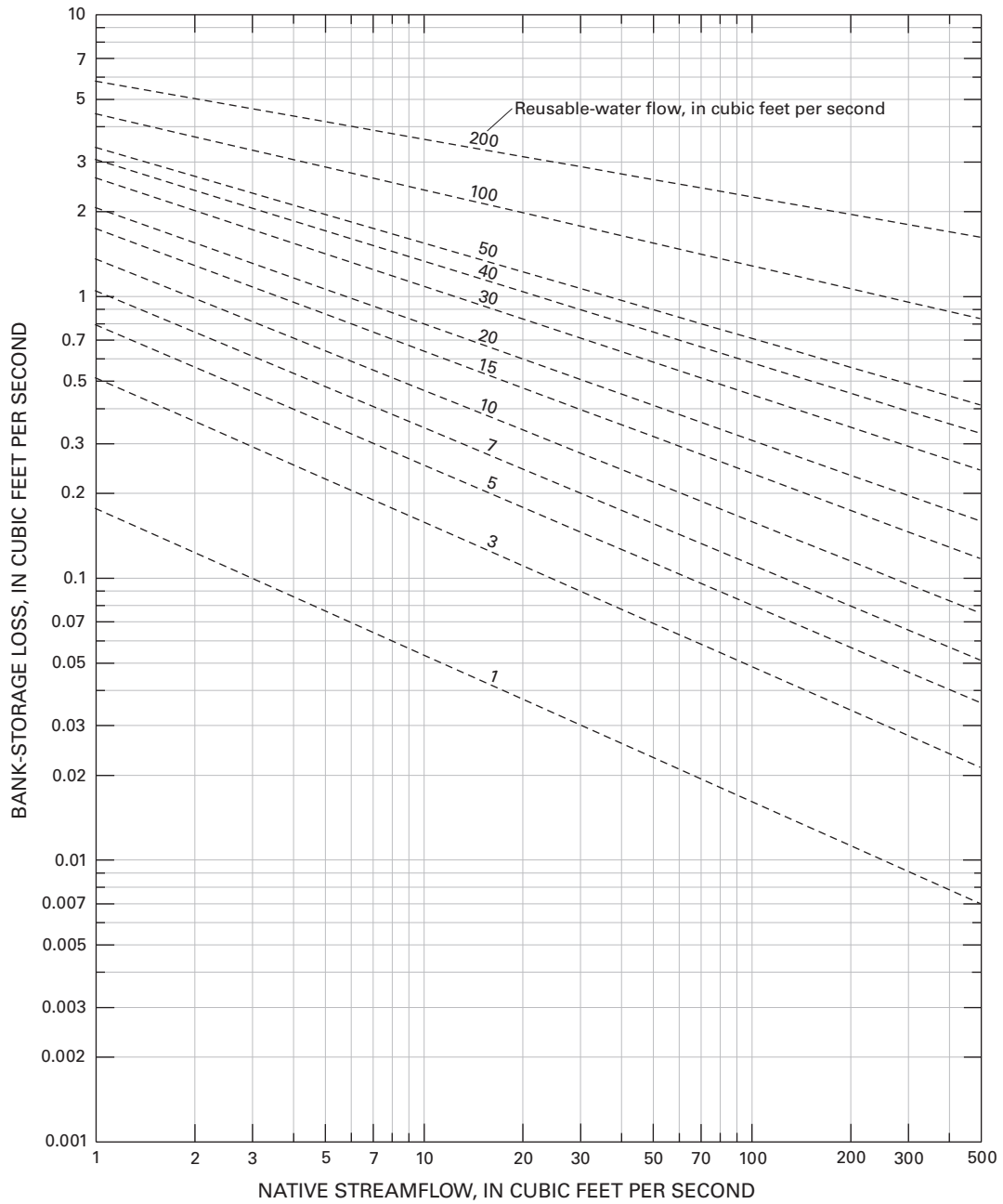


Figure 23. Relation between bank-storage loss and native streamflow for selected rates of reusable-water flow for subreach MSR5, Monument Creek at Beaver Creek downstream to Monument Creek below Jackson Creek at Upper Monument Regional wastewater-treatment facility.

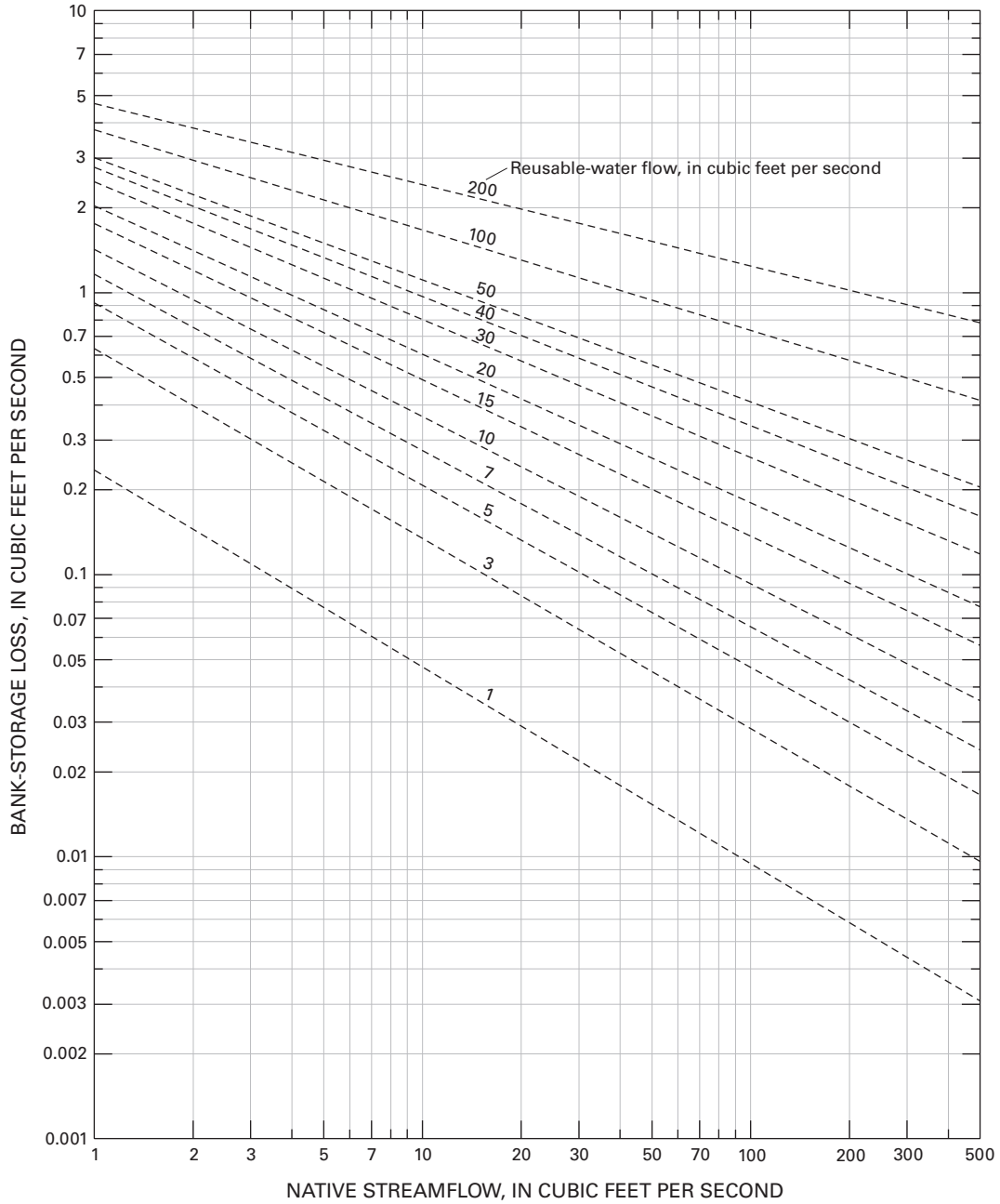


Figure 24. Relation between bank-storage loss and native streamflow for selected rates of reusable-water flow for subreach MSR6, Monument Creek below Jackson Creek at Upper Monument Regional wastewater-treatment facility downstream to station 07103780 Monument Creek above Northgate Boulevard at U.S. Air Force Academy.

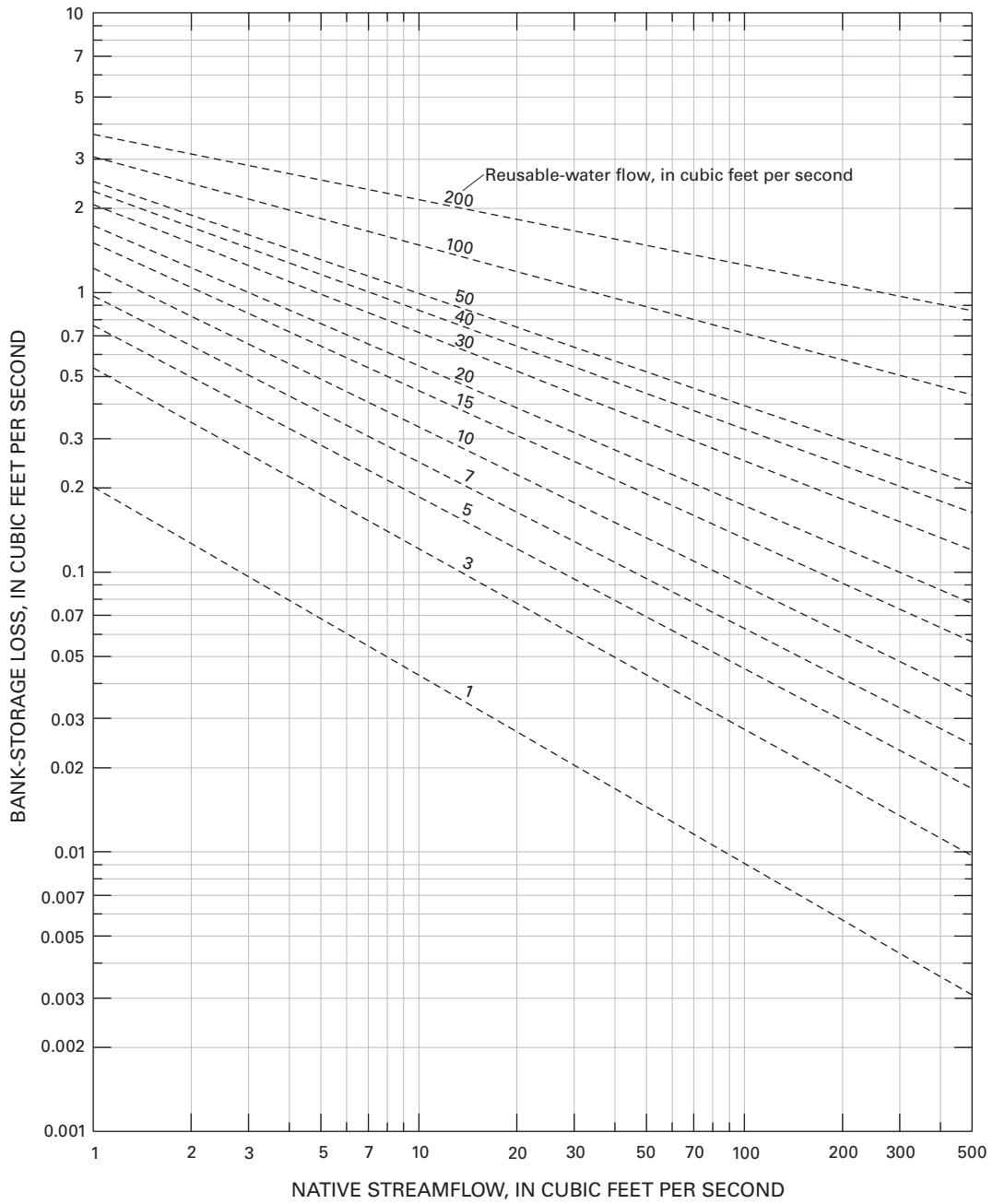


Figure 25. Relation between bank-storage loss and native streamflow for selected rates of reusable-water flow for subreach MSR7, station 07103780 Monument Creek above Northgate Boulevard at U.S. Air Force Academy downstream to Monument Creek at U.S. Air Force Academy wastewater-treatment facility.

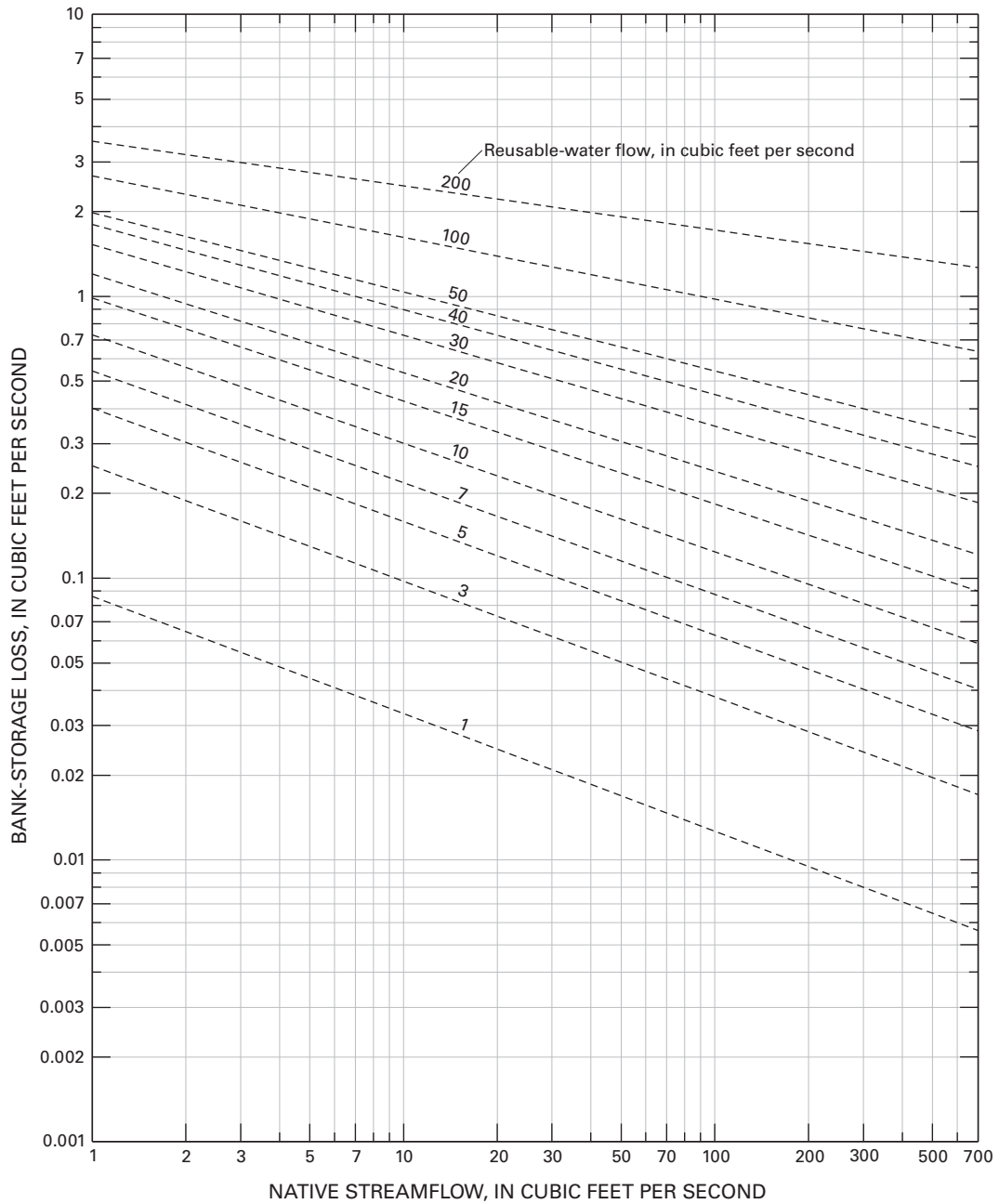


Figure 26. Relation between bank-storage loss and native streamflow for selected rates of reusable-water flow for subreach MSR8, Monument Creek at U.S. Air Force Academy wastewater-treatment facility downstream to Monument Creek at West Monument Creek.

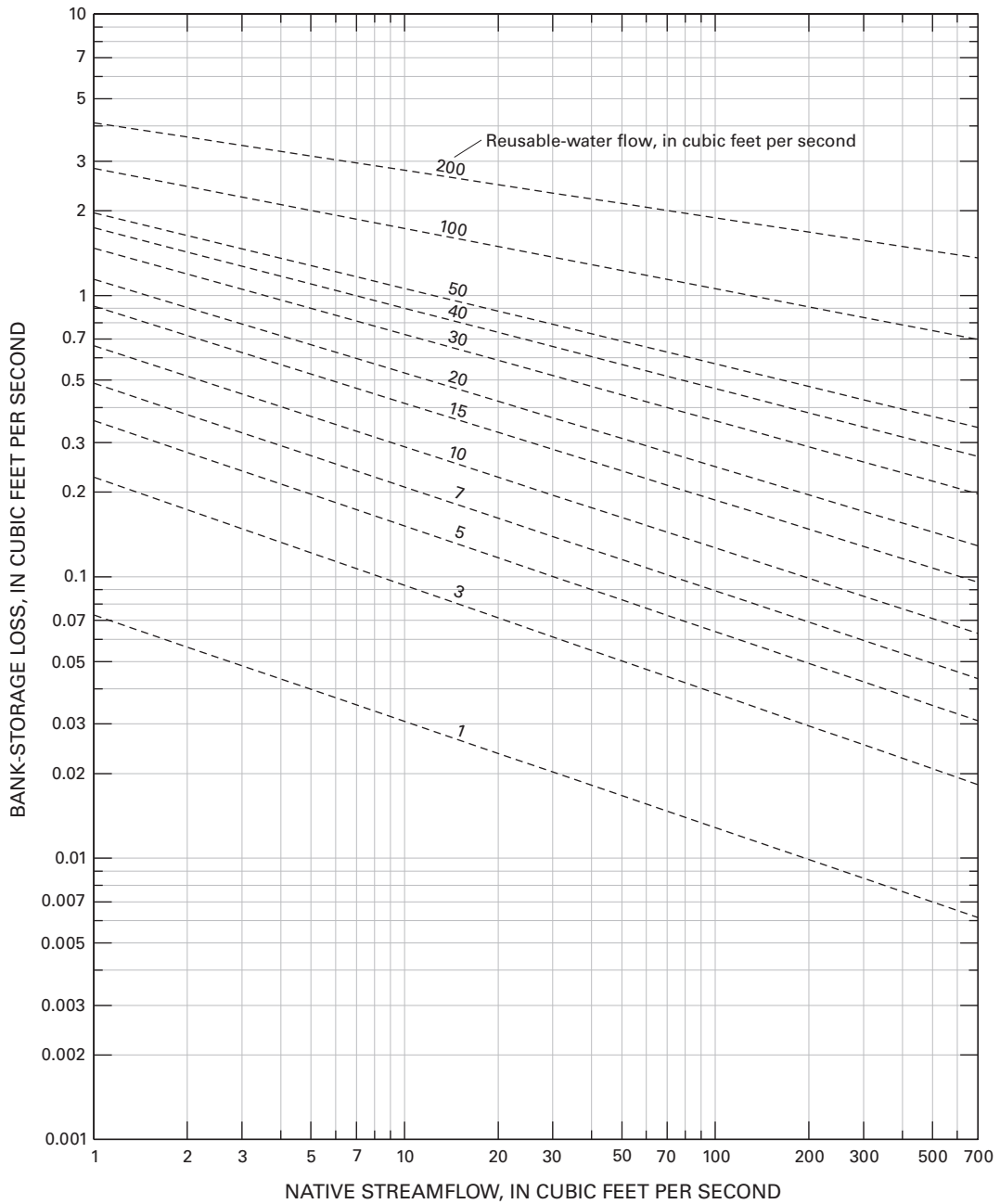


Figure 27. Relation between bank-storage loss and native streamflow for selected rates of reusable-water flow for subreach MSR9, Monument Creek at West Monument Creek downstream to Monument Creek at Cottonwood Creek.

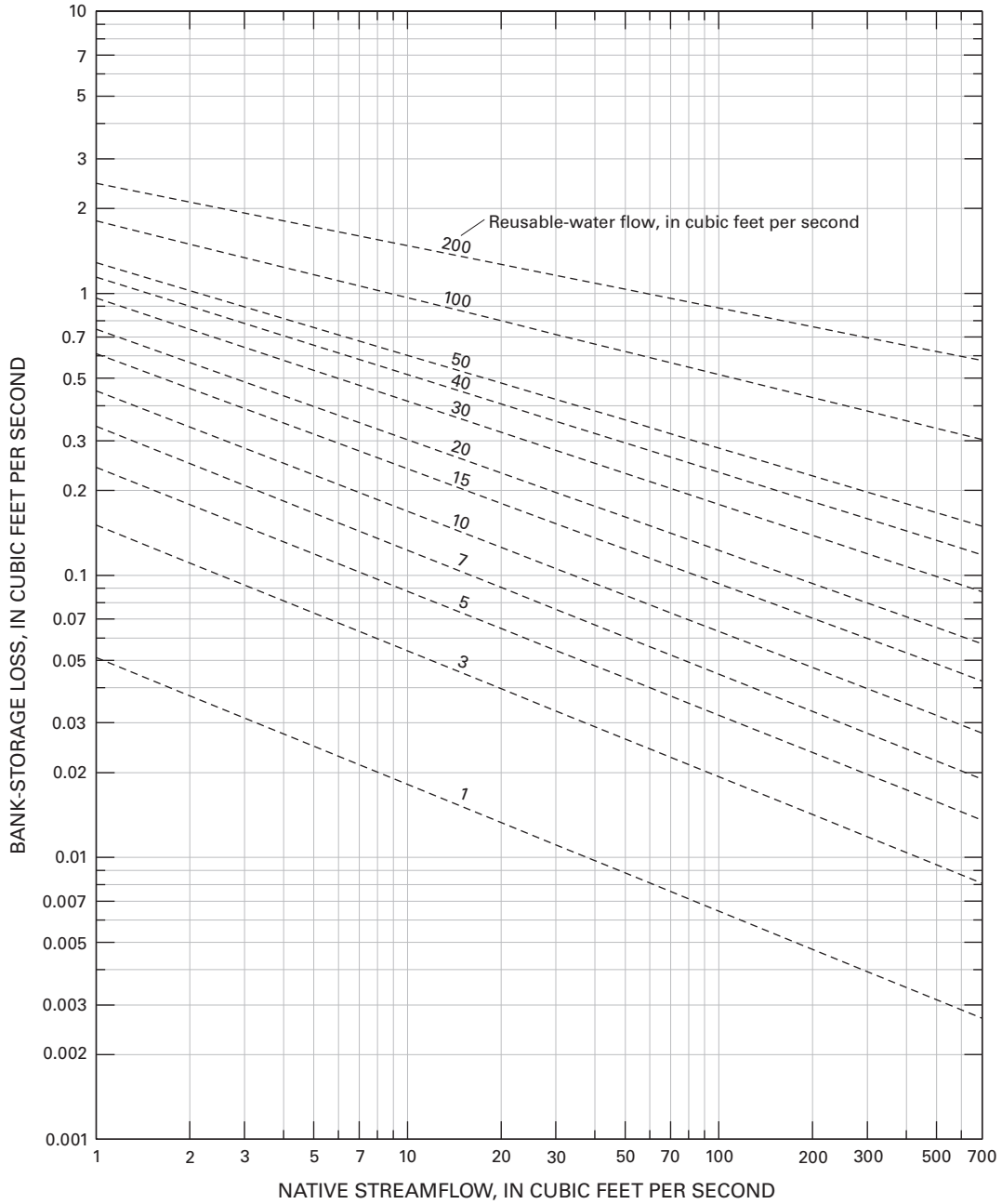


Figure 28. Relation between bank-storage loss and native streamflow for selected rates of reusable-water flow for subreach MSR10, Monument Creek at Cottonwood Creek downstream to station 07104000 Monument Creek at Pikeview.

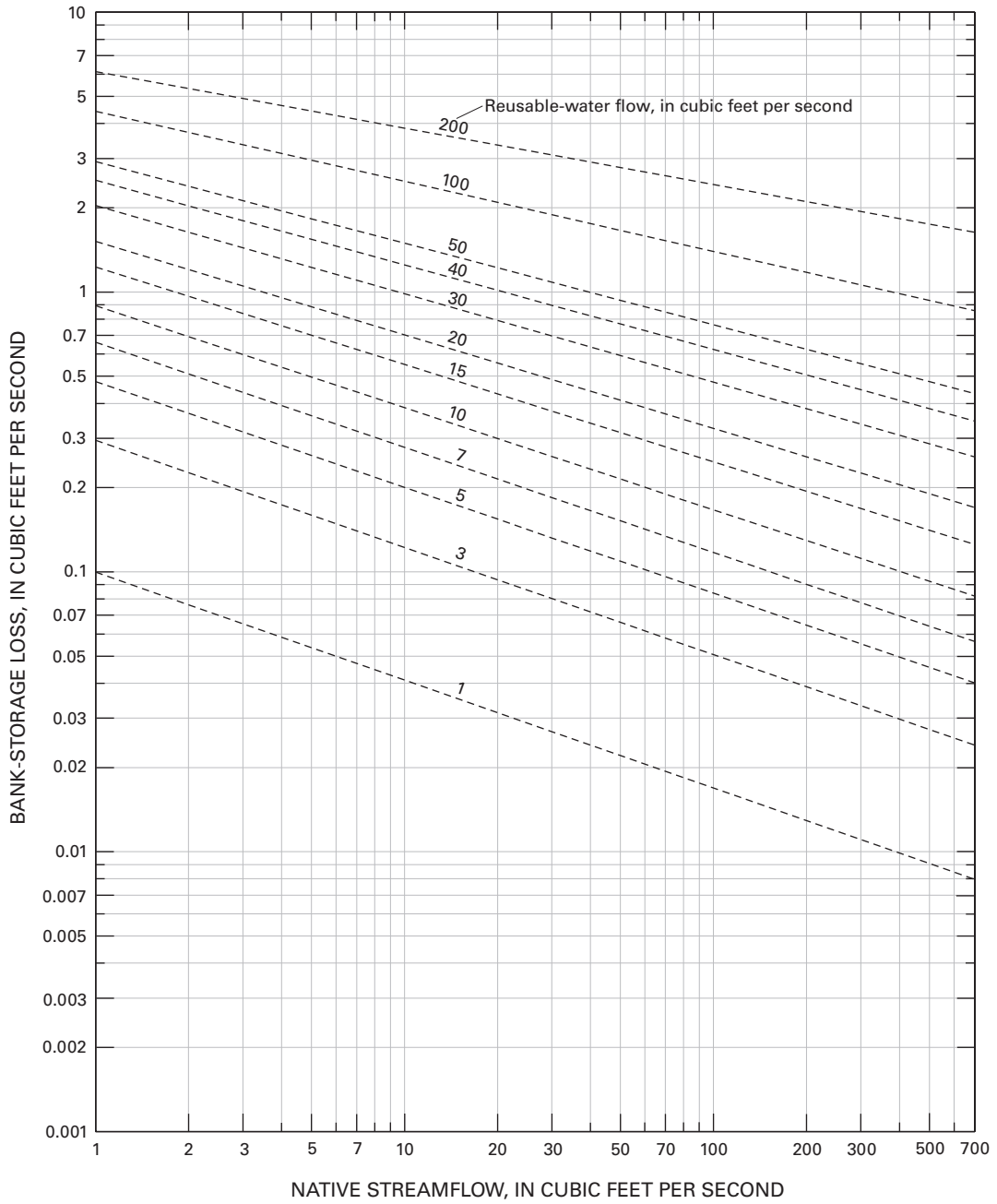


Figure 29. Relation between bank-storage loss and native streamflow for selected rates of reusable-water flow for subreach MSR11, station 07104000 Monument Creek at Pikeview downstream to Monument Creek at Northern Water Reclamation facility.

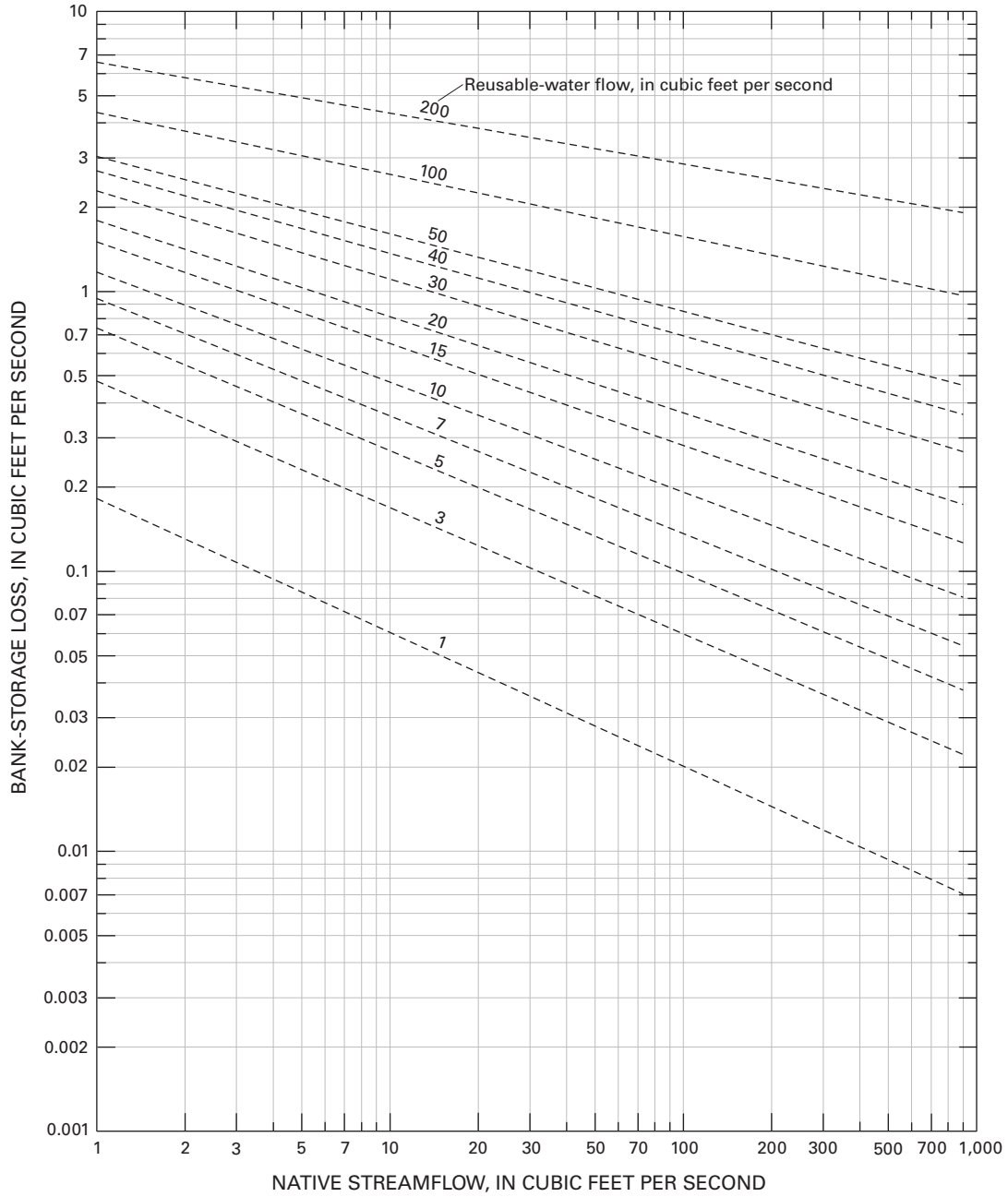


Figure 30. Relation between bank-storage loss and native streamflow for selected rates of reusable-water flow for subreach MSR12, Monument Creek at Northern Water Reclamation facility downstream to station 07104905 Monument Creek at Bijou Street at Colorado Springs.

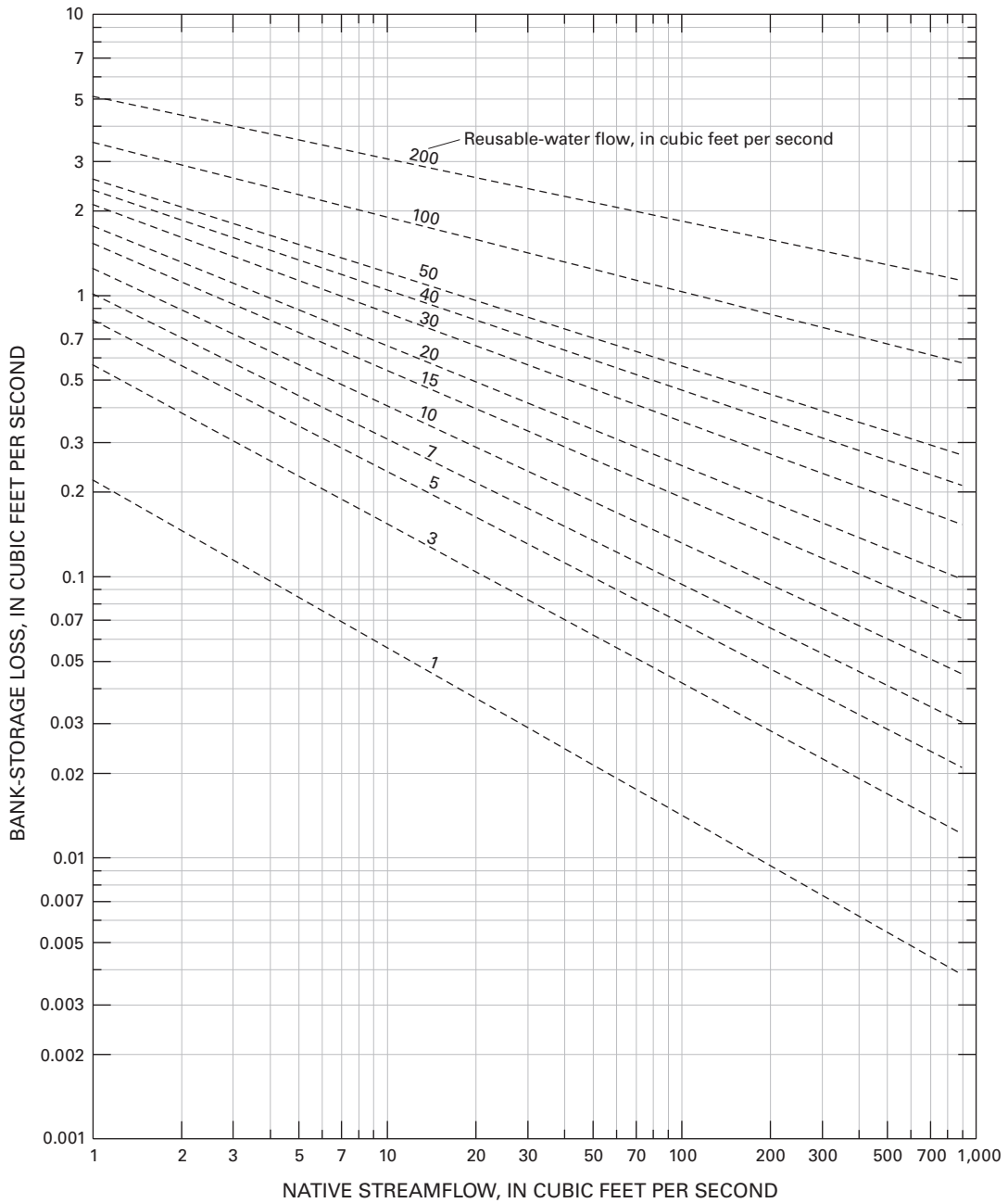


Figure 31. Relation between bank-storage loss and native streamflow for selected rates of reusable-water flow for subreach MSR13, station 07104905 Monument Creek at Bijou Street at Colorado Springs downstream to Fountain Creek at confluence with Monument Creek.

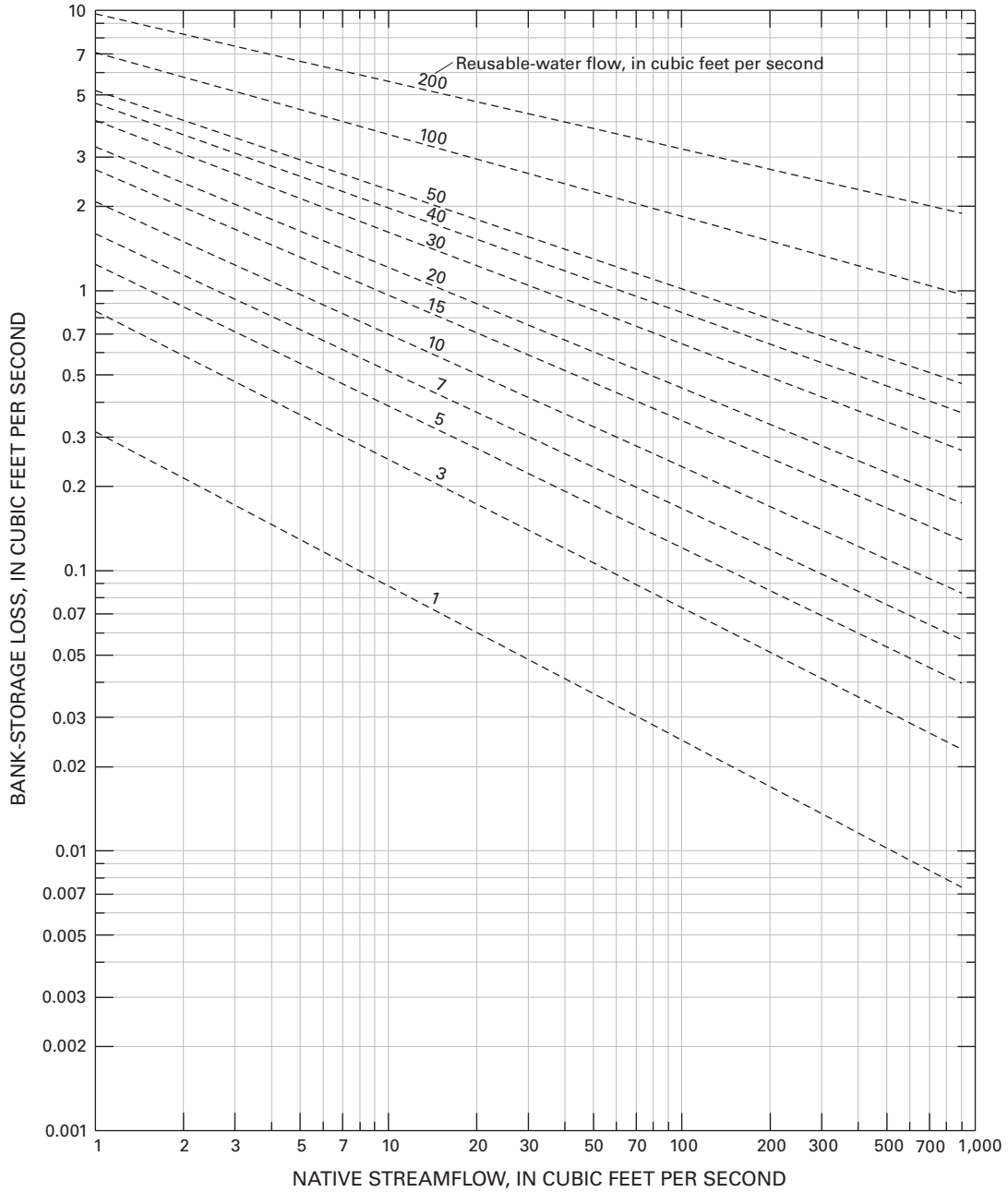


Figure 32. Relation between bank-storage loss and native streamflow for selected rates of reusable-water flow for subreach MSR14, Fountain Creek at confluence with Monument Creek downstream to station 07105500 Fountain Creek at Colorado Springs.

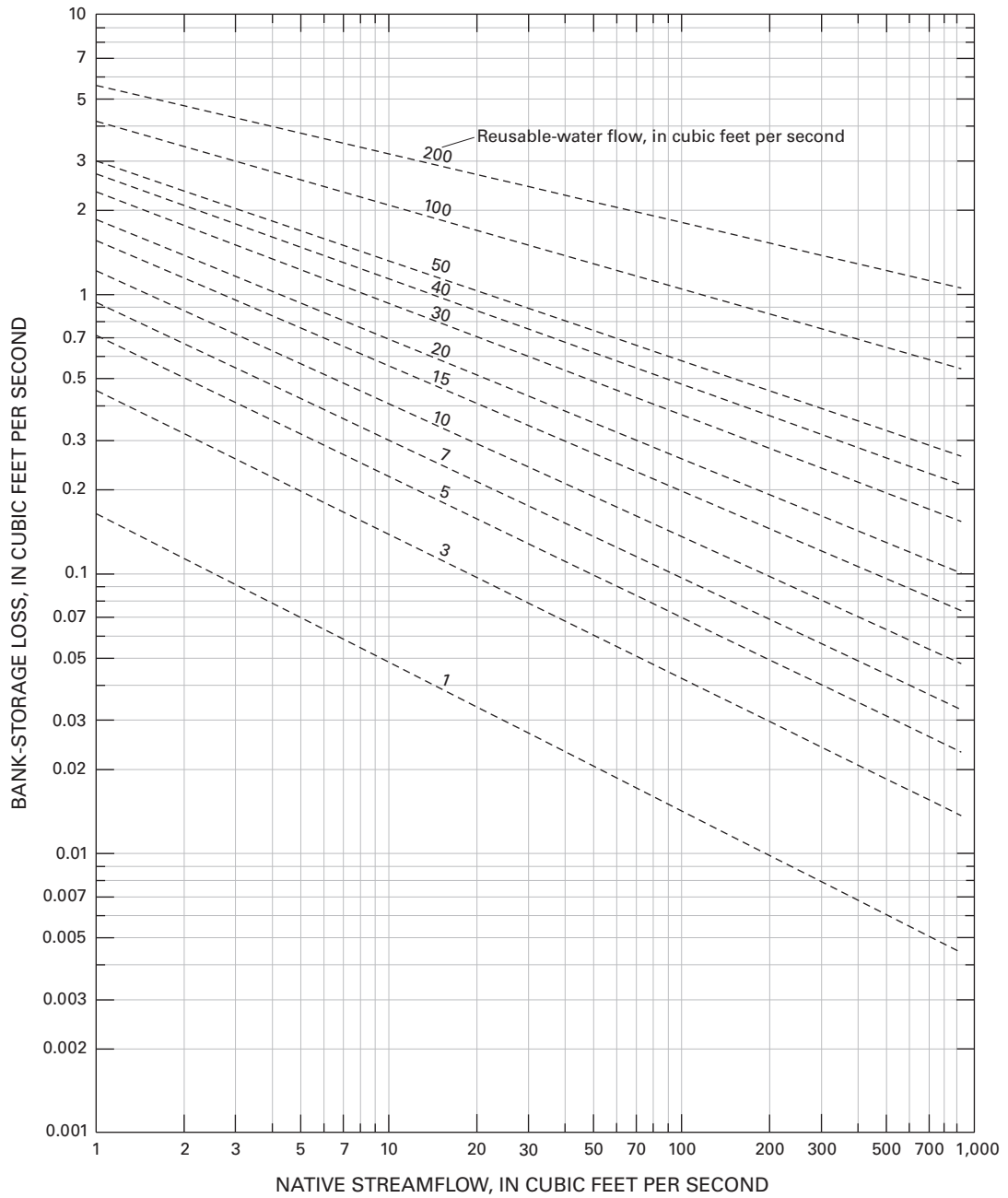


Figure 33. Relation between bank-storage loss and native streamflow for selected rates of reusable-water flow for subreach MSR15, station 07105500 Fountain Creek at Colorado Springs downstream to Fountain Creek at Las Vegas Street wastewater-treatment facility.

Table 8. Bank-storage loss for reusable-water flows ranging from 1 to 200 cubic feet per second for selected native streamflows for subreach MSR1, station 07103747 Monument Creek at Palmer Lake downstream to station 07103755 Monument Creek below Monument Lake near Monument.—Continued

[Reusable-water flow, native streamflow, and bank-storage loss in cubic feet per second]

Reusable-water flow	Bank-storage loss for indicated native streamflow															Reusable-water flow	
	0	1	2	5	10	20	30	40	50	75	100	200	300	500	700		1,000
169	9.111	8.231	7.436	6.502	5.874	5.306	5.000	4.794	4.640	4.372	4.192	3.787	3.568	3.311	3.152	2.991	169
170	9.138	8.259	7.464	6.530	5.902	5.334	5.027	4.821	4.666	4.398	4.217	3.811	3.592	3.334	3.175	3.014	170
171	9.166	8.287	7.493	6.558	5.930	5.362	5.055	4.848	4.693	4.424	4.243	3.836	3.617	3.358	3.198	3.036	171
172	9.193	8.315	7.521	6.587	5.958	5.389	5.082	4.875	4.720	4.451	4.269	3.861	3.641	3.382	3.221	3.059	172
173	9.220	8.343	7.550	6.616	5.986	5.417	5.109	4.902	4.747	4.477	4.295	3.887	3.666	3.406	3.244	3.082	173
174	9.248	8.372	7.579	6.644	6.015	5.445	5.137	4.929	4.774	4.504	4.322	3.912	3.691	3.430	3.268	3.105	174
175	9.275	8.400	7.607	6.673	6.044	5.473	5.165	4.957	4.801	4.531	4.348	3.938	3.716	3.454	3.292	3.128	175
176	9.303	8.429	7.636	6.702	6.072	5.502	5.193	4.984	4.829	4.558	4.375	3.963	3.741	3.479	3.316	3.152	176
177	9.331	8.457	7.665	6.731	6.101	5.530	5.221	5.012	4.856	4.585	4.401	3.989	3.766	3.503	3.340	3.175	177
178	9.359	8.486	7.695	6.761	6.130	5.559	5.249	5.040	4.884	4.612	4.428	4.015	3.792	3.528	3.364	3.199	178
179	9.387	8.515	7.724	6.790	6.159	5.587	5.278	5.068	4.912	4.640	4.456	4.042	3.818	3.553	3.389	3.223	179
180	9.415	8.544	7.753	6.820	6.189	5.616	5.306	5.097	4.940	4.667	4.483	4.068	3.844	3.578	3.414	3.247	180
181	9.443	8.573	7.783	6.849	6.218	5.645	5.335	5.125	4.968	4.695	4.510	4.095	3.870	3.604	3.438	3.272	181
182	9.471	8.602	7.812	6.879	6.248	5.675	5.364	5.154	4.996	4.723	4.538	4.122	3.896	3.629	3.464	3.296	182
183	9.499	8.631	7.842	6.909	6.278	5.704	5.393	5.183	5.025	4.751	4.566	4.149	3.922	3.655	3.489	3.321	183
184	9.527	8.660	7.872	6.939	6.307	5.733	5.422	5.211	5.054	4.779	4.594	4.176	3.949	3.681	3.514	3.346	184
185	9.556	8.690	7.902	6.969	6.337	5.763	5.451	5.241	5.083	4.808	4.622	4.203	3.976	3.707	3.540	3.371	185
186	9.584	8.719	7.932	6.999	6.368	5.793	5.481	5.270	5.112	4.837	4.650	4.230	4.003	3.733	3.566	3.396	186
187	9.613	8.749	7.962	7.030	6.398	5.823	5.511	5.299	5.141	4.865	4.679	4.258	4.030	3.760	3.592	3.422	187
188	9.642	8.778	7.992	7.060	6.428	5.853	5.540	5.329	5.170	4.894	4.707	4.286	4.057	3.786	3.618	3.447	188
189	9.670	8.808	8.023	7.091	6.459	5.883	5.570	5.359	5.200	4.923	4.736	4.314	4.085	3.813	3.644	3.473	189
190	9.699	8.838	8.053	7.122	6.490	5.914	5.600	5.388	5.230	4.953	4.765	4.342	4.112	3.840	3.671	3.499	190
191	9.728	8.868	8.084	7.153	6.521	5.944	5.631	5.419	5.259	4.982	4.795	4.371	4.140	3.867	3.697	3.525	191
192	9.757	8.898	8.115	7.184	6.552	5.975	5.661	5.449	5.290	5.012	4.824	4.399	4.168	3.895	3.724	3.552	192
193	9.786	8.928	8.146	7.215	6.583	6.006	5.692	5.479	5.320	5.042	4.853	4.428	4.197	3.922	3.751	3.578	193
194	9.815	8.959	8.177	7.247	6.614	6.037	5.723	5.510	5.350	5.072	4.883	4.457	4.225	3.950	3.779	3.605	194
195	9.845	8.989	8.208	7.278	6.646	6.068	5.754	5.541	5.381	5.102	4.913	4.486	4.254	3.978	3.806	3.632	195
196	9.874	9.020	8.239	7.310	6.677	6.099	5.785	5.572	5.411	5.133	4.943	4.515	4.283	4.006	3.834	3.659	196
197	9.904	9.050	8.270	7.342	6.709	6.131	5.816	5.603	5.442	5.163	4.974	4.545	4.312	4.035	3.862	3.687	197
198	9.933	9.081	8.302	7.374	6.741	6.163	5.848	5.634	5.474	5.194	5.004	4.575	4.341	4.063	3.890	3.715	198
199	9.963	9.112	8.333	7.406	6.773	6.195	5.879	5.665	5.505	5.225	5.035	4.605	4.370	4.092	3.918	3.742	199
200	9.992	9.143	8.365	7.438	6.805	6.227	5.911	5.697	5.536	5.256	5.065	4.635	4.400	4.121	3.947	3.770	200

Table 9. Bank-storage loss for reusable-water flows ranging from 1 to 200 cubic feet per second for selected native streamflows for subreach MSR2, station 07103755 Monument Creek below Monument Lake near Monument downstream to Monument Creek at Dirty Woman Creek.—Continued

[Reusable-water flow, native streamflow, and bank-storage loss in cubic feet per second]

Reusable- water flow	Bank-storage loss for indicated native streamflow															Reusable- water flow	
	0	1	2	5	10	20	30	40	50	75	100	200	300	500	700		1,000
169	2.850	2.564	2.307	2.006	1.805	1.624	1.526	1.461	1.412	1.327	1.270	1.143	1.074	0.994	0.944	0.894	169
170	2.858	2.572	2.315	2.014	1.813	1.632	1.534	1.469	1.420	1.335	1.278	1.150	1.081	1.001	0.951	0.901	170
171	2.865	2.580	2.323	2.023	1.821	1.640	1.542	1.477	1.428	1.343	1.286	1.158	1.089	1.008	0.958	0.908	171
172	2.873	2.588	2.332	2.031	1.830	1.648	1.551	1.485	1.436	1.351	1.293	1.165	1.096	1.015	0.965	0.914	172
173	2.881	2.596	2.340	2.040	1.838	1.657	1.559	1.493	1.444	1.359	1.301	1.173	1.104	1.022	0.972	0.921	173
174	2.889	2.605	2.348	2.048	1.847	1.665	1.567	1.501	1.452	1.367	1.309	1.180	1.111	1.030	0.979	0.928	174
175	2.897	2.613	2.357	2.057	1.855	1.673	1.576	1.510	1.460	1.375	1.317	1.188	1.119	1.037	0.986	0.935	175
176	2.904	2.621	2.365	2.065	1.864	1.682	1.584	1.518	1.469	1.383	1.325	1.196	1.126	1.044	0.993	0.942	176
177	2.912	2.629	2.374	2.074	1.872	1.690	1.592	1.526	1.477	1.391	1.333	1.204	1.134	1.052	1.001	0.949	177
178	2.920	2.638	2.382	2.083	1.881	1.699	1.601	1.535	1.485	1.399	1.341	1.212	1.142	1.059	1.008	0.957	178
179	2.928	2.646	2.391	2.091	1.890	1.708	1.609	1.543	1.494	1.408	1.350	1.220	1.149	1.067	1.015	0.964	179
180	2.936	2.654	2.400	2.100	1.898	1.716	1.618	1.552	1.502	1.416	1.358	1.227	1.157	1.074	1.023	0.971	180
181	2.944	2.663	2.408	2.109	1.907	1.725	1.626	1.560	1.510	1.424	1.366	1.235	1.165	1.082	1.030	0.978	181
182	2.952	2.671	2.417	2.118	1.916	1.734	1.635	1.569	1.519	1.433	1.374	1.244	1.173	1.090	1.038	0.986	182
183	2.960	2.680	2.426	2.126	1.925	1.742	1.644	1.577	1.527	1.441	1.383	1.252	1.181	1.097	1.045	0.993	183
184	2.968	2.688	2.434	2.135	1.934	1.751	1.653	1.586	1.536	1.450	1.391	1.260	1.189	1.105	1.053	1.001	184
185	2.976	2.696	2.443	2.144	1.943	1.760	1.661	1.595	1.545	1.458	1.400	1.268	1.197	1.113	1.061	1.008	185
186	2.984	2.705	2.452	2.153	1.952	1.769	1.670	1.603	1.553	1.467	1.408	1.276	1.205	1.121	1.069	1.016	186
187	2.992	2.713	2.461	2.162	1.961	1.778	1.679	1.612	1.562	1.475	1.417	1.285	1.213	1.129	1.076	1.024	187
188	3.000	2.722	2.469	2.171	1.970	1.787	1.688	1.621	1.571	1.484	1.425	1.293	1.221	1.137	1.084	1.031	188
189	3.009	2.731	2.478	2.180	1.979	1.796	1.697	1.630	1.580	1.493	1.434	1.301	1.230	1.145	1.092	1.039	189
190	3.017	2.739	2.487	2.189	1.988	1.805	1.706	1.639	1.589	1.502	1.443	1.310	1.238	1.153	1.100	1.047	190
191	3.025	2.748	2.496	2.198	1.997	1.814	1.715	1.648	1.598	1.510	1.451	1.319	1.246	1.161	1.108	1.055	191
192	3.033	2.757	2.505	2.208	2.006	1.823	1.724	1.657	1.607	1.519	1.460	1.327	1.255	1.170	1.116	1.063	192
193	3.041	2.765	2.514	2.217	2.016	1.833	1.733	1.666	1.616	1.528	1.469	1.336	1.263	1.178	1.125	1.071	193
194	3.050	2.774	2.523	2.226	2.025	1.842	1.743	1.675	1.625	1.537	1.478	1.344	1.272	1.186	1.133	1.079	194
195	3.058	2.783	2.532	2.235	2.034	1.851	1.752	1.685	1.634	1.546	1.487	1.353	1.281	1.195	1.141	1.087	195
196	3.066	2.792	2.541	2.245	2.044	1.861	1.761	1.694	1.643	1.556	1.496	1.362	1.289	1.203	1.150	1.095	196
197	3.075	2.800	2.550	2.254	2.053	1.870	1.771	1.703	1.653	1.565	1.505	1.371	1.298	1.212	1.158	1.104	197
198	3.083	2.809	2.560	2.264	2.063	1.879	1.780	1.713	1.662	1.574	1.514	1.380	1.307	1.220	1.166	1.112	198
199	3.091	2.818	2.569	2.273	2.072	1.889	1.789	1.722	1.671	1.583	1.524	1.389	1.316	1.229	1.175	1.120	199
200	3.100	2.827	2.578	2.283	2.082	1.898	1.799	1.731	1.681	1.593	1.533	1.398	1.325	1.238	1.184	1.129	200

Table 10. Bank-storage loss for reusable-water flows ranging from 1 to 200 cubic feet per second for selected native streamflows for subreach MSR3, Monument Creek at Dirty Woman Creek downstream to Monument Creek at Tri-Lakes wastewater-treatment facility.—Continued

[Reusable-water flow, native streamflow, and bank-storage loss in cubic feet per second]

Reusable- water flow	Bank-storage loss for indicated native streamflow															Reusable- water flow	
	0	1	2	5	10	20	30	40	50	75	100	200	300	500	700		1,000
169	2.023	1.812	1.623	1.404	1.257	1.126	1.056	1.009	0.974	0.913	0.872	0.782	0.733	0.676	0.641	0.605	169
170	2.027	1.817	1.629	1.409	1.263	1.132	1.062	1.014	0.979	0.919	0.878	0.787	0.738	0.681	0.645	0.610	170
171	2.032	1.823	1.634	1.415	1.269	1.138	1.067	1.020	0.985	0.924	0.883	0.792	0.743	0.686	0.650	0.615	171
172	2.037	1.828	1.640	1.421	1.274	1.143	1.073	1.026	0.990	0.930	0.889	0.797	0.748	0.691	0.655	0.619	172
173	2.042	1.833	1.645	1.426	1.280	1.149	1.079	1.031	0.996	0.935	0.894	0.802	0.753	0.696	0.660	0.624	173
174	2.047	1.839	1.651	1.432	1.286	1.155	1.084	1.037	1.002	0.940	0.899	0.808	0.758	0.701	0.665	0.629	174
175	2.052	1.844	1.657	1.438	1.292	1.160	1.090	1.042	1.007	0.946	0.905	0.813	0.764	0.706	0.670	0.634	175
176	2.057	1.849	1.662	1.444	1.297	1.166	1.096	1.048	1.013	0.952	0.910	0.818	0.769	0.711	0.675	0.639	176
177	2.062	1.855	1.668	1.449	1.303	1.172	1.101	1.054	1.019	0.957	0.916	0.824	0.774	0.716	0.680	0.644	177
178	2.067	1.860	1.673	1.455	1.309	1.178	1.107	1.060	1.024	0.963	0.921	0.829	0.779	0.721	0.685	0.649	178
179	2.072	1.865	1.679	1.461	1.315	1.184	1.113	1.065	1.030	0.969	0.927	0.834	0.785	0.726	0.690	0.654	179
180	2.078	1.871	1.685	1.467	1.321	1.190	1.119	1.071	1.036	0.974	0.933	0.840	0.790	0.731	0.695	0.659	180
181	2.083	1.876	1.691	1.473	1.327	1.196	1.125	1.077	1.042	0.980	0.938	0.845	0.795	0.737	0.700	0.664	181
182	2.088	1.882	1.696	1.479	1.333	1.201	1.131	1.083	1.047	0.986	0.944	0.851	0.801	0.742	0.705	0.669	182
183	2.093	1.887	1.702	1.485	1.339	1.207	1.137	1.089	1.053	0.992	0.950	0.857	0.806	0.747	0.711	0.674	183
184	2.098	1.893	1.708	1.491	1.345	1.213	1.143	1.095	1.059	0.997	0.956	0.862	0.812	0.753	0.716	0.679	184
185	2.103	1.898	1.714	1.497	1.351	1.220	1.149	1.101	1.065	1.003	0.961	0.868	0.817	0.758	0.721	0.684	185
186	2.108	1.904	1.719	1.503	1.357	1.226	1.155	1.107	1.071	1.009	0.967	0.874	0.823	0.764	0.727	0.690	186
187	2.113	1.909	1.725	1.509	1.363	1.232	1.161	1.113	1.077	1.015	0.973	0.879	0.829	0.769	0.732	0.695	187
188	2.118	1.915	1.731	1.515	1.369	1.238	1.167	1.119	1.083	1.021	0.979	0.885	0.834	0.775	0.738	0.700	188
189	2.124	1.921	1.737	1.521	1.376	1.244	1.173	1.125	1.089	1.027	0.985	0.891	0.840	0.780	0.743	0.706	189
190	2.129	1.926	1.743	1.527	1.382	1.250	1.179	1.131	1.095	1.033	0.991	0.897	0.846	0.786	0.749	0.711	190
191	2.134	1.932	1.749	1.533	1.388	1.256	1.185	1.137	1.102	1.039	0.997	0.903	0.852	0.791	0.754	0.716	191
192	2.139	1.938	1.755	1.539	1.394	1.263	1.192	1.144	1.108	1.045	1.003	0.909	0.857	0.797	0.760	0.722	192
193	2.144	1.943	1.761	1.546	1.400	1.269	1.198	1.150	1.114	1.052	1.009	0.915	0.863	0.803	0.765	0.727	193
194	2.150	1.949	1.767	1.552	1.407	1.275	1.204	1.156	1.120	1.058	1.016	0.921	0.869	0.809	0.771	0.733	194
195	2.155	1.955	1.773	1.558	1.413	1.282	1.211	1.162	1.127	1.064	1.022	0.927	0.875	0.814	0.777	0.739	195
196	2.160	1.960	1.779	1.564	1.419	1.288	1.217	1.169	1.133	1.070	1.028	0.933	0.881	0.820	0.783	0.744	196
197	2.165	1.966	1.785	1.571	1.426	1.294	1.223	1.175	1.139	1.077	1.034	0.939	0.887	0.826	0.788	0.750	197
198	2.171	1.972	1.791	1.577	1.432	1.301	1.230	1.182	1.146	1.083	1.040	0.945	0.893	0.832	0.794	0.756	198
199	2.176	1.977	1.797	1.583	1.439	1.307	1.236	1.188	1.152	1.089	1.047	0.951	0.899	0.838	0.800	0.762	199
200	2.181	1.983	1.803	1.590	1.445	1.314	1.243	1.194	1.158	1.096	1.053	0.957	0.906	0.844	0.806	0.767	200

Table 11. Bank-storage loss for reusable-water flows ranging from 1 to 200 cubic feet per second for selected native streamflows for subreach MSR4, Monument Creek at Tri-Lakes wastewater-treatment facility downstream to Monument Creek at Beaver Creek.—Continued

[Reusable-water flow, native streamflow, and bank-storage loss in cubic feet per second]

Reusable- water flow	Bank-storage loss for indicated native streamflow															Reusable- water flow	
	0	1	2	5	10	20	30	40	50	75	100	200	300	500	700		1,000
169	0.983	0.871	0.771	0.656	0.581	0.515	0.479	0.456	0.438	0.408	0.388	0.344	0.320	0.293	0.276	0.259	169
170	0.985	0.873	0.773	0.659	0.584	0.517	0.482	0.458	0.441	0.411	0.390	0.346	0.322	0.295	0.278	0.261	170
171	0.987	0.875	0.776	0.662	0.586	0.520	0.484	0.461	0.443	0.413	0.393	0.348	0.324	0.297	0.280	0.263	171
172	0.990	0.878	0.778	0.664	0.589	0.522	0.487	0.463	0.446	0.415	0.395	0.350	0.327	0.299	0.282	0.265	172
173	0.992	0.880	0.781	0.667	0.591	0.525	0.489	0.466	0.448	0.418	0.397	0.353	0.329	0.301	0.284	0.267	173
174	0.994	0.882	0.783	0.669	0.594	0.527	0.492	0.468	0.450	0.420	0.400	0.355	0.331	0.303	0.286	0.269	174
175	0.996	0.885	0.786	0.672	0.597	0.530	0.494	0.471	0.453	0.423	0.402	0.357	0.333	0.305	0.288	0.271	175
176	0.998	0.887	0.788	0.674	0.599	0.532	0.497	0.473	0.455	0.425	0.405	0.360	0.336	0.308	0.291	0.273	176
177	1.000	0.889	0.791	0.677	0.602	0.535	0.499	0.476	0.458	0.428	0.407	0.362	0.338	0.310	0.293	0.275	177
178	1.003	0.892	0.793	0.680	0.604	0.538	0.502	0.478	0.460	0.430	0.410	0.364	0.340	0.312	0.295	0.278	178
179	1.005	0.894	0.796	0.682	0.607	0.540	0.505	0.481	0.463	0.433	0.412	0.367	0.343	0.314	0.297	0.280	179
180	1.007	0.897	0.798	0.685	0.610	0.543	0.507	0.483	0.466	0.435	0.414	0.369	0.345	0.317	0.299	0.282	180
181	1.009	0.899	0.801	0.687	0.612	0.545	0.510	0.486	0.468	0.438	0.417	0.371	0.347	0.319	0.301	0.284	181
182	1.011	0.901	0.803	0.690	0.615	0.548	0.512	0.488	0.471	0.440	0.419	0.374	0.350	0.321	0.304	0.286	182
183	1.014	0.904	0.806	0.693	0.618	0.551	0.515	0.491	0.473	0.443	0.422	0.376	0.352	0.323	0.306	0.288	183
184	1.016	0.906	0.809	0.695	0.620	0.553	0.518	0.494	0.476	0.445	0.425	0.379	0.354	0.326	0.308	0.291	184
185	1.018	0.909	0.811	0.698	0.623	0.556	0.520	0.496	0.479	0.448	0.427	0.381	0.357	0.328	0.310	0.293	185
186	1.020	0.911	0.814	0.701	0.626	0.559	0.523	0.499	0.481	0.450	0.430	0.384	0.359	0.330	0.313	0.295	186
187	1.023	0.914	0.816	0.703	0.628	0.562	0.526	0.502	0.484	0.453	0.432	0.386	0.362	0.333	0.315	0.297	187
188	1.025	0.916	0.819	0.706	0.631	0.564	0.528	0.504	0.486	0.456	0.435	0.389	0.364	0.335	0.317	0.300	188
189	1.027	0.919	0.821	0.709	0.634	0.567	0.531	0.507	0.489	0.458	0.437	0.391	0.367	0.338	0.320	0.302	189
190	1.029	0.921	0.824	0.711	0.637	0.570	0.534	0.510	0.492	0.461	0.440	0.394	0.369	0.340	0.322	0.304	190
191	1.031	0.923	0.827	0.714	0.639	0.572	0.537	0.512	0.495	0.464	0.443	0.396	0.372	0.342	0.325	0.307	191
192	1.034	0.926	0.829	0.717	0.642	0.575	0.539	0.515	0.497	0.466	0.445	0.399	0.374	0.345	0.327	0.309	192
193	1.036	0.928	0.832	0.720	0.645	0.578	0.542	0.518	0.500	0.469	0.448	0.402	0.377	0.347	0.329	0.311	193
194	1.038	0.931	0.835	0.722	0.648	0.581	0.545	0.521	0.503	0.472	0.451	0.404	0.379	0.350	0.332	0.314	194
195	1.040	0.933	0.837	0.725	0.651	0.584	0.548	0.523	0.506	0.474	0.453	0.407	0.382	0.352	0.334	0.316	195
196	1.043	0.936	0.840	0.728	0.653	0.586	0.551	0.526	0.508	0.477	0.456	0.409	0.384	0.355	0.337	0.319	196
197	1.045	0.938	0.843	0.731	0.656	0.589	0.553	0.529	0.511	0.480	0.459	0.412	0.387	0.357	0.339	0.321	197
198	1.047	0.941	0.845	0.734	0.659	0.592	0.556	0.532	0.514	0.483	0.462	0.415	0.390	0.360	0.342	0.323	198
199	1.050	0.943	0.848	0.736	0.662	0.595	0.559	0.535	0.517	0.485	0.464	0.417	0.392	0.363	0.344	0.326	199
200	1.052	0.946	0.851	0.739	0.665	0.598	0.562	0.538	0.520	0.488	0.467	0.420	0.395	0.365	0.347	0.328	200

Table 12. Bank-storage loss for reusable-water flows ranging from 1 to 200 cubic feet per second for selected native streamflows for subreach MSR5, Monument Creek at Beaver Creek downstream to Monument Creek below Jackson Creek at Upper Monument Regional wastewater-treatment facility.—Continued

[Reusable-water flow, native streamflow, and bank-storage loss in cubic feet per second]

Reusable-water flow	Bank-storage loss for indicated native streamflow															Reusable-water flow	
	0	1	2	5	10	20	30	40	50	75	100	200	300	500	700		1,000
169	6.257	5.353	4.580	3.726	3.187	2.727	2.489	2.333	2.218	2.025	1.898	1.624	1.482	1.321	1.225	1.130	169
170	6.271	5.367	4.594	3.740	3.201	2.739	2.501	2.345	2.230	2.036	1.909	1.633	1.491	1.330	1.233	1.138	170
171	6.285	5.382	4.608	3.753	3.214	2.752	2.513	2.356	2.242	2.047	1.919	1.643	1.501	1.339	1.242	1.146	171
172	6.299	5.396	4.622	3.767	3.227	2.765	2.525	2.368	2.253	2.058	1.930	1.653	1.510	1.348	1.250	1.154	172
173	6.313	5.410	4.637	3.781	3.241	2.777	2.538	2.380	2.265	2.069	1.941	1.663	1.520	1.357	1.259	1.163	173
174	6.327	5.425	4.651	3.795	3.254	2.790	2.550	2.392	2.277	2.081	1.952	1.674	1.530	1.366	1.267	1.171	174
175	6.341	5.439	4.666	3.809	3.268	2.803	2.562	2.404	2.288	2.092	1.963	1.684	1.539	1.375	1.276	1.179	175
176	6.355	5.454	4.680	3.823	3.281	2.816	2.575	2.416	2.300	2.103	1.974	1.694	1.549	1.384	1.285	1.188	176
177	6.369	5.468	4.695	3.838	3.295	2.829	2.587	2.429	2.312	2.115	1.985	1.704	1.559	1.393	1.294	1.196	177
178	6.383	5.483	4.709	3.852	3.308	2.842	2.600	2.441	2.324	2.126	1.996	1.715	1.569	1.402	1.303	1.205	178
179	6.398	5.497	4.724	3.866	3.322	2.855	2.612	2.453	2.336	2.138	2.008	1.725	1.579	1.412	1.312	1.213	179
180	6.412	5.512	4.739	3.880	3.336	2.868	2.625	2.466	2.348	2.150	2.019	1.736	1.589	1.421	1.321	1.222	180
181	6.426	5.527	4.753	3.895	3.350	2.881	2.638	2.478	2.361	2.161	2.030	1.746	1.599	1.431	1.330	1.231	181
182	6.440	5.541	4.768	3.909	3.364	2.894	2.651	2.490	2.373	2.173	2.042	1.757	1.609	1.440	1.339	1.239	182
183	6.454	5.556	4.783	3.924	3.378	2.908	2.664	2.503	2.385	2.185	2.053	1.768	1.619	1.450	1.348	1.248	183
184	6.469	5.571	4.798	3.938	3.392	2.921	2.677	2.516	2.398	2.197	2.065	1.778	1.630	1.460	1.358	1.257	184
185	6.483	5.586	4.813	3.953	3.406	2.934	2.690	2.528	2.410	2.209	2.077	1.789	1.640	1.469	1.367	1.266	185
186	6.497	5.601	4.828	3.967	3.420	2.948	2.703	2.541	2.423	2.221	2.088	1.800	1.650	1.479	1.376	1.275	186
187	6.512	5.616	4.843	3.982	3.434	2.961	2.716	2.554	2.435	2.233	2.100	1.811	1.661	1.489	1.386	1.284	187
188	6.526	5.631	4.858	3.997	3.448	2.975	2.729	2.567	2.448	2.245	2.112	1.822	1.671	1.499	1.395	1.293	188
189	6.541	5.646	4.873	4.012	3.463	2.989	2.742	2.580	2.460	2.257	2.124	1.833	1.682	1.509	1.405	1.303	189
190	6.555	5.661	4.888	4.026	3.477	3.002	2.756	2.593	2.473	2.270	2.136	1.844	1.693	1.519	1.415	1.312	190
191	6.570	5.676	4.903	4.041	3.491	3.016	2.769	2.606	2.486	2.282	2.148	1.855	1.703	1.529	1.424	1.321	191
192	6.584	5.691	4.919	4.056	3.506	3.030	2.782	2.619	2.499	2.295	2.160	1.867	1.714	1.539	1.434	1.331	192
193	6.599	5.706	4.934	4.071	3.520	3.044	2.796	2.632	2.512	2.307	2.172	1.878	1.725	1.550	1.444	1.340	193
194	6.613	5.721	4.949	4.086	3.535	3.058	2.809	2.646	2.525	2.320	2.184	1.890	1.736	1.560	1.454	1.350	194
195	6.628	5.736	4.965	4.101	3.550	3.072	2.823	2.659	2.538	2.332	2.197	1.901	1.747	1.571	1.464	1.359	195
196	6.643	5.752	4.980	4.117	3.564	3.086	2.837	2.672	2.551	2.345	2.209	1.913	1.758	1.581	1.474	1.369	196
197	6.657	5.767	4.996	4.132	3.579	3.100	2.851	2.686	2.564	2.358	2.221	1.924	1.769	1.592	1.484	1.379	197
198	6.672	5.782	5.011	4.147	3.594	3.115	2.864	2.699	2.578	2.371	2.234	1.936	1.781	1.602	1.495	1.389	198
199	6.687	5.798	5.027	4.163	3.609	3.129	2.878	2.713	2.591	2.384	2.247	1.948	1.792	1.613	1.505	1.398	199
200	6.702	5.813	5.042	4.178	3.624	3.143	2.892	2.727	2.605	2.397	2.259	1.960	1.803	1.624	1.515	1.408	200

Table 13. Bank-storage loss for reusable-water flows ranging from 1 to 200 cubic feet per second for selected native streamflows for subreach MSR6, Monument Creek below Jackson Creek at Upper Monument Regional wastewater-treatment facility downstream to station 07103780 Monument Creek above Northgate Boulevard at U.S. Air Force Academy.—Continued

[Reusable-water flow, native streamflow, and bank-storage loss in cubic feet per second]

Reusable- water flow	Bank-storage loss for indicated native streamflow															Reusable- water flow	
	0	1	2	5	10	20	30	40	50	75	100	200	300	500	700		1,000
169	5.334	4.306	3.476	2.619	2.115	1.707	1.506	1.378	1.286	1.135	1.039	0.838	0.740	0.632	0.569	0.510	169
170	5.343	4.315	3.485	2.628	2.122	1.714	1.513	1.385	1.293	1.141	1.044	0.843	0.744	0.636	0.573	0.513	170
171	5.352	4.325	3.494	2.636	2.130	1.721	1.520	1.391	1.299	1.146	1.049	0.848	0.749	0.640	0.577	0.517	171
172	5.361	4.334	3.504	2.645	2.138	1.729	1.526	1.397	1.305	1.152	1.055	0.853	0.753	0.644	0.581	0.521	172
173	5.370	4.343	3.513	2.654	2.146	1.736	1.533	1.404	1.311	1.158	1.061	0.858	0.758	0.648	0.585	0.524	173
174	5.379	4.353	3.522	2.662	2.154	1.743	1.540	1.410	1.318	1.164	1.066	0.863	0.762	0.652	0.588	0.528	174
175	5.388	4.362	3.531	2.671	2.162	1.750	1.547	1.417	1.324	1.170	1.072	0.868	0.767	0.656	0.592	0.531	175
176	5.397	4.371	3.541	2.679	2.170	1.758	1.554	1.424	1.330	1.176	1.077	0.873	0.771	0.660	0.596	0.535	176
177	5.406	4.381	3.550	2.688	2.178	1.765	1.561	1.430	1.337	1.182	1.083	0.878	0.776	0.665	0.600	0.539	177
178	5.416	4.390	3.559	2.697	2.186	1.772	1.568	1.437	1.343	1.188	1.089	0.883	0.781	0.669	0.604	0.542	178
179	5.425	4.400	3.569	2.706	2.195	1.780	1.575	1.444	1.349	1.194	1.095	0.888	0.785	0.673	0.608	0.546	179
180	5.434	4.409	3.578	2.714	2.203	1.787	1.582	1.450	1.356	1.200	1.100	0.893	0.790	0.677	0.612	0.550	180
181	5.443	4.419	3.587	2.723	2.211	1.795	1.589	1.457	1.362	1.206	1.106	0.898	0.795	0.682	0.616	0.553	181
182	5.452	4.428	3.597	2.732	2.219	1.802	1.596	1.464	1.369	1.212	1.112	0.903	0.800	0.686	0.620	0.557	182
183	5.462	4.438	3.606	2.741	2.227	1.810	1.603	1.471	1.376	1.218	1.118	0.908	0.804	0.690	0.624	0.561	183
184	5.471	4.448	3.616	2.750	2.236	1.817	1.610	1.477	1.382	1.224	1.124	0.914	0.809	0.695	0.628	0.565	184
185	5.480	4.457	3.625	2.759	2.244	1.825	1.617	1.484	1.389	1.231	1.130	0.919	0.814	0.699	0.632	0.569	185
186	5.489	4.467	3.635	2.768	2.252	1.833	1.624	1.491	1.396	1.237	1.136	0.924	0.819	0.704	0.637	0.573	186
187	5.499	4.476	3.644	2.777	2.261	1.840	1.632	1.498	1.402	1.243	1.142	0.929	0.824	0.708	0.641	0.576	187
188	5.508	4.486	3.654	2.786	2.269	1.848	1.639	1.505	1.409	1.250	1.148	0.935	0.829	0.713	0.645	0.580	188
189	5.517	4.496	3.663	2.795	2.277	1.856	1.646	1.512	1.416	1.256	1.154	0.940	0.834	0.717	0.649	0.584	189
190	5.527	4.506	3.673	2.804	2.286	1.863	1.654	1.519	1.422	1.262	1.160	0.945	0.839	0.722	0.654	0.588	190
191	5.536	4.515	3.683	2.813	2.294	1.871	1.661	1.526	1.429	1.269	1.166	0.951	0.844	0.726	0.658	0.592	191
192	5.545	4.525	3.692	2.822	2.303	1.879	1.668	1.533	1.436	1.275	1.172	0.956	0.849	0.731	0.662	0.596	192
193	5.555	4.535	3.702	2.831	2.311	1.887	1.676	1.540	1.443	1.282	1.178	0.962	0.854	0.736	0.667	0.601	193
194	5.564	4.545	3.712	2.840	2.320	1.895	1.683	1.548	1.450	1.288	1.184	0.967	0.859	0.740	0.671	0.605	194
195	5.574	4.554	3.722	2.850	2.329	1.903	1.691	1.555	1.457	1.295	1.191	0.973	0.864	0.745	0.675	0.609	195
196	5.583	4.564	3.731	2.859	2.337	1.911	1.698	1.562	1.464	1.301	1.197	0.978	0.870	0.750	0.680	0.613	196
197	5.593	4.574	3.741	2.868	2.346	1.919	1.706	1.569	1.471	1.308	1.203	0.984	0.875	0.754	0.684	0.617	197
198	5.602	4.584	3.751	2.877	2.355	1.927	1.713	1.577	1.478	1.314	1.210	0.990	0.880	0.759	0.689	0.621	198
199	5.611	4.594	3.761	2.887	2.363	1.935	1.721	1.584	1.485	1.321	1.216	0.995	0.885	0.764	0.693	0.626	199
200	5.621	4.604	3.771	2.896	2.372	1.943	1.729	1.591	1.492	1.328	1.222	1.001	0.891	0.769	0.698	0.630	200

Table 14. Bank-storage loss for reusable-water flows ranging from 1 to 200 cubic feet per second for selected native streamflows for subreach MSR7, station 07103780 Monument Creek above Northgate Boulevard at U.S. Air Force Academy downstream to Monument Creek at U.S. Air Force Academy wastewater-treatment facility.—Continued

[Reusable-water flow, native streamflow, and bank-storage loss in cubic feet per second]

Reusable- water flow	Bank-storage loss for indicated native streamflow															Reusable- water flow	
	0	1	2	5	10	20	30	40	50	75	100	200	300	500	700		1,000
169	4.161	3.477	2.905	2.291	1.915	1.600	1.440	1.337	1.262	1.136	1.055	0.881	0.793	0.695	0.637	0.581	169
170	4.166	3.483	2.912	2.299	1.922	1.607	1.447	1.344	1.268	1.142	1.060	0.887	0.799	0.700	0.642	0.585	170
171	4.172	3.490	2.919	2.306	1.929	1.614	1.454	1.350	1.275	1.148	1.066	0.892	0.804	0.705	0.646	0.590	171
172	4.177	3.496	2.927	2.313	1.936	1.621	1.461	1.357	1.281	1.155	1.072	0.898	0.809	0.710	0.651	0.594	172
173	4.183	3.503	2.934	2.321	1.944	1.628	1.467	1.363	1.288	1.161	1.078	0.903	0.814	0.714	0.656	0.598	173
174	4.188	3.510	2.941	2.328	1.951	1.635	1.474	1.370	1.294	1.167	1.085	0.909	0.820	0.719	0.660	0.603	174
175	4.194	3.516	2.948	2.336	1.958	1.642	1.481	1.377	1.301	1.173	1.091	0.914	0.825	0.724	0.665	0.607	175
176	4.199	3.523	2.955	2.343	1.966	1.649	1.488	1.383	1.307	1.180	1.097	0.920	0.830	0.729	0.670	0.612	176
177	4.204	3.529	2.962	2.350	1.973	1.656	1.495	1.390	1.314	1.186	1.103	0.926	0.836	0.735	0.675	0.617	177
178	4.210	3.536	2.970	2.358	1.980	1.663	1.502	1.397	1.321	1.192	1.109	0.932	0.841	0.740	0.680	0.621	178
179	4.215	3.542	2.977	2.365	1.988	1.670	1.509	1.404	1.327	1.199	1.115	0.937	0.847	0.745	0.684	0.626	179
180	4.221	3.549	2.984	2.373	1.995	1.678	1.516	1.411	1.334	1.205	1.122	0.943	0.852	0.750	0.689	0.631	180
181	4.227	3.556	2.991	2.380	2.003	1.685	1.523	1.417	1.341	1.212	1.128	0.949	0.858	0.755	0.694	0.635	181
182	4.232	3.562	2.999	2.388	2.010	1.692	1.530	1.424	1.348	1.218	1.134	0.955	0.863	0.760	0.699	0.640	182
183	4.238	3.569	3.006	2.396	2.018	1.699	1.537	1.431	1.354	1.225	1.141	0.961	0.869	0.766	0.704	0.645	183
184	4.243	3.576	3.013	2.403	2.025	1.707	1.544	1.438	1.361	1.232	1.147	0.967	0.875	0.771	0.710	0.650	184
185	4.249	3.582	3.021	2.411	2.033	1.714	1.551	1.445	1.368	1.238	1.154	0.973	0.880	0.776	0.715	0.655	185
186	4.254	3.589	3.028	2.419	2.040	1.721	1.559	1.452	1.375	1.245	1.160	0.979	0.886	0.782	0.720	0.660	186
187	4.260	3.596	3.035	2.426	2.048	1.729	1.566	1.459	1.382	1.252	1.167	0.985	0.892	0.787	0.725	0.664	187
188	4.265	3.603	3.043	2.434	2.056	1.736	1.573	1.467	1.389	1.258	1.173	0.991	0.898	0.793	0.730	0.669	188
189	4.271	3.609	3.050	2.442	2.064	1.744	1.580	1.474	1.396	1.265	1.180	0.997	0.904	0.798	0.736	0.675	189
190	4.276	3.616	3.058	2.450	2.071	1.751	1.588	1.481	1.403	1.272	1.186	1.003	0.909	0.804	0.741	0.680	190
191	4.282	3.623	3.065	2.457	2.079	1.759	1.595	1.488	1.410	1.279	1.193	1.009	0.915	0.809	0.746	0.685	191
192	4.288	3.630	3.073	2.465	2.087	1.767	1.602	1.495	1.417	1.286	1.200	1.016	0.921	0.815	0.752	0.690	192
193	4.293	3.636	3.080	2.473	2.095	1.774	1.610	1.503	1.425	1.293	1.207	1.022	0.927	0.821	0.757	0.695	193
194	4.299	3.643	3.087	2.481	2.102	1.782	1.617	1.510	1.432	1.300	1.213	1.028	0.933	0.826	0.762	0.700	194
195	4.305	3.650	3.095	2.489	2.110	1.789	1.625	1.517	1.439	1.307	1.220	1.035	0.940	0.832	0.768	0.705	195
196	4.310	3.657	3.103	2.497	2.118	1.797	1.632	1.525	1.446	1.314	1.227	1.041	0.946	0.838	0.774	0.711	196
197	4.316	3.664	3.110	2.505	2.126	1.805	1.640	1.532	1.454	1.321	1.234	1.048	0.952	0.844	0.779	0.716	197
198	4.321	3.671	3.118	2.513	2.134	1.813	1.648	1.540	1.461	1.328	1.241	1.054	0.958	0.849	0.785	0.722	198
199	4.327	3.677	3.125	2.521	2.142	1.821	1.655	1.547	1.468	1.335	1.248	1.061	0.964	0.855	0.790	0.727	199
200	4.333	3.684	3.133	2.529	2.150	1.828	1.663	1.555	1.476	1.342	1.255	1.067	0.971	0.861	0.796	0.732	200

Table 15. Bank-storage loss for reusable-water flows ranging from 1 to 200 cubic feet per second for selected native streamflows for subreach MSR8, Monument Creek at U.S. Air Force Academy wastewater-treatment facility downstream to Monument Creek at West Monument Creek.—Continued

[Reusable-water flow, native streamflow, and bank-storage loss in cubic feet per second]

Reusable- water flow	Bank-storage loss for indicated native streamflow															Reusable- water flow	
	0	1	2	5	10	20	30	40	50	75	100	200	300	500	700		1,000
169	3.672	3.227	2.837	2.392	2.102	1.848	1.714	1.624	1.558	1.445	1.369	1.204	1.116	1.015	0.953	0.892	169
170	3.680	3.236	2.846	2.401	2.111	1.857	1.722	1.633	1.566	1.453	1.377	1.211	1.124	1.022	0.960	0.899	170
171	3.689	3.245	2.855	2.410	2.120	1.865	1.731	1.641	1.575	1.461	1.385	1.219	1.131	1.029	0.967	0.905	171
172	3.698	3.255	2.864	2.420	2.130	1.874	1.739	1.650	1.583	1.469	1.393	1.226	1.138	1.036	0.974	0.912	172
173	3.707	3.264	2.874	2.429	2.139	1.883	1.748	1.658	1.592	1.478	1.402	1.234	1.146	1.043	0.981	0.919	173
174	3.715	3.273	2.883	2.438	2.148	1.892	1.757	1.667	1.600	1.486	1.410	1.242	1.153	1.050	0.988	0.925	174
175	3.724	3.282	2.893	2.448	2.157	1.901	1.766	1.676	1.609	1.494	1.418	1.250	1.161	1.057	0.995	0.932	175
176	3.733	3.291	2.902	2.457	2.167	1.910	1.775	1.684	1.617	1.503	1.426	1.257	1.168	1.065	1.002	0.939	176
177	3.742	3.301	2.912	2.467	2.176	1.919	1.784	1.693	1.626	1.511	1.434	1.265	1.176	1.072	1.009	0.946	177
178	3.751	3.310	2.921	2.476	2.185	1.929	1.793	1.702	1.635	1.520	1.443	1.273	1.183	1.079	1.016	0.953	178
179	3.759	3.319	2.931	2.486	2.195	1.938	1.802	1.711	1.644	1.528	1.451	1.281	1.191	1.087	1.023	0.960	179
180	3.768	3.329	2.940	2.495	2.204	1.947	1.811	1.720	1.652	1.537	1.460	1.289	1.199	1.094	1.030	0.967	180
181	3.777	3.338	2.950	2.505	2.214	1.956	1.820	1.729	1.661	1.545	1.468	1.297	1.207	1.102	1.038	0.974	181
182	3.786	3.347	2.959	2.515	2.223	1.966	1.829	1.738	1.670	1.554	1.477	1.305	1.215	1.109	1.045	0.981	182
183	3.795	3.357	2.969	2.524	2.233	1.975	1.838	1.747	1.679	1.563	1.485	1.314	1.223	1.117	1.052	0.988	183
184	3.804	3.366	2.979	2.534	2.242	1.984	1.847	1.756	1.688	1.572	1.494	1.322	1.231	1.125	1.060	0.995	184
185	3.813	3.376	2.988	2.544	2.252	1.994	1.857	1.765	1.697	1.580	1.502	1.330	1.239	1.132	1.067	1.002	185
186	3.822	3.385	2.998	2.554	2.262	2.003	1.866	1.774	1.706	1.589	1.511	1.338	1.247	1.140	1.075	1.010	186
187	3.831	3.395	3.008	2.564	2.272	2.013	1.875	1.783	1.715	1.598	1.520	1.347	1.255	1.148	1.082	1.017	187
188	3.840	3.404	3.018	2.573	2.281	2.022	1.885	1.793	1.725	1.607	1.529	1.355	1.263	1.156	1.090	1.025	188
189	3.849	3.414	3.028	2.583	2.291	2.032	1.894	1.802	1.734	1.616	1.538	1.364	1.271	1.164	1.098	1.032	189
190	3.859	3.424	3.038	2.593	2.301	2.042	1.904	1.812	1.743	1.625	1.547	1.372	1.280	1.172	1.106	1.040	190
191	3.868	3.433	3.048	2.603	2.311	2.051	1.913	1.821	1.752	1.634	1.556	1.381	1.288	1.180	1.113	1.047	191
192	3.877	3.443	3.057	2.613	2.321	2.061	1.923	1.830	1.762	1.644	1.565	1.389	1.296	1.188	1.121	1.055	192
193	3.886	3.453	3.067	2.624	2.331	2.071	1.933	1.840	1.771	1.653	1.574	1.398	1.305	1.196	1.129	1.063	193
194	3.895	3.462	3.077	2.634	2.341	2.081	1.942	1.850	1.781	1.662	1.583	1.407	1.313	1.204	1.137	1.070	194
195	3.904	3.472	3.088	2.644	2.351	2.091	1.952	1.859	1.790	1.671	1.592	1.416	1.322	1.212	1.145	1.078	195
196	3.914	3.482	3.098	2.654	2.361	2.101	1.962	1.869	1.800	1.681	1.601	1.425	1.330	1.221	1.153	1.086	196
197	3.923	3.492	3.108	2.664	2.371	2.111	1.972	1.879	1.810	1.690	1.611	1.434	1.339	1.229	1.161	1.094	197
198	3.932	3.501	3.118	2.675	2.382	2.121	1.982	1.888	1.819	1.700	1.620	1.442	1.348	1.237	1.170	1.102	198
199	3.941	3.511	3.128	2.685	2.392	2.131	1.992	1.898	1.829	1.709	1.629	1.452	1.357	1.246	1.178	1.110	199
200	3.951	3.521	3.138	2.695	2.402	2.141	2.002	1.908	1.839	1.719	1.639	1.461	1.365	1.255	1.186	1.118	200

Table 16. Bank-storage loss for reusable-water flows ranging from 1 to 200 cubic feet per second for selected native streamflows for subreach MSR9, Monument Creek at West Monument Creek downstream to Monument Creek at Cottonwood Creek.—Continued

[Reusable-water flow, native streamflow, and bank-storage loss in cubic feet per second]

Reusable- water flow	Bank-storage loss for indicated native streamflow															Reusable- water flow	
	0	1	2	5	10	20	30	40	50	75	100	200	300	500	700		1,000
172	4.187	3.692	3.256	2.757	2.431	2.144	1.992	1.891	1.816	1.687	1.601	1.412	1.312	1.196	1.125	1.055	172
173	4.201	3.706	3.269	2.770	2.443	2.155	2.003	1.901	1.826	1.697	1.611	1.421	1.320	1.204	1.133	1.062	173
174	4.216	3.720	3.282	2.782	2.455	2.166	2.013	1.911	1.836	1.706	1.620	1.429	1.329	1.212	1.140	1.069	174
175	4.230	3.734	3.296	2.794	2.466	2.177	2.024	1.922	1.846	1.716	1.629	1.438	1.337	1.219	1.148	1.076	175
176	4.244	3.747	3.309	2.807	2.478	2.188	2.034	1.932	1.856	1.726	1.639	1.447	1.345	1.227	1.155	1.084	176
177	4.259	3.761	3.322	2.819	2.490	2.199	2.045	1.942	1.866	1.735	1.648	1.456	1.354	1.235	1.163	1.091	177
178	4.273	3.775	3.336	2.832	2.502	2.210	2.056	1.953	1.877	1.745	1.658	1.465	1.362	1.244	1.171	1.099	178
179	4.288	3.790	3.349	2.844	2.514	2.222	2.067	1.963	1.887	1.755	1.668	1.474	1.371	1.252	1.179	1.106	179
180	4.303	3.804	3.363	2.857	2.526	2.233	2.078	1.974	1.897	1.765	1.677	1.483	1.380	1.260	1.187	1.114	180
181	4.317	3.818	3.376	2.870	2.538	2.244	2.089	1.985	1.908	1.775	1.687	1.492	1.388	1.268	1.195	1.121	181
182	4.332	3.832	3.390	2.883	2.550	2.256	2.100	1.995	1.918	1.785	1.697	1.501	1.397	1.276	1.203	1.129	182
183	4.347	3.846	3.404	2.895	2.562	2.267	2.111	2.006	1.929	1.796	1.707	1.510	1.406	1.285	1.211	1.137	183
184	4.362	3.861	3.417	2.908	2.574	2.279	2.122	2.017	1.939	1.806	1.717	1.519	1.415	1.293	1.219	1.145	184
185	4.377	3.875	3.431	2.921	2.587	2.290	2.133	2.028	1.950	1.816	1.727	1.529	1.424	1.302	1.227	1.152	185
186	4.392	3.890	3.445	2.934	2.599	2.302	2.144	2.039	1.961	1.826	1.737	1.538	1.433	1.310	1.235	1.160	186
187	4.407	3.904	3.459	2.947	2.611	2.314	2.155	2.050	1.971	1.837	1.747	1.548	1.442	1.319	1.243	1.168	187
188	4.422	3.919	3.473	2.961	2.624	2.325	2.167	2.061	1.982	1.847	1.757	1.557	1.451	1.327	1.252	1.176	188
189	4.437	3.933	3.487	2.974	2.636	2.337	2.178	2.072	1.993	1.858	1.767	1.567	1.460	1.336	1.260	1.184	189
190	4.452	3.948	3.501	2.987	2.649	2.349	2.190	2.083	2.004	1.868	1.777	1.576	1.469	1.345	1.269	1.193	190
191	4.467	3.963	3.515	3.000	2.662	2.361	2.201	2.095	2.015	1.879	1.788	1.586	1.479	1.354	1.277	1.201	191
192	4.482	3.977	3.529	3.014	2.674	2.373	2.213	2.106	2.026	1.889	1.798	1.596	1.488	1.362	1.286	1.209	192
193	4.498	3.992	3.544	3.027	2.687	2.385	2.224	2.117	2.037	1.900	1.809	1.605	1.497	1.371	1.294	1.217	193
194	4.513	4.007	3.558	3.041	2.700	2.397	2.236	2.129	2.049	1.911	1.819	1.615	1.507	1.380	1.303	1.226	194
195	4.528	4.022	3.572	3.054	2.713	2.409	2.248	2.140	2.060	1.922	1.830	1.625	1.516	1.389	1.312	1.234	195
196	4.544	4.037	3.587	3.068	2.726	2.422	2.260	2.152	2.071	1.933	1.840	1.635	1.526	1.398	1.320	1.242	196
197	4.559	4.052	3.601	3.081	2.739	2.434	2.272	2.163	2.083	1.944	1.851	1.645	1.535	1.408	1.329	1.251	197
198	4.575	4.067	3.616	3.095	2.752	2.446	2.284	2.175	2.094	1.955	1.862	1.655	1.545	1.417	1.338	1.260	198
199	4.590	4.082	3.630	3.109	2.765	2.459	2.296	2.187	2.106	1.966	1.873	1.665	1.555	1.426	1.347	1.268	199
200	4.606	4.097	3.645	3.123	2.778	2.471	2.308	2.198	2.117	1.977	1.883	1.676	1.565	1.435	1.356	1.277	200

Table 17. Bank-storage loss for reusable-water flows ranging from 1 to 200 cubic feet per second for selected native streamflows for subreach MSR10, Monument Creek at Cottonwood Creek downstream to station 07104000 Monument Creek at Pikeview.—Continued

[Reusable-water flow, native streamflow, and bank-storage loss in cubic feet per second]

Reusable-water flow	Bank-storage loss for indicated native streamflow															Reusable-water flow	
	0	1	2	5	10	20	30	40	50	75	100	200	300	500	700		1,000
58	1.702	1.364	1.093	0.816	0.654	0.524	0.460	0.420	0.391	0.343	0.313	0.251	0.221	0.187	0.168	0.150	58
59	1.713	1.373	1.102	0.823	0.660	0.529	0.465	0.424	0.395	0.348	0.317	0.254	0.224	0.190	0.171	0.152	59
60	1.723	1.383	1.110	0.830	0.666	0.535	0.470	0.429	0.400	0.352	0.321	0.258	0.227	0.193	0.173	0.155	60
61	1.733	1.392	1.118	0.837	0.672	0.540	0.475	0.434	0.404	0.356	0.325	0.261	0.230	0.195	0.176	0.157	61
62	1.744	1.402	1.127	0.844	0.679	0.546	0.480	0.439	0.409	0.360	0.329	0.264	0.233	0.198	0.178	0.159	62
63	1.754	1.411	1.135	0.852	0.685	0.551	0.485	0.443	0.414	0.364	0.333	0.268	0.236	0.201	0.181	0.161	63
64	1.765	1.421	1.144	0.859	0.692	0.557	0.491	0.448	0.418	0.368	0.337	0.271	0.239	0.204	0.183	0.164	64
65	1.776	1.431	1.153	0.867	0.698	0.563	0.496	0.453	0.423	0.373	0.341	0.275	0.242	0.206	0.186	0.166	65
66	1.786	1.441	1.162	0.874	0.705	0.568	0.501	0.458	0.428	0.377	0.345	0.278	0.245	0.209	0.189	0.169	66
67	1.797	1.450	1.171	0.882	0.711	0.574	0.507	0.463	0.433	0.381	0.349	0.282	0.248	0.212	0.191	0.171	67
68	1.808	1.460	1.179	0.889	0.718	0.580	0.512	0.468	0.437	0.386	0.353	0.285	0.252	0.215	0.194	0.174	68
69	1.819	1.470	1.188	0.897	0.725	0.586	0.517	0.474	0.442	0.390	0.357	0.289	0.255	0.218	0.197	0.176	69
70	1.830	1.480	1.197	0.905	0.732	0.592	0.523	0.479	0.447	0.395	0.362	0.293	0.259	0.221	0.200	0.179	70
71	1.841	1.490	1.207	0.913	0.739	0.598	0.529	0.484	0.452	0.400	0.366	0.296	0.262	0.224	0.202	0.181	71
72	1.852	1.501	1.216	0.920	0.746	0.604	0.534	0.489	0.457	0.404	0.371	0.300	0.265	0.227	0.205	0.184	72
73	1.863	1.511	1.225	0.928	0.753	0.610	0.540	0.495	0.463	0.409	0.375	0.304	0.269	0.230	0.208	0.187	73
74	1.875	1.521	1.234	0.936	0.760	0.617	0.546	0.500	0.468	0.414	0.380	0.308	0.273	0.234	0.211	0.190	74
75	1.886	1.532	1.244	0.945	0.767	0.623	0.552	0.506	0.473	0.419	0.384	0.312	0.276	0.237	0.214	0.192	75
76	1.897	1.542	1.253	0.953	0.774	0.629	0.557	0.511	0.478	0.424	0.389	0.316	0.280	0.240	0.217	0.195	76
77	1.909	1.553	1.263	0.961	0.782	0.636	0.563	0.517	0.484	0.429	0.393	0.320	0.284	0.244	0.220	0.198	77
78	1.921	1.563	1.272	0.969	0.789	0.642	0.569	0.523	0.489	0.434	0.398	0.324	0.287	0.247	0.223	0.201	78
79	1.932	1.574	1.282	0.978	0.796	0.649	0.575	0.528	0.495	0.439	0.403	0.328	0.291	0.250	0.227	0.204	79
80	1.944	1.585	1.292	0.986	0.804	0.655	0.582	0.534	0.500	0.444	0.408	0.332	0.295	0.254	0.230	0.207	80
81	1.956	1.596	1.302	0.995	0.812	0.662	0.588	0.540	0.506	0.449	0.413	0.337	0.299	0.257	0.233	0.210	81
82	1.967	1.606	1.312	1.003	0.819	0.669	0.594	0.546	0.512	0.454	0.418	0.341	0.303	0.261	0.236	0.213	82
83	1.979	1.617	1.322	1.012	0.827	0.676	0.600	0.552	0.517	0.460	0.423	0.345	0.307	0.265	0.240	0.216	83
84	1.991	1.628	1.332	1.021	0.835	0.683	0.607	0.558	0.523	0.465	0.428	0.350	0.311	0.268	0.243	0.219	84
85	2.003	1.640	1.342	1.030	0.843	0.690	0.613	0.564	0.529	0.471	0.433	0.354	0.315	0.272	0.247	0.223	85
86	2.015	1.651	1.352	1.039	0.851	0.697	0.620	0.571	0.535	0.476	0.438	0.359	0.319	0.276	0.250	0.226	86
87	2.028	1.662	1.362	1.048	0.859	0.704	0.627	0.577	0.541	0.482	0.444	0.364	0.324	0.280	0.254	0.229	87
88	2.040	1.673	1.373	1.057	0.867	0.711	0.633	0.583	0.547	0.487	0.449	0.368	0.328	0.283	0.257	0.232	88
89	2.052	1.685	1.383	1.066	0.875	0.718	0.640	0.590	0.553	0.493	0.454	0.373	0.332	0.287	0.261	0.236	89
90	2.065	1.696	1.394	1.075	0.883	0.726	0.647	0.596	0.560	0.499	0.460	0.378	0.337	0.291	0.265	0.239	90
91	2.077	1.708	1.404	1.084	0.892	0.733	0.654	0.603	0.566	0.505	0.465	0.383	0.341	0.295	0.269	0.243	91
92	2.090	1.720	1.415	1.094	0.900	0.741	0.661	0.609	0.572	0.511	0.471	0.388	0.346	0.299	0.272	0.246	92
93	2.102	1.731	1.426	1.103	0.908	0.748	0.668	0.616	0.579	0.517	0.477	0.393	0.350	0.304	0.276	0.250	93
94	2.115	1.743	1.437	1.113	0.917	0.756	0.675	0.623	0.585	0.523	0.482	0.398	0.355	0.308	0.280	0.254	94
95	2.128	1.755	1.448	1.122	0.926	0.763	0.682	0.630	0.592	0.529	0.488	0.403	0.360	0.312	0.284	0.257	95
96	2.141	1.767	1.459	1.132	0.934	0.771	0.689	0.637	0.599	0.535	0.494	0.408	0.365	0.316	0.288	0.261	96
97	2.154	1.779	1.470	1.142	0.943	0.779	0.697	0.644	0.605	0.541	0.500	0.413	0.369	0.321	0.292	0.265	97
98	2.167	1.791	1.481	1.152	0.952	0.787	0.704	0.651	0.612	0.548	0.506	0.418	0.374	0.325	0.297	0.269	98
99	2.180	1.804	1.492	1.162	0.961	0.795	0.712	0.658	0.619	0.554	0.512	0.424	0.379	0.330	0.301	0.273	99
100	2.193	1.816	1.504	1.172	0.970	0.803	0.719	0.665	0.626	0.561	0.518	0.429	0.384	0.334	0.305	0.277	100
101	2.199	1.822	1.509	1.176	0.974	0.807	0.723	0.669	0.629	0.563	0.521	0.432	0.387	0.337	0.307	0.279	101
102	2.205	1.827	1.514	1.181	0.978	0.811	0.726	0.672	0.632	0.566	0.524	0.434	0.389	0.339	0.309	0.281	102
103	2.211	1.833	1.519	1.185	0.983	0.814	0.730	0.675	0.636	0.569	0.527	0.437	0.391	0.341	0.311	0.282	103
104	2.217	1.838	1.524	1.190	0.987	0.818	0.733	0.679	0.639	0.572	0.530	0.439	0.394	0.343	0.313	0.284	104
105	2.223	1.844	1.530	1.195	0.991	0.822	0.737	0.682	0.642	0.576	0.533	0.442	0.396	0.345	0.315	0.286	105
106	2.229	1.850	1.535	1.199	0.995	0.826	0.741	0.685	0.645	0.579	0.536	0.444	0.398	0.347	0.317	0.288	106
107	2.235	1.855	1.540	1.204	1.000	0.830	0.744	0.689	0.649	0.582	0.538	0.447	0.401	0.349	0.319	0.290	107
108	2.241	1.861	1.545	1.209	1.004	0.834	0.748	0.692	0.652	0.585	0.541	0.450	0.403	0.352	0.321	0.292	108
109	2.247	1.867	1.551	1.214	1.008	0.837	0.751	0.696	0.655	0.588	0.544	0.452	0.406	0.354	0.323	0.294	109
110	2.253	1.873	1.556	1.218	1.012	0.841	0.755	0.699	0.659	0.591	0.547	0.455	0.408	0.356	0.325	0.296	110
111	2.260	1.878	1.561	1.223	1.017	0.845	0.759	0.703	0.662	0.594	0.550	0.457	0.411	0.358	0.328	0.298	111
112	2.266	1.884	1.567	1.228	1.021	0.849	0.762	0.706	0.665	0.597	0.553	0.460	0.413	0.361	0.330	0.300	112
113	2.272	1.890	1.572	1.233	1.025	0.853	0.766	0.710	0.669	0.600	0.556	0.463	0.416	0.363	0.332	0.302	113
114	2.278	1.896	1.578	1.237	1.030	0.857	0.770	0.713	0.672	0.604	0.559	0.465	0.418	0.365	0.334	0.304	114

Table 17. Bank-storage loss for reusable-water flows ranging from 1 to 200 cubic feet per second for selected native streamflows for subreach MSR10, Monument Creek at Cottonwood Creek downstream to station 07104000 Monument Creek at Pikeview.—Continued

[Reusable-water flow, native streamflow, and bank-storage loss in cubic feet per second]

Reusable-water flow	Bank-storage loss for indicated native streamflow															Reusable-water flow	
	0	1	2	5	10	20	30	40	50	75	100	200	300	500	700		1,000
115	2.284	1.902	1.583	1.242	1.034	0.861	0.773	0.717	0.676	0.607	0.562	0.468	0.421	0.367	0.336	0.306	115
116	2.290	1.907	1.588	1.247	1.039	0.865	0.777	0.720	0.679	0.610	0.565	0.471	0.423	0.370	0.338	0.308	116
117	2.297	1.913	1.594	1.252	1.043	0.869	0.781	0.724	0.683	0.613	0.569	0.474	0.426	0.372	0.340	0.310	117
118	2.303	1.919	1.599	1.257	1.047	0.873	0.785	0.727	0.686	0.617	0.572	0.476	0.428	0.374	0.343	0.312	118
119	2.309	1.925	1.605	1.262	1.052	0.877	0.788	0.731	0.689	0.620	0.575	0.479	0.431	0.377	0.345	0.314	119
120	2.315	1.931	1.610	1.267	1.056	0.881	0.792	0.735	0.693	0.623	0.578	0.482	0.433	0.379	0.347	0.316	120
121	2.322	1.937	1.616	1.272	1.061	0.885	0.796	0.738	0.697	0.626	0.581	0.485	0.436	0.381	0.349	0.318	121
122	2.328	1.943	1.621	1.277	1.065	0.889	0.800	0.742	0.700	0.630	0.584	0.488	0.439	0.384	0.352	0.320	122
123	2.334	1.949	1.627	1.282	1.070	0.893	0.804	0.746	0.704	0.633	0.587	0.490	0.441	0.386	0.354	0.323	123
124	2.341	1.955	1.633	1.287	1.075	0.897	0.808	0.749	0.707	0.636	0.591	0.493	0.444	0.389	0.356	0.325	124
125	2.347	1.961	1.638	1.292	1.079	0.902	0.812	0.753	0.711	0.640	0.594	0.496	0.447	0.391	0.358	0.327	125
126	2.353	1.967	1.644	1.297	1.084	0.906	0.815	0.757	0.714	0.643	0.597	0.499	0.449	0.394	0.361	0.329	126
127	2.360	1.973	1.649	1.302	1.088	0.910	0.819	0.761	0.718	0.647	0.600	0.502	0.452	0.396	0.363	0.331	127
128	2.366	1.979	1.655	1.307	1.093	0.914	0.823	0.765	0.722	0.650	0.604	0.505	0.455	0.399	0.365	0.333	128
129	2.373	1.985	1.661	1.312	1.098	0.918	0.827	0.768	0.725	0.654	0.607	0.508	0.457	0.401	0.368	0.336	129
130	2.379	1.991	1.666	1.317	1.102	0.923	0.831	0.772	0.729	0.657	0.610	0.511	0.460	0.404	0.370	0.338	130
131	2.385	1.997	1.672	1.322	1.107	0.927	0.835	0.776	0.733	0.660	0.614	0.514	0.463	0.406	0.373	0.340	131
132	2.392	2.003	1.678	1.327	1.112	0.931	0.839	0.780	0.737	0.664	0.617	0.517	0.466	0.409	0.375	0.342	132
133	2.398	2.010	1.684	1.333	1.116	0.935	0.843	0.784	0.740	0.668	0.620	0.520	0.469	0.411	0.377	0.345	133
134	2.405	2.016	1.689	1.338	1.121	0.940	0.848	0.788	0.744	0.671	0.624	0.523	0.471	0.414	0.380	0.347	134
135	2.411	2.022	1.695	1.343	1.126	0.944	0.852	0.792	0.748	0.675	0.627	0.526	0.474	0.417	0.382	0.349	135
136	2.418	2.028	1.701	1.348	1.131	0.948	0.856	0.796	0.752	0.678	0.630	0.529	0.477	0.419	0.385	0.352	136
137	2.425	2.034	1.707	1.354	1.136	0.953	0.860	0.800	0.756	0.682	0.634	0.532	0.480	0.422	0.387	0.354	137
138	2.431	2.041	1.713	1.359	1.141	0.957	0.864	0.803	0.759	0.685	0.637	0.535	0.483	0.424	0.390	0.356	138
139	2.438	2.047	1.719	1.364	1.145	0.962	0.868	0.807	0.763	0.689	0.641	0.538	0.486	0.427	0.392	0.359	139
140	2.444	2.053	1.725	1.369	1.150	0.966	0.872	0.812	0.767	0.693	0.644	0.541	0.489	0.430	0.395	0.361	140
141	2.451	2.059	1.730	1.375	1.155	0.971	0.877	0.816	0.771	0.696	0.648	0.544	0.492	0.432	0.397	0.363	141
142	2.458	2.066	1.736	1.380	1.160	0.975	0.881	0.820	0.775	0.700	0.651	0.548	0.495	0.435	0.400	0.366	142
143	2.464	2.072	1.742	1.386	1.165	0.980	0.885	0.824	0.779	0.704	0.655	0.551	0.498	0.438	0.403	0.368	143
144	2.471	2.079	1.748	1.391	1.170	0.984	0.889	0.828	0.783	0.708	0.659	0.554	0.501	0.441	0.405	0.371	144
145	2.478	2.085	1.754	1.396	1.175	0.989	0.894	0.832	0.787	0.711	0.662	0.557	0.504	0.443	0.408	0.373	145
146	2.485	2.091	1.760	1.402	1.180	0.993	0.898	0.836	0.791	0.715	0.666	0.560	0.507	0.446	0.410	0.376	146
147	2.491	2.098	1.766	1.407	1.185	0.998	0.902	0.840	0.795	0.719	0.669	0.564	0.510	0.449	0.413	0.378	147
148	2.498	2.104	1.773	1.413	1.190	1.002	0.907	0.844	0.799	0.723	0.673	0.567	0.513	0.452	0.416	0.381	148
149	2.505	2.111	1.779	1.418	1.195	1.007	0.911	0.849	0.803	0.727	0.677	0.570	0.516	0.455	0.418	0.383	149
150	2.512	2.117	1.785	1.424	1.200	1.012	0.916	0.853	0.807	0.730	0.680	0.574	0.519	0.458	0.421	0.386	150
151	2.518	2.124	1.791	1.429	1.205	1.016	0.920	0.857	0.811	0.734	0.684	0.577	0.522	0.460	0.424	0.388	151
152	2.525	2.130	1.797	1.435	1.211	1.021	0.924	0.861	0.815	0.738	0.688	0.580	0.525	0.463	0.427	0.391	152
153	2.532	2.137	1.803	1.441	1.216	1.026	0.929	0.866	0.820	0.742	0.692	0.584	0.528	0.466	0.429	0.393	153
154	2.539	2.143	1.809	1.446	1.221	1.031	0.933	0.870	0.824	0.746	0.695	0.587	0.532	0.469	0.432	0.396	154
155	2.546	2.150	1.816	1.452	1.226	1.035	0.938	0.874	0.828	0.750	0.699	0.590	0.535	0.472	0.435	0.399	155
156	2.553	2.157	1.822	1.458	1.231	1.040	0.942	0.879	0.832	0.754	0.703	0.594	0.538	0.475	0.438	0.401	156
157	2.560	2.163	1.828	1.463	1.237	1.045	0.947	0.883	0.836	0.758	0.707	0.597	0.541	0.478	0.441	0.404	157
158	2.567	2.170	1.834	1.469	1.242	1.050	0.952	0.887	0.841	0.762	0.711	0.601	0.545	0.481	0.443	0.407	158
159	2.574	2.176	1.841	1.475	1.247	1.055	0.956	0.892	0.845	0.766	0.715	0.604	0.548	0.484	0.446	0.409	159
160	2.581	2.183	1.847	1.480	1.252	1.059	0.961	0.896	0.849	0.770	0.718	0.608	0.551	0.487	0.449	0.412	160
161	2.588	2.190	1.853	1.486	1.258	1.064	0.965	0.901	0.854	0.774	0.722	0.611	0.554	0.490	0.452	0.415	161
162	2.595	2.197	1.860	1.492	1.263	1.069	0.970	0.905	0.858	0.778	0.726	0.615	0.558	0.493	0.455	0.418	162
163	2.602	2.203	1.866	1.498	1.269	1.074	0.975	0.910	0.862	0.782	0.730	0.618	0.561	0.496	0.458	0.420	163
164	2.609	2.210	1.872	1.504	1.274	1.079	0.979	0.914	0.867	0.787	0.734	0.622	0.565	0.500	0.461	0.423	164
165	2.616	2.217	1.879	1.510	1.279	1.084	0.984	0.919	0.871	0.791	0.738	0.626	0.568	0.503	0.464	0.426	165
166	2.623	2.224	1.885	1.516	1.285	1.089	0.989	0.923	0.876	0.795	0.742	0.629	0.571	0.506	0.467	0.429	166
167	2.630	2.231	1.892	1.521	1.290	1.094	0.994	0.928	0.880	0.799	0.746	0.633	0.575	0.509	0.470	0.432	167
168	2.637	2.237	1.898	1.527	1.296	1.099	0.999	0.933	0.885	0.803	0.750	0.637	0.578	0.512	0.473	0.435	168
169	2.644	2.244	1.905	1.533	1.301	1.104	1.003	0.937	0.889	0.808	0.755	0.640	0.582	0.516	0.476	0.437	169
170	2.652	2.251	1.911	1.539	1.307	1.110	1.008	0.942	0.894	0.812	0.759	0.644	0.585	0.519	0.479	0.440	170
171	2.659	2.258	1.918	1.545	1.312	1.115	1.013	0.947	0.898	0.816	0.763	0.648	0.589	0.522	0.482	0.443	171

Table 17. Bank-storage loss for reusable-water flows ranging from 1 to 200 cubic feet per second for selected native streamflows for subreach MSR10, Monument Creek at Cottonwood Creek downstream to station 07104000 Monument Creek at Pikeview.—Continued

[Reusable-water flow, native streamflow, and bank-storage loss in cubic feet per second]

Reusable- water flow	Bank-storage loss for indicated native streamflow															Reusable- water flow	
	0	1	2	5	10	20	30	40	50	75	100	200	300	500	700		1,000
172	2.666	2.265	1.924	1.551	1.318	1.120	1.018	0.951	0.903	0.821	0.767	0.652	0.592	0.525	0.485	0.446	172
173	2.673	2.272	1.931	1.557	1.324	1.125	1.023	0.956	0.907	0.825	0.771	0.655	0.596	0.529	0.488	0.449	173
174	2.681	2.279	1.938	1.564	1.329	1.130	1.028	0.961	0.912	0.829	0.775	0.659	0.600	0.532	0.492	0.452	174
175	2.688	2.286	1.944	1.570	1.335	1.135	1.033	0.966	0.917	0.834	0.780	0.663	0.603	0.535	0.495	0.455	175
176	2.695	2.293	1.951	1.576	1.341	1.141	1.038	0.971	0.921	0.838	0.784	0.667	0.607	0.539	0.498	0.458	176
177	2.702	2.300	1.958	1.582	1.346	1.146	1.043	0.975	0.926	0.843	0.788	0.671	0.610	0.542	0.501	0.461	177
178	2.710	2.307	1.964	1.588	1.352	1.151	1.048	0.980	0.931	0.847	0.792	0.675	0.614	0.545	0.504	0.464	178
179	2.717	2.314	1.971	1.594	1.358	1.157	1.053	0.985	0.935	0.852	0.797	0.679	0.618	0.549	0.508	0.467	179
180	2.725	2.321	1.978	1.601	1.364	1.162	1.058	0.990	0.940	0.856	0.801	0.683	0.622	0.552	0.511	0.471	180
181	2.732	2.328	1.985	1.607	1.370	1.167	1.063	0.995	0.945	0.861	0.805	0.687	0.625	0.556	0.514	0.474	181
182	2.739	2.336	1.992	1.613	1.375	1.173	1.068	1.000	0.950	0.865	0.810	0.691	0.629	0.559	0.518	0.477	182
183	2.747	2.343	1.998	1.619	1.381	1.178	1.073	1.005	0.955	0.870	0.814	0.695	0.633	0.563	0.521	0.480	183
184	2.754	2.350	2.005	1.626	1.387	1.184	1.079	1.010	0.960	0.874	0.819	0.699	0.637	0.566	0.524	0.483	184
185	2.762	2.357	2.012	1.632	1.393	1.189	1.084	1.015	0.964	0.879	0.823	0.703	0.640	0.570	0.528	0.486	185
186	2.769	2.364	2.019	1.638	1.399	1.195	1.089	1.020	0.969	0.884	0.828	0.707	0.644	0.574	0.531	0.490	186
187	2.777	2.372	2.026	1.645	1.405	1.200	1.094	1.025	0.974	0.888	0.832	0.711	0.648	0.577	0.535	0.493	187
188	2.784	2.379	2.033	1.651	1.411	1.206	1.100	1.030	0.979	0.893	0.837	0.715	0.652	0.581	0.538	0.496	188
189	2.792	2.386	2.040	1.658	1.417	1.211	1.105	1.035	0.984	0.898	0.841	0.719	0.656	0.584	0.542	0.500	189
190	2.799	2.394	2.047	1.664	1.423	1.217	1.110	1.040	0.989	0.903	0.846	0.723	0.660	0.588	0.545	0.503	190
191	2.807	2.401	2.054	1.671	1.429	1.222	1.116	1.046	0.994	0.908	0.851	0.728	0.664	0.592	0.549	0.506	191
192	2.815	2.408	2.061	1.677	1.435	1.228	1.121	1.051	0.999	0.912	0.855	0.732	0.668	0.596	0.552	0.510	192
193	2.822	2.416	2.068	1.684	1.441	1.234	1.126	1.056	1.005	0.917	0.860	0.736	0.672	0.599	0.556	0.513	193
194	2.830	2.423	2.075	1.690	1.447	1.239	1.132	1.061	1.010	0.922	0.865	0.740	0.676	0.603	0.559	0.516	194
195	2.838	2.431	2.082	1.697	1.454	1.245	1.137	1.067	1.015	0.927	0.869	0.745	0.680	0.607	0.563	0.520	195
196	2.845	2.438	2.089	1.704	1.460	1.251	1.143	1.072	1.020	0.932	0.874	0.749	0.684	0.611	0.567	0.523	196
197	2.853	2.446	2.097	1.710	1.466	1.257	1.148	1.077	1.025	0.937	0.879	0.753	0.688	0.615	0.570	0.527	197
198	2.861	2.453	2.104	1.717	1.472	1.262	1.154	1.083	1.030	0.942	0.884	0.758	0.693	0.618	0.574	0.530	198
199	2.869	2.461	2.111	1.724	1.479	1.268	1.159	1.088	1.036	0.947	0.888	0.762	0.697	0.622	0.578	0.534	199
200	2.876	2.468	2.118	1.730	1.485	1.274	1.165	1.094	1.041	0.952	0.893	0.766	0.701	0.626	0.581	0.537	200

Table 18. Bank-storage loss for reusable-water flows ranging from 1 to 200 cubic feet per second for selected native streamflows for subreach MSR11, station 07104000 Monument Creek at Pikeview downstream to Monument Creek at Northern Water Reclamation facility.

[Reusable-water flow, native streamflow, and bank-storage loss in cubic feet per second]

Reusable-water flow	Bank-storage loss for indicated native streamflow															Reusable-water flow	
	0	1	2	5	10	20	30	40	50	75	100	200	300	500	700		1,000
1	0.131	0.100	0.076	0.054	0.041	0.032	0.027	0.024	0.022	0.019	0.017	0.013	0.011	0.009	0.008	0.007	1
2	0.224	0.172	0.132	0.093	0.071	0.054	0.047	0.042	0.038	0.033	0.029	0.022	0.019	0.016	0.014	0.012	2
3	0.385	0.296	0.227	0.160	0.122	0.094	0.080	0.072	0.066	0.057	0.051	0.039	0.033	0.027	0.024	0.021	3
4	0.490	0.377	0.289	0.204	0.157	0.120	0.103	0.093	0.085	0.073	0.065	0.050	0.043	0.035	0.031	0.027	4
5	0.624	0.480	0.369	0.261	0.201	0.154	0.133	0.119	0.109	0.094	0.084	0.065	0.056	0.046	0.040	0.035	5
6	0.733	0.564	0.435	0.308	0.237	0.182	0.156	0.140	0.129	0.111	0.099	0.077	0.066	0.054	0.048	0.042	6
7	0.861	0.664	0.511	0.362	0.279	0.215	0.185	0.166	0.152	0.131	0.117	0.090	0.078	0.064	0.056	0.049	7
8	0.949	0.733	0.566	0.403	0.311	0.240	0.207	0.186	0.171	0.147	0.132	0.102	0.088	0.073	0.064	0.056	8
9	1.046	0.810	0.627	0.448	0.347	0.269	0.231	0.208	0.192	0.165	0.148	0.115	0.099	0.082	0.072	0.064	9
10	1.152	0.895	0.695	0.498	0.387	0.300	0.259	0.233	0.215	0.185	0.167	0.130	0.112	0.093	0.082	0.072	10
11	1.226	0.954	0.743	0.533	0.415	0.323	0.279	0.251	0.232	0.200	0.181	0.141	0.121	0.101	0.089	0.079	11
12	1.304	1.017	0.793	0.571	0.446	0.348	0.301	0.271	0.250	0.217	0.195	0.152	0.132	0.110	0.097	0.086	12
13	1.386	1.084	0.848	0.612	0.479	0.374	0.324	0.293	0.270	0.234	0.211	0.165	0.143	0.119	0.106	0.093	13
14	1.474	1.155	0.905	0.656	0.514	0.403	0.349	0.316	0.292	0.253	0.229	0.179	0.155	0.130	0.115	0.102	14
15	1.568	1.232	0.967	0.703	0.552	0.434	0.377	0.341	0.315	0.274	0.248	0.194	0.169	0.141	0.126	0.111	15
16	1.632	1.284	1.011	0.736	0.580	0.456	0.396	0.359	0.332	0.289	0.262	0.206	0.179	0.150	0.133	0.118	16
17	1.699	1.339	1.056	0.772	0.608	0.480	0.417	0.378	0.350	0.305	0.276	0.218	0.190	0.159	0.142	0.126	17
18	1.768	1.397	1.104	0.808	0.639	0.505	0.440	0.399	0.370	0.322	0.292	0.231	0.201	0.169	0.151	0.134	18
19	1.840	1.457	1.153	0.847	0.670	0.531	0.463	0.420	0.390	0.340	0.309	0.244	0.213	0.179	0.160	0.142	19
20	1.915	1.519	1.205	0.887	0.704	0.558	0.488	0.443	0.411	0.359	0.326	0.259	0.226	0.190	0.170	0.151	20
21	1.970	1.565	1.243	0.917	0.728	0.578	0.505	0.459	0.426	0.373	0.339	0.269	0.235	0.198	0.177	0.158	21
22	2.026	1.612	1.282	0.947	0.753	0.599	0.524	0.476	0.442	0.387	0.352	0.280	0.245	0.207	0.185	0.164	22
23	2.084	1.660	1.322	0.978	0.779	0.620	0.543	0.494	0.459	0.402	0.366	0.291	0.255	0.215	0.193	0.172	23
24	2.144	1.710	1.363	1.010	0.806	0.642	0.563	0.512	0.476	0.417	0.380	0.303	0.265	0.224	0.201	0.179	24
25	2.205	1.761	1.406	1.044	0.833	0.665	0.583	0.531	0.494	0.433	0.395	0.315	0.276	0.234	0.210	0.187	25
26	2.268	1.813	1.450	1.078	0.862	0.689	0.605	0.551	0.513	0.450	0.410	0.328	0.287	0.244	0.219	0.195	26
27	2.333	1.868	1.495	1.114	0.892	0.714	0.627	0.571	0.532	0.467	0.426	0.341	0.299	0.254	0.228	0.203	27
28	2.400	1.924	1.542	1.151	0.922	0.739	0.650	0.593	0.552	0.485	0.442	0.355	0.312	0.265	0.238	0.212	28
29	2.468	1.981	1.590	1.189	0.954	0.766	0.673	0.615	0.573	0.503	0.460	0.369	0.324	0.276	0.248	0.221	29
30	2.539	2.040	1.640	1.228	0.987	0.793	0.698	0.637	0.594	0.523	0.477	0.384	0.338	0.287	0.258	0.231	30
31	2.590	2.083	1.676	1.257	1.011	0.813	0.716	0.654	0.610	0.537	0.490	0.395	0.347	0.296	0.266	0.238	31
32	2.642	2.127	1.712	1.286	1.035	0.833	0.734	0.671	0.626	0.551	0.504	0.406	0.357	0.305	0.274	0.245	32
33	2.695	2.172	1.750	1.316	1.060	0.854	0.753	0.688	0.642	0.566	0.517	0.417	0.368	0.313	0.282	0.253	33
34	2.749	2.217	1.788	1.346	1.086	0.876	0.772	0.706	0.659	0.581	0.532	0.429	0.378	0.323	0.291	0.260	34
35	2.804	2.264	1.828	1.377	1.112	0.898	0.792	0.725	0.676	0.597	0.546	0.441	0.389	0.332	0.299	0.268	35
36	2.861	2.312	1.868	1.409	1.139	0.920	0.812	0.743	0.694	0.613	0.561	0.453	0.400	0.342	0.308	0.276	36
37	2.918	2.360	1.909	1.442	1.166	0.943	0.833	0.763	0.712	0.629	0.576	0.466	0.412	0.352	0.317	0.285	37
38	2.977	2.410	1.951	1.475	1.194	0.967	0.854	0.783	0.731	0.646	0.592	0.479	0.423	0.362	0.327	0.293	38
39	3.036	2.460	1.993	1.509	1.223	0.991	0.876	0.803	0.750	0.663	0.608	0.493	0.436	0.373	0.337	0.302	39
40	3.097	2.512	2.037	1.544	1.253	1.016	0.899	0.824	0.770	0.681	0.624	0.507	0.448	0.384	0.347	0.311	40
41	3.143	2.551	2.070	1.571	1.275	1.035	0.916	0.840	0.785	0.695	0.637	0.517	0.458	0.392	0.355	0.319	41
42	3.189	2.590	2.104	1.598	1.298	1.054	0.933	0.856	0.801	0.709	0.650	0.528	0.468	0.401	0.363	0.326	42
43	3.235	2.630	2.138	1.625	1.321	1.074	0.951	0.873	0.817	0.723	0.664	0.540	0.478	0.410	0.371	0.333	43
44	3.283	2.670	2.172	1.653	1.345	1.094	0.970	0.890	0.833	0.738	0.677	0.551	0.488	0.419	0.379	0.341	44
45	3.331	2.711	2.207	1.682	1.369	1.115	0.988	0.907	0.849	0.753	0.691	0.563	0.499	0.429	0.388	0.349	45
46	3.379	2.753	2.243	1.711	1.394	1.135	1.007	0.925	0.866	0.768	0.705	0.575	0.510	0.438	0.397	0.357	46
47	3.429	2.796	2.279	1.740	1.419	1.157	1.026	0.943	0.883	0.784	0.720	0.587	0.521	0.448	0.406	0.365	47
48	3.479	2.839	2.316	1.770	1.444	1.178	1.046	0.961	0.900	0.799	0.735	0.599	0.532	0.458	0.415	0.374	48
49	3.530	2.882	2.353	1.800	1.470	1.200	1.066	0.980	0.918	0.816	0.750	0.612	0.544	0.468	0.424	0.382	49
50	3.582	2.927	2.391	1.831	1.496	1.223	1.087	0.999	0.936	0.832	0.765	0.625	0.555	0.479	0.434	0.391	50
51	3.609	2.951	2.413	1.849	1.512	1.236	1.099	1.011	0.947	0.842	0.774	0.633	0.563	0.485	0.440	0.397	51
52	3.637	2.976	2.434	1.867	1.527	1.249	1.111	1.022	0.958	0.852	0.784	0.641	0.570	0.492	0.446	0.402	52
53	3.665	3.000	2.456	1.885	1.543	1.263	1.123	1.034	0.969	0.862	0.793	0.649	0.578	0.498	0.452	0.408	53
54	3.694	3.025	2.478	1.903	1.559	1.277	1.136	1.046	0.980	0.872	0.803	0.658	0.585	0.505	0.458	0.414	54
55	3.723	3.051	2.500	1.921	1.575	1.290	1.148	1.057	0.992	0.883	0.813	0.666	0.593	0.512	0.465	0.420	55
56	3.751	3.076	2.522	1.940	1.591	1.304	1.161	1.069	1.003	0.893	0.823	0.674	0.601	0.519	0.471	0.425	56

Table 18. Bank-storage loss for reusable-water flows ranging from 1 to 200 cubic feet per second for selected native streamflows for subreach MSR11, station 07104000 Monument Creek at Pikeview downstream to Monument Creek at Northern Water Reclamation facility.—Continued

[Reusable-water flow, native streamflow, and bank-storage loss in cubic feet per second]

Reusable- water flow	Bank-storage loss for indicated native streamflow															Reusable- water flow	
	0	1	2	5	10	20	30	40	50	75	100	200	300	500	700		1,000
57	3.781	3.102	2.545	1.959	1.607	1.318	1.174	1.082	1.015	0.904	0.833	0.683	0.608	0.526	0.478	0.431	57
58	3.810	3.127	2.567	1.978	1.623	1.333	1.187	1.094	1.027	0.915	0.843	0.692	0.616	0.533	0.484	0.437	58
59	3.839	3.154	2.590	1.997	1.640	1.347	1.201	1.106	1.038	0.926	0.853	0.701	0.624	0.540	0.491	0.444	59
60	3.869	3.180	2.613	2.016	1.657	1.362	1.214	1.119	1.051	0.937	0.863	0.709	0.633	0.547	0.498	0.450	60
61	3.899	3.206	2.636	2.036	1.674	1.376	1.227	1.132	1.063	0.948	0.874	0.719	0.641	0.555	0.504	0.456	61
62	3.929	3.233	2.660	2.055	1.691	1.391	1.241	1.145	1.075	0.959	0.884	0.728	0.649	0.562	0.511	0.463	62
63	3.960	3.260	2.684	2.075	1.708	1.406	1.255	1.158	1.087	0.970	0.895	0.737	0.658	0.570	0.518	0.469	63
64	3.991	3.287	2.707	2.095	1.726	1.422	1.269	1.171	1.100	0.982	0.906	0.746	0.666	0.577	0.526	0.476	64
65	4.022	3.314	2.732	2.115	1.743	1.437	1.283	1.184	1.113	0.994	0.917	0.756	0.675	0.585	0.533	0.482	65
66	4.053	3.342	2.756	2.136	1.761	1.452	1.297	1.198	1.126	1.006	0.928	0.765	0.684	0.593	0.540	0.489	66
67	4.084	3.370	2.780	2.156	1.779	1.468	1.312	1.211	1.139	1.018	0.939	0.775	0.693	0.601	0.548	0.496	67
68	4.116	3.398	2.805	2.177	1.798	1.484	1.327	1.225	1.152	1.030	0.951	0.785	0.702	0.609	0.555	0.503	68
69	4.148	3.426	2.830	2.198	1.816	1.500	1.341	1.239	1.165	1.042	0.962	0.795	0.711	0.618	0.563	0.510	69
70	4.180	3.455	2.855	2.220	1.835	1.516	1.356	1.253	1.179	1.054	0.974	0.805	0.720	0.626	0.571	0.517	70
71	4.212	3.484	2.881	2.241	1.853	1.533	1.371	1.267	1.192	1.067	0.986	0.815	0.730	0.634	0.578	0.525	71
72	4.245	3.513	2.906	2.263	1.872	1.549	1.387	1.282	1.206	1.080	0.998	0.826	0.739	0.643	0.586	0.532	72
73	4.278	3.542	2.932	2.285	1.891	1.566	1.402	1.297	1.220	1.092	1.010	0.836	0.749	0.652	0.594	0.539	73
74	4.311	3.571	2.958	2.307	1.911	1.583	1.418	1.311	1.234	1.105	1.022	0.847	0.759	0.660	0.603	0.547	74
75	4.344	3.601	2.985	2.329	1.930	1.600	1.434	1.326	1.248	1.119	1.035	0.858	0.769	0.669	0.611	0.555	75
76	4.378	3.631	3.011	2.351	1.950	1.617	1.450	1.341	1.263	1.132	1.047	0.869	0.779	0.678	0.619	0.563	76
77	4.412	3.661	3.038	2.374	1.970	1.635	1.466	1.357	1.278	1.145	1.060	0.880	0.789	0.687	0.628	0.570	77
78	4.446	3.692	3.065	2.397	1.990	1.653	1.482	1.372	1.292	1.159	1.073	0.891	0.799	0.697	0.637	0.578	78
79	4.481	3.723	3.092	2.420	2.011	1.670	1.499	1.388	1.307	1.173	1.086	0.902	0.809	0.706	0.645	0.587	79
80	4.516	3.754	3.120	2.444	2.031	1.688	1.515	1.404	1.322	1.187	1.099	0.914	0.820	0.716	0.654	0.595	80
81	4.551	3.785	3.148	2.467	2.052	1.707	1.532	1.419	1.338	1.201	1.113	0.925	0.831	0.725	0.663	0.603	81
82	4.586	3.816	3.176	2.491	2.073	1.725	1.549	1.436	1.353	1.215	1.126	0.937	0.842	0.735	0.672	0.612	82
83	4.621	3.848	3.204	2.515	2.094	1.744	1.567	1.452	1.369	1.230	1.140	0.949	0.853	0.745	0.682	0.620	83
84	4.657	3.880	3.233	2.539	2.116	1.763	1.584	1.469	1.385	1.244	1.154	0.961	0.864	0.755	0.691	0.629	84
85	4.693	3.912	3.261	2.564	2.137	1.782	1.602	1.485	1.401	1.259	1.168	0.973	0.875	0.765	0.700	0.638	85
86	4.730	3.945	3.290	2.589	2.159	1.801	1.620	1.502	1.417	1.274	1.182	0.986	0.886	0.776	0.710	0.647	86
87	4.766	3.978	3.320	2.614	2.181	1.820	1.638	1.519	1.433	1.289	1.196	0.998	0.898	0.786	0.720	0.656	87
88	4.803	4.011	3.349	2.639	2.204	1.840	1.656	1.537	1.450	1.305	1.211	1.011	0.910	0.797	0.730	0.665	88
89	4.841	4.044	3.379	2.665	2.226	1.860	1.674	1.554	1.467	1.320	1.225	1.024	0.922	0.807	0.740	0.675	89
90	4.878	4.078	3.409	2.690	2.249	1.880	1.693	1.572	1.484	1.336	1.240	1.037	0.934	0.818	0.750	0.684	90
91	4.916	4.112	3.440	2.716	2.272	1.901	1.712	1.590	1.501	1.352	1.255	1.050	0.946	0.829	0.760	0.694	91
92	4.954	4.146	3.470	2.743	2.295	1.921	1.731	1.608	1.518	1.368	1.271	1.063	0.958	0.840	0.771	0.703	92
93	4.993	4.181	3.501	2.769	2.319	1.942	1.750	1.626	1.536	1.384	1.286	1.077	0.971	0.852	0.781	0.713	93
94	5.031	4.216	3.532	2.796	2.343	1.963	1.770	1.645	1.554	1.401	1.302	1.091	0.984	0.863	0.792	0.723	94
95	5.070	4.251	3.564	2.823	2.367	1.984	1.790	1.663	1.572	1.418	1.318	1.105	0.996	0.875	0.803	0.734	95
96	5.110	4.286	3.595	2.850	2.391	2.006	1.810	1.682	1.590	1.435	1.334	1.119	1.009	0.887	0.814	0.744	96
97	5.149	4.322	3.627	2.878	2.415	2.027	1.830	1.701	1.608	1.452	1.350	1.133	1.023	0.899	0.825	0.754	97
98	5.189	4.358	3.660	2.905	2.440	2.049	1.850	1.721	1.627	1.469	1.366	1.147	1.036	0.911	0.837	0.765	98
99	5.229	4.394	3.692	2.934	2.465	2.071	1.871	1.740	1.646	1.486	1.383	1.162	1.049	0.923	0.848	0.776	99
100	5.270	4.431	3.725	2.962	2.490	2.094	1.892	1.760	1.665	1.504	1.400	1.177	1.063	0.936	0.860	0.787	100
101	5.285	4.445	3.739	2.974	2.501	2.104	1.901	1.769	1.673	1.512	1.407	1.184	1.070	0.941	0.866	0.792	101
102	5.301	4.460	3.752	2.986	2.512	2.114	1.910	1.778	1.682	1.520	1.415	1.191	1.076	0.947	0.871	0.797	102
103	5.317	4.474	3.766	2.998	2.523	2.124	1.920	1.787	1.691	1.528	1.423	1.197	1.083	0.953	0.877	0.802	103
104	5.332	4.489	3.779	3.010	2.534	2.134	1.929	1.796	1.699	1.537	1.431	1.204	1.089	0.959	0.882	0.808	104
105	5.348	4.504	3.793	3.022	2.545	2.144	1.939	1.805	1.708	1.545	1.439	1.212	1.096	0.965	0.888	0.813	105
106	5.363	4.518	3.807	3.035	2.557	2.154	1.948	1.814	1.717	1.553	1.447	1.219	1.102	0.972	0.894	0.818	106
107	5.379	4.533	3.820	3.047	2.568	2.164	1.958	1.824	1.726	1.562	1.455	1.226	1.109	0.978	0.900	0.824	107
108	5.395	4.548	3.834	3.059	2.579	2.174	1.968	1.833	1.735	1.570	1.463	1.233	1.116	0.984	0.905	0.829	108
109	5.411	4.563	3.848	3.072	2.590	2.185	1.977	1.842	1.744	1.578	1.471	1.240	1.122	0.990	0.911	0.835	109
110	5.427	4.578	3.862	3.084	2.602	2.195	1.987	1.852	1.753	1.587	1.479	1.247	1.129	0.996	0.917	0.840	110
111	5.443	4.593	3.876	3.097	2.613	2.205	1.997	1.861	1.762	1.595	1.487	1.255	1.136	1.002	0.923	0.846	111
112	5.459	4.608	3.890	3.109	2.625	2.216	2.007	1.870	1.771	1.604	1.495	1.262	1.143	1.009	0.929	0.852	112

Table 18. Bank-storage loss for reusable-water flows ranging from 1 to 200 cubic feet per second for selected native streamflows for subreach MSR11, station 07104000 Monument Creek at Pikeview downstream to Monument Creek at Northern Water Reclamation facility.—Continued

[Reusable-water flow, native streamflow, and bank-storage loss in cubic feet per second]

Reusable-water flow	Bank-storage loss for indicated native streamflow															Reusable-water flow	
	0	1	2	5	10	20	30	40	50	75	100	200	300	500	700		1,000
113	5.475	4.623	3.904	3.122	2.636	2.226	2.016	1.880	1.780	1.613	1.503	1.269	1.150	1.015	0.935	0.857	113
114	5.491	4.638	3.918	3.134	2.648	2.237	2.026	1.889	1.789	1.621	1.512	1.277	1.157	1.022	0.941	0.863	114
115	5.507	4.653	3.932	3.147	2.659	2.247	2.036	1.899	1.799	1.630	1.520	1.284	1.164	1.028	0.947	0.869	115
116	5.523	4.668	3.946	3.160	2.671	2.258	2.046	1.909	1.808	1.639	1.528	1.292	1.171	1.034	0.953	0.874	116
117	5.539	4.684	3.960	3.173	2.683	2.269	2.057	1.918	1.817	1.648	1.537	1.299	1.178	1.041	0.960	0.880	117
118	5.555	4.699	3.975	3.186	2.695	2.279	2.067	1.928	1.827	1.656	1.545	1.307	1.185	1.048	0.966	0.886	118
119	5.572	4.714	3.989	3.199	2.706	2.290	2.077	1.938	1.836	1.665	1.554	1.315	1.192	1.054	0.972	0.892	119
120	5.588	4.730	4.003	3.211	2.718	2.301	2.087	1.948	1.846	1.674	1.562	1.322	1.199	1.061	0.978	0.898	120
121	5.604	4.745	4.018	3.224	2.730	2.312	2.097	1.957	1.855	1.683	1.571	1.330	1.207	1.067	0.985	0.904	121
122	5.621	4.761	4.032	3.238	2.742	2.323	2.108	1.967	1.865	1.692	1.580	1.338	1.214	1.074	0.991	0.910	122
123	5.637	4.776	4.047	3.251	2.754	2.334	2.118	1.977	1.875	1.701	1.588	1.346	1.221	1.081	0.997	0.916	123
124	5.654	4.792	4.061	3.264	2.766	2.345	2.128	1.987	1.884	1.710	1.597	1.354	1.229	1.088	1.004	0.922	124
125	5.670	4.808	4.076	3.277	2.778	2.356	2.139	1.997	1.894	1.720	1.606	1.361	1.236	1.095	1.010	0.928	125
126	5.687	4.823	4.091	3.290	2.791	2.367	2.149	2.007	1.904	1.729	1.615	1.369	1.244	1.101	1.017	0.934	126
127	5.704	4.839	4.106	3.304	2.803	2.378	2.160	2.018	1.914	1.738	1.624	1.377	1.251	1.108	1.023	0.940	127
128	5.720	4.855	4.120	3.317	2.815	2.389	2.171	2.028	1.924	1.748	1.632	1.385	1.259	1.115	1.030	0.947	128
129	5.737	4.871	4.135	3.331	2.828	2.401	2.181	2.038	1.933	1.757	1.641	1.394	1.266	1.122	1.037	0.953	129
130	5.754	4.887	4.150	3.344	2.840	2.412	2.192	2.048	1.943	1.766	1.651	1.402	1.274	1.129	1.043	0.959	130
131	5.771	4.903	4.165	3.358	2.852	2.423	2.203	2.059	1.954	1.776	1.660	1.410	1.282	1.137	1.050	0.966	131
132	5.788	4.919	4.180	3.371	2.865	2.435	2.214	2.069	1.964	1.785	1.669	1.418	1.289	1.144	1.057	0.972	132
133	5.805	4.935	4.195	3.385	2.878	2.446	2.225	2.080	1.974	1.795	1.678	1.426	1.297	1.151	1.064	0.978	133
134	5.822	4.951	4.210	3.399	2.890	2.458	2.236	2.090	1.984	1.805	1.687	1.435	1.305	1.158	1.071	0.985	134
135	5.839	4.967	4.226	3.412	2.903	2.470	2.247	2.101	1.994	1.814	1.697	1.443	1.313	1.166	1.077	0.991	135
136	5.856	4.983	4.241	3.426	2.916	2.481	2.258	2.111	2.005	1.824	1.706	1.452	1.321	1.173	1.084	0.998	136
137	5.873	5.000	4.256	3.440	2.928	2.493	2.269	2.122	2.015	1.834	1.715	1.460	1.329	1.180	1.091	1.005	137
138	5.890	5.016	4.271	3.454	2.941	2.505	2.280	2.133	2.025	1.844	1.725	1.469	1.337	1.188	1.098	1.011	138
139	5.908	5.032	4.287	3.468	2.954	2.517	2.291	2.144	2.036	1.854	1.734	1.477	1.345	1.195	1.106	1.018	139
140	5.925	5.049	4.302	3.482	2.967	2.528	2.303	2.155	2.046	1.864	1.744	1.486	1.353	1.203	1.113	1.025	140
141	5.942	5.065	4.318	3.496	2.980	2.540	2.314	2.166	2.057	1.874	1.753	1.495	1.361	1.210	1.120	1.032	141
142	5.960	5.082	4.333	3.510	2.993	2.552	2.325	2.176	2.068	1.884	1.763	1.503	1.370	1.218	1.127	1.038	142
143	5.977	5.099	4.349	3.525	3.006	2.565	2.337	2.188	2.078	1.894	1.773	1.512	1.378	1.226	1.134	1.045	143
144	5.995	5.115	4.365	3.539	3.020	2.577	2.348	2.199	2.089	1.904	1.783	1.521	1.386	1.233	1.142	1.052	144
145	6.012	5.132	4.381	3.553	3.033	2.589	2.360	2.210	2.100	1.914	1.792	1.530	1.395	1.241	1.149	1.059	145
146	6.030	5.149	4.396	3.568	3.046	2.601	2.371	2.221	2.111	1.924	1.802	1.539	1.403	1.249	1.157	1.066	146
147	6.048	5.166	4.412	3.582	3.060	2.613	2.383	2.232	2.122	1.935	1.812	1.548	1.412	1.257	1.164	1.073	147
148	6.065	5.183	4.428	3.597	3.073	2.626	2.395	2.243	2.133	1.945	1.822	1.557	1.420	1.265	1.172	1.081	148
149	6.083	5.199	4.444	3.611	3.087	2.638	2.407	2.255	2.144	1.956	1.832	1.566	1.429	1.273	1.179	1.088	149
150	6.101	5.216	4.460	3.626	3.100	2.651	2.419	2.266	2.155	1.966	1.842	1.575	1.437	1.281	1.187	1.095	150
151	6.119	5.234	4.476	3.641	3.114	2.663	2.430	2.278	2.166	1.977	1.853	1.584	1.446	1.289	1.194	1.102	151
152	6.137	5.251	4.492	3.655	3.127	2.676	2.442	2.289	2.177	1.987	1.863	1.594	1.455	1.297	1.202	1.109	152
153	6.155	5.268	4.509	3.670	3.141	2.688	2.454	2.301	2.188	1.998	1.873	1.603	1.464	1.305	1.210	1.117	153
154	6.173	5.285	4.525	3.685	3.155	2.701	2.467	2.313	2.200	2.009	1.883	1.612	1.472	1.313	1.218	1.124	154
155	6.191	5.302	4.541	3.700	3.169	2.714	2.479	2.324	2.211	2.020	1.894	1.622	1.481	1.321	1.226	1.132	155
156	6.209	5.320	4.558	3.715	3.183	2.727	2.491	2.336	2.223	2.030	1.904	1.631	1.490	1.330	1.234	1.139	156
157	6.227	5.337	4.574	3.730	3.197	2.740	2.503	2.348	2.234	2.041	1.915	1.641	1.499	1.338	1.242	1.147	157
158	6.246	5.355	4.590	3.745	3.211	2.753	2.516	2.360	2.246	2.052	1.925	1.650	1.508	1.347	1.250	1.154	158
159	6.264	5.372	4.607	3.760	3.225	2.766	2.528	2.372	2.257	2.063	1.936	1.660	1.517	1.355	1.258	1.162	159
160	6.282	5.390	4.624	3.776	3.239	2.779	2.540	2.384	2.269	2.074	1.946	1.670	1.527	1.364	1.266	1.170	160
161	6.301	5.407	4.640	3.791	3.253	2.792	2.553	2.396	2.281	2.086	1.957	1.680	1.536	1.372	1.274	1.178	161
162	6.319	5.425	4.657	3.806	3.267	2.805	2.565	2.408	2.293	2.097	1.968	1.689	1.545	1.381	1.282	1.185	162
163	6.338	5.443	4.674	3.822	3.282	2.818	2.578	2.420	2.304	2.108	1.979	1.699	1.555	1.389	1.290	1.193	163
164	6.356	5.460	4.691	3.837	3.296	2.832	2.591	2.432	2.316	2.119	1.990	1.709	1.564	1.398	1.299	1.201	164
165	6.375	5.478	4.708	3.853	3.311	2.845	2.604	2.445	2.328	2.131	2.001	1.719	1.573	1.407	1.307	1.209	165
166	6.394	5.496	4.725	3.868	3.325	2.858	2.616	2.457	2.340	2.142	2.012	1.729	1.583	1.416	1.316	1.217	166
167	6.413	5.514	4.742	3.884	3.340	2.872	2.629	2.470	2.352	2.154	2.023	1.739	1.592	1.425	1.324	1.225	167
168	6.431	5.532	4.759	3.900	3.354	2.886	2.642	2.482	2.365	2.165	2.034	1.750	1.602	1.434	1.333	1.233	168

Table 18. Bank-storage loss for reusable-water flows ranging from 1 to 200 cubic feet per second for selected native streamflows for subreach MSR11, station 07104000 Monument Creek at Pikeview downstream to Monument Creek at Northern Water Reclamation facility.—Continued

[Reusable-water flow, native streamflow, and bank-storage loss in cubic feet per second]

Reusable- water flow	Bank-storage loss for indicated native streamflow															Reusable- water flow	
	0	1	2	5	10	20	30	40	50	75	100	200	300	500	700		1,000
169	6.450	5.550	4.776	3.915	3.369	2.899	2.655	2.495	2.377	2.177	2.045	1.760	1.612	1.443	1.341	1.241	169
170	6.469	5.568	4.793	3.931	3.384	2.913	2.668	2.507	2.389	2.189	2.056	1.770	1.622	1.452	1.350	1.250	170
171	6.488	5.587	4.810	3.947	3.399	2.927	2.681	2.520	2.402	2.200	2.068	1.781	1.631	1.461	1.359	1.258	171
172	6.507	5.605	4.828	3.963	3.414	2.940	2.695	2.533	2.414	2.212	2.079	1.791	1.641	1.470	1.367	1.266	172
173	6.526	5.623	4.845	3.979	3.429	2.954	2.708	2.546	2.426	2.224	2.091	1.801	1.651	1.480	1.376	1.275	173
174	6.545	5.642	4.863	3.995	3.444	2.968	2.721	2.558	2.439	2.236	2.102	1.812	1.661	1.489	1.385	1.283	174
175	6.565	5.660	4.880	4.012	3.459	2.982	2.735	2.571	2.452	2.248	2.114	1.823	1.671	1.498	1.394	1.292	175
176	6.584	5.679	4.898	4.028	3.474	2.997	2.748	2.584	2.464	2.260	2.125	1.833	1.681	1.508	1.403	1.300	176
177	6.603	5.697	4.916	4.044	3.489	3.011	2.762	2.598	2.477	2.272	2.137	1.844	1.691	1.517	1.412	1.309	177
178	6.623	5.716	4.933	4.061	3.505	3.025	2.775	2.611	2.490	2.284	2.149	1.855	1.702	1.527	1.421	1.318	178
179	6.642	5.735	4.951	4.077	3.520	3.039	2.789	2.624	2.503	2.297	2.161	1.866	1.712	1.536	1.431	1.326	179
180	6.661	5.753	4.969	4.094	3.536	3.054	2.803	2.637	2.516	2.309	2.173	1.876	1.722	1.546	1.440	1.335	180
181	6.681	5.772	4.987	4.110	3.551	3.068	2.816	2.651	2.529	2.321	2.185	1.887	1.733	1.556	1.449	1.344	181
182	6.701	5.791	5.005	4.127	3.567	3.083	2.830	2.664	2.542	2.334	2.197	1.899	1.743	1.566	1.458	1.353	182
183	6.720	5.810	5.023	4.144	3.582	3.097	2.844	2.678	2.555	2.346	2.209	1.910	1.754	1.575	1.468	1.362	183
184	6.740	5.829	5.041	4.160	3.598	3.112	2.858	2.691	2.568	2.359	2.221	1.921	1.764	1.585	1.477	1.371	184
185	6.760	5.848	5.059	4.177	3.614	3.126	2.872	2.705	2.581	2.372	2.233	1.932	1.775	1.595	1.487	1.380	185
186	6.780	5.867	5.077	4.194	3.630	3.141	2.887	2.718	2.595	2.384	2.246	1.943	1.786	1.605	1.496	1.389	186
187	6.799	5.886	5.096	4.211	3.646	3.156	2.901	2.732	2.608	2.397	2.258	1.955	1.797	1.615	1.506	1.398	187
188	6.819	5.906	5.114	4.228	3.662	3.171	2.915	2.746	2.622	2.410	2.270	1.966	1.807	1.626	1.516	1.408	188
189	6.839	5.925	5.133	4.245	3.678	3.186	2.929	2.760	2.635	2.423	2.283	1.978	1.818	1.636	1.526	1.417	189
190	6.859	5.944	5.151	4.263	3.694	3.201	2.944	2.774	2.649	2.436	2.295	1.989	1.829	1.646	1.536	1.426	190
191	6.880	5.964	5.170	4.280	3.710	3.216	2.958	2.788	2.663	2.449	2.308	2.001	1.840	1.657	1.545	1.436	191
192	6.900	5.983	5.188	4.297	3.726	3.231	2.973	2.802	2.676	2.462	2.321	2.013	1.852	1.667	1.555	1.445	192
193	6.920	6.003	5.207	4.315	3.743	3.247	2.988	2.816	2.690	2.476	2.334	2.024	1.863	1.677	1.565	1.455	193
194	6.940	6.022	5.226	4.332	3.759	3.262	3.002	2.831	2.704	2.489	2.347	2.036	1.874	1.688	1.576	1.465	194
195	6.961	6.042	5.245	4.350	3.776	3.277	3.017	2.845	2.718	2.502	2.359	2.048	1.885	1.699	1.586	1.474	195
196	6.981	6.062	5.264	4.367	3.792	3.293	3.032	2.859	2.732	2.516	2.372	2.060	1.897	1.709	1.596	1.484	196
197	7.001	6.082	5.283	4.385	3.809	3.309	3.047	2.874	2.746	2.529	2.386	2.072	1.908	1.720	1.606	1.494	197
198	7.022	6.102	5.302	4.403	3.826	3.324	3.062	2.888	2.761	2.543	2.399	2.084	1.920	1.731	1.617	1.504	198
199	7.043	6.121	5.321	4.421	3.842	3.340	3.077	2.903	2.775	2.556	2.412	2.096	1.931	1.742	1.627	1.514	199
200	7.063	6.141	5.340	4.439	3.859	3.356	3.092	2.918	2.789	2.570	2.425	2.109	1.943	1.753	1.638	1.524	200

Table 19. Bank-storage loss for reusable-water flows ranging from 1 to 200 cubic feet per second for selected native streamflows for subreach MSR12, Monument Creek at Northern Water Reclamation facility downstream to station 07104905 Monument Creek at Bijou Street at Colorado Springs.

[Reusable-water flow, native streamflow, and bank-storage loss in cubic feet per second]

Reusable-water flow	Bank-storage loss for indicated native streamflow															Reusable-water flow	
	0	1	2	5	10	20	30	40	50	75	100	200	300	500	700		1,000
1	0.251	0.180	0.130	0.084	0.060	0.043	0.036	0.031	0.028	0.023	0.020	0.014	0.012	0.009	0.008	0.007	1
2	0.403	0.292	0.212	0.138	0.100	0.073	0.060	0.053	0.047	0.039	0.034	0.025	0.021	0.016	0.014	0.012	2
3	0.647	0.474	0.346	0.229	0.168	0.123	0.102	0.090	0.081	0.067	0.059	0.043	0.036	0.029	0.025	0.021	3
4	0.802	0.589	0.433	0.288	0.212	0.156	0.130	0.114	0.104	0.086	0.076	0.056	0.047	0.037	0.032	0.027	4
5	0.993	0.733	0.541	0.362	0.268	0.198	0.165	0.146	0.132	0.111	0.098	0.072	0.060	0.048	0.042	0.036	5
6	1.115	0.828	0.615	0.415	0.308	0.229	0.193	0.170	0.155	0.130	0.115	0.085	0.072	0.058	0.050	0.043	6
7	1.252	0.936	0.699	0.476	0.356	0.266	0.224	0.199	0.181	0.153	0.135	0.101	0.085	0.069	0.060	0.051	7
8	1.337	1.006	0.756	0.519	0.390	0.293	0.248	0.221	0.201	0.170	0.151	0.114	0.096	0.078	0.068	0.059	8
9	1.428	1.081	0.818	0.566	0.428	0.324	0.275	0.245	0.224	0.190	0.170	0.128	0.109	0.089	0.078	0.067	9
10	1.525	1.161	0.884	0.617	0.470	0.358	0.305	0.272	0.250	0.213	0.190	0.145	0.123	0.101	0.088	0.077	10
11	1.597	1.221	0.933	0.655	0.500	0.383	0.327	0.293	0.268	0.229	0.205	0.157	0.134	0.110	0.097	0.084	11
12	1.671	1.283	0.985	0.695	0.533	0.409	0.351	0.314	0.289	0.247	0.222	0.170	0.146	0.120	0.105	0.092	12
13	1.750	1.349	1.040	0.737	0.568	0.438	0.376	0.338	0.310	0.267	0.239	0.184	0.158	0.131	0.115	0.101	13
14	1.832	1.418	1.097	0.782	0.605	0.468	0.403	0.363	0.334	0.287	0.258	0.200	0.172	0.143	0.126	0.110	14
15	1.918	1.491	1.158	0.830	0.645	0.501	0.433	0.389	0.359	0.310	0.279	0.217	0.187	0.155	0.138	0.121	15
16	1.981	1.544	1.203	0.865	0.674	0.525	0.454	0.409	0.378	0.327	0.294	0.229	0.198	0.165	0.146	0.129	16
17	2.046	1.599	1.249	0.902	0.705	0.551	0.477	0.430	0.398	0.344	0.311	0.243	0.210	0.175	0.155	0.137	17
18	2.113	1.656	1.298	0.940	0.737	0.577	0.501	0.452	0.418	0.363	0.328	0.257	0.223	0.186	0.165	0.146	18
19	2.183	1.715	1.348	0.980	0.770	0.605	0.526	0.476	0.440	0.382	0.346	0.272	0.236	0.198	0.176	0.155	19
20	2.254	1.776	1.400	1.022	0.805	0.635	0.552	0.500	0.463	0.403	0.365	0.288	0.250	0.210	0.187	0.165	20
21	2.305	1.820	1.437	1.052	0.830	0.656	0.571	0.518	0.480	0.418	0.379	0.299	0.261	0.219	0.195	0.173	21
22	2.357	1.865	1.475	1.082	0.856	0.677	0.591	0.536	0.497	0.433	0.393	0.311	0.271	0.228	0.204	0.181	22
23	2.410	1.910	1.514	1.114	0.883	0.700	0.611	0.555	0.515	0.449	0.408	0.324	0.282	0.238	0.213	0.189	23
24	2.464	1.957	1.554	1.146	0.911	0.723	0.632	0.574	0.533	0.466	0.424	0.337	0.294	0.248	0.222	0.197	24
25	2.519	2.005	1.596	1.180	0.939	0.747	0.654	0.595	0.553	0.483	0.440	0.350	0.306	0.259	0.232	0.206	25
26	2.576	2.054	1.638	1.214	0.968	0.772	0.676	0.616	0.572	0.501	0.456	0.364	0.319	0.270	0.242	0.215	26
27	2.634	2.104	1.681	1.250	0.999	0.798	0.700	0.637	0.593	0.520	0.474	0.379	0.332	0.281	0.252	0.225	27
28	2.693	2.156	1.726	1.286	1.030	0.824	0.724	0.660	0.614	0.539	0.492	0.394	0.346	0.293	0.263	0.235	28
29	2.754	2.209	1.772	1.324	1.062	0.852	0.749	0.683	0.636	0.559	0.511	0.410	0.360	0.306	0.275	0.245	29
30	2.816	2.263	1.819	1.362	1.095	0.880	0.775	0.707	0.659	0.580	0.530	0.426	0.375	0.319	0.287	0.256	30
31	2.858	2.301	1.852	1.390	1.119	0.900	0.793	0.725	0.676	0.595	0.544	0.438	0.386	0.329	0.296	0.264	31
32	2.902	2.339	1.885	1.418	1.143	0.921	0.812	0.743	0.693	0.611	0.558	0.450	0.397	0.338	0.305	0.273	32
33	2.946	2.378	1.919	1.446	1.167	0.942	0.831	0.761	0.710	0.626	0.573	0.463	0.408	0.349	0.314	0.281	33
34	2.990	2.417	1.954	1.475	1.193	0.964	0.851	0.779	0.728	0.643	0.588	0.476	0.420	0.359	0.324	0.290	34
35	3.036	2.458	1.990	1.505	1.218	0.986	0.872	0.798	0.746	0.659	0.604	0.489	0.432	0.370	0.334	0.299	35
36	3.082	2.499	2.026	1.535	1.245	1.009	0.893	0.818	0.765	0.676	0.620	0.503	0.445	0.381	0.344	0.309	36
37	3.128	2.540	2.062	1.566	1.271	1.032	0.914	0.838	0.784	0.694	0.636	0.517	0.457	0.392	0.355	0.318	37
38	3.176	2.582	2.100	1.597	1.299	1.056	0.936	0.859	0.803	0.712	0.653	0.531	0.471	0.404	0.365	0.329	38
39	3.224	2.625	2.138	1.629	1.327	1.080	0.958	0.880	0.823	0.730	0.671	0.546	0.484	0.416	0.377	0.339	39
40	3.273	2.669	2.177	1.662	1.355	1.105	0.981	0.901	0.844	0.749	0.688	0.561	0.498	0.429	0.388	0.350	40
41	3.308	2.701	2.205	1.687	1.377	1.124	0.999	0.918	0.860	0.764	0.702	0.573	0.509	0.439	0.397	0.358	41
42	3.344	2.733	2.234	1.712	1.399	1.144	1.017	0.935	0.876	0.779	0.716	0.586	0.521	0.449	0.407	0.367	42
43	3.380	2.766	2.264	1.737	1.422	1.164	1.035	0.953	0.893	0.794	0.731	0.598	0.532	0.459	0.417	0.376	43
44	3.416	2.799	2.294	1.763	1.445	1.184	1.054	0.970	0.910	0.810	0.746	0.611	0.544	0.470	0.426	0.385	44
45	3.453	2.833	2.324	1.789	1.468	1.205	1.073	0.988	0.927	0.826	0.761	0.624	0.556	0.481	0.437	0.394	45
46	3.490	2.867	2.355	1.816	1.492	1.226	1.092	1.007	0.945	0.842	0.776	0.638	0.568	0.492	0.447	0.404	46
47	3.527	2.901	2.386	1.843	1.516	1.247	1.112	1.025	0.963	0.859	0.792	0.651	0.581	0.503	0.458	0.414	47
48	3.565	2.936	2.418	1.870	1.540	1.268	1.132	1.045	0.981	0.876	0.808	0.665	0.594	0.515	0.468	0.424	48
49	3.604	2.971	2.450	1.898	1.565	1.290	1.153	1.064	1.000	0.893	0.824	0.680	0.607	0.527	0.480	0.434	49
50	3.642	3.007	2.482	1.926	1.590	1.313	1.174	1.084	1.019	0.911	0.841	0.694	0.621	0.539	0.491	0.445	50
51	3.666	3.029	2.502	1.944	1.606	1.327	1.187	1.096	1.031	0.922	0.852	0.704	0.629	0.547	0.498	0.452	51
52	3.690	3.051	2.522	1.961	1.622	1.341	1.200	1.109	1.043	0.933	0.862	0.713	0.638	0.554	0.505	0.458	52
53	3.714	3.073	2.543	1.979	1.638	1.355	1.213	1.121	1.055	0.944	0.873	0.722	0.646	0.562	0.513	0.465	53
54	3.738	3.095	2.563	1.997	1.654	1.369	1.226	1.134	1.067	0.956	0.884	0.732	0.655	0.570	0.520	0.472	54
55	3.763	3.118	2.584	2.015	1.670	1.384	1.240	1.147	1.079	0.967	0.894	0.741	0.664	0.578	0.528	0.479	55
56	3.787	3.141	2.605	2.034	1.686	1.399	1.254	1.160	1.092	0.979	0.906	0.751	0.673	0.586	0.535	0.486	56

Table 19. Bank-storage loss for reusable-water flows ranging from 1 to 200 cubic feet per second for selected native streamflows for subreach MSR12, Monument Creek at Northern Water Reclamation facility downstream to station 07104905 Monument Creek at Bijou Street at Colorado Springs.—Continued

[Reusable-water flow, native streamflow, and bank-storage loss in cubic feet per second]

Reusable-water flow	Bank-storage loss for indicated native streamflow															Reusable-water flow	
	0	1	2	5	10	20	30	40	50	75	100	200	300	500	700		1,000
57	3.812	3.163	2.625	2.052	1.703	1.413	1.267	1.173	1.105	0.991	0.917	0.761	0.682	0.595	0.543	0.494	57
58	3.837	3.187	2.647	2.071	1.720	1.428	1.281	1.186	1.117	1.002	0.928	0.771	0.692	0.603	0.551	0.501	58
59	3.862	3.210	2.668	2.089	1.737	1.444	1.296	1.200	1.130	1.015	0.940	0.781	0.701	0.612	0.559	0.508	59
60	3.887	3.233	2.689	2.108	1.754	1.459	1.310	1.213	1.144	1.027	0.951	0.791	0.710	0.620	0.567	0.516	60
61	3.912	3.257	2.711	2.127	1.771	1.474	1.324	1.227	1.157	1.039	0.963	0.802	0.720	0.629	0.576	0.524	61
62	3.938	3.280	2.733	2.147	1.788	1.490	1.339	1.241	1.170	1.052	0.975	0.812	0.730	0.638	0.584	0.532	62
63	3.963	3.304	2.755	2.166	1.806	1.506	1.354	1.255	1.184	1.064	0.987	0.823	0.740	0.647	0.592	0.539	63
64	3.989	3.328	2.777	2.186	1.824	1.522	1.369	1.270	1.198	1.077	0.999	0.834	0.750	0.656	0.601	0.548	64
65	4.015	3.353	2.799	2.206	1.842	1.538	1.384	1.284	1.212	1.090	1.012	0.845	0.760	0.666	0.610	0.556	65
66	4.041	3.377	2.822	2.226	1.860	1.554	1.399	1.299	1.226	1.103	1.024	0.856	0.770	0.675	0.619	0.564	66
67	4.068	3.402	2.845	2.246	1.878	1.571	1.415	1.313	1.240	1.117	1.037	0.867	0.781	0.684	0.628	0.572	67
68	4.094	3.426	2.867	2.266	1.896	1.587	1.430	1.328	1.254	1.130	1.050	0.878	0.792	0.694	0.637	0.581	68
69	4.121	3.451	2.891	2.287	1.915	1.604	1.446	1.343	1.269	1.144	1.063	0.890	0.802	0.704	0.646	0.590	69
70	4.148	3.476	2.914	2.307	1.934	1.621	1.462	1.359	1.284	1.158	1.076	0.902	0.813	0.714	0.655	0.598	70
71	4.175	3.502	2.937	2.328	1.953	1.638	1.478	1.374	1.298	1.172	1.089	0.914	0.824	0.724	0.665	0.607	71
72	4.202	3.527	2.961	2.349	1.972	1.656	1.494	1.390	1.314	1.186	1.103	0.926	0.836	0.734	0.675	0.616	72
73	4.229	3.553	2.985	2.371	1.991	1.673	1.511	1.405	1.329	1.200	1.116	0.938	0.847	0.745	0.684	0.626	73
74	4.257	3.579	3.009	2.392	2.011	1.691	1.528	1.421	1.344	1.214	1.130	0.950	0.858	0.755	0.694	0.635	74
75	4.285	3.605	3.033	2.414	2.031	1.709	1.544	1.438	1.360	1.229	1.144	0.963	0.870	0.766	0.704	0.645	75
76	4.313	3.631	3.057	2.436	2.051	1.727	1.562	1.454	1.376	1.244	1.158	0.975	0.882	0.777	0.715	0.654	76
77	4.341	3.658	3.082	2.458	2.071	1.745	1.579	1.470	1.392	1.259	1.173	0.988	0.894	0.788	0.725	0.664	77
78	4.369	3.684	3.107	2.480	2.091	1.764	1.596	1.487	1.408	1.274	1.187	1.001	0.906	0.799	0.736	0.674	78
79	4.397	3.711	3.132	2.502	2.112	1.782	1.614	1.504	1.424	1.290	1.202	1.014	0.918	0.810	0.746	0.684	79
80	4.426	3.738	3.157	2.525	2.133	1.801	1.632	1.521	1.441	1.305	1.217	1.028	0.931	0.822	0.757	0.694	80
81	4.455	3.765	3.182	2.548	2.154	1.820	1.650	1.538	1.457	1.321	1.232	1.041	0.944	0.834	0.768	0.704	81
82	4.484	3.793	3.208	2.571	2.175	1.840	1.668	1.556	1.474	1.337	1.247	1.055	0.956	0.845	0.779	0.715	82
83	4.513	3.820	3.234	2.594	2.196	1.859	1.686	1.574	1.491	1.353	1.262	1.069	0.969	0.857	0.791	0.726	83
84	4.543	3.848	3.260	2.618	2.218	1.879	1.705	1.592	1.509	1.369	1.278	1.083	0.983	0.869	0.802	0.737	84
85	4.572	3.876	3.286	2.642	2.240	1.899	1.724	1.610	1.526	1.386	1.294	1.097	0.996	0.882	0.814	0.748	85
86	4.602	3.904	3.313	2.666	2.262	1.919	1.743	1.628	1.544	1.402	1.310	1.111	1.009	0.894	0.826	0.759	86
87	4.632	3.933	3.339	2.690	2.284	1.939	1.762	1.646	1.562	1.419	1.326	1.126	1.023	0.907	0.838	0.770	87
88	4.662	3.962	3.366	2.714	2.306	1.960	1.782	1.665	1.580	1.436	1.342	1.141	1.037	0.920	0.850	0.782	88
89	4.693	3.990	3.393	2.739	2.329	1.980	1.801	1.684	1.598	1.454	1.359	1.156	1.051	0.933	0.862	0.793	89
90	4.723	4.019	3.421	2.764	2.352	2.001	1.821	1.703	1.617	1.471	1.376	1.171	1.065	0.946	0.875	0.805	90
91	4.754	4.049	3.448	2.789	2.375	2.023	1.841	1.723	1.636	1.489	1.393	1.186	1.080	0.959	0.887	0.817	91
92	4.785	4.078	3.476	2.814	2.398	2.044	1.862	1.742	1.655	1.507	1.410	1.202	1.095	0.973	0.900	0.829	92
93	4.816	4.108	3.504	2.839	2.422	2.066	1.882	1.762	1.674	1.525	1.428	1.218	1.110	0.987	0.913	0.842	93
94	4.848	4.138	3.532	2.865	2.446	2.088	1.903	1.782	1.693	1.544	1.445	1.234	1.125	1.001	0.927	0.854	94
95	4.879	4.168	3.560	2.891	2.470	2.110	1.924	1.802	1.713	1.562	1.463	1.250	1.140	1.015	0.940	0.867	95
96	4.911	4.198	3.589	2.917	2.494	2.132	1.945	1.823	1.733	1.581	1.481	1.266	1.155	1.029	0.954	0.880	96
97	4.943	4.229	3.618	2.944	2.518	2.155	1.967	1.843	1.753	1.600	1.500	1.283	1.171	1.044	0.968	0.893	97
98	4.975	4.260	3.647	2.970	2.543	2.177	1.988	1.864	1.773	1.619	1.518	1.300	1.187	1.059	0.982	0.906	98
99	5.008	4.291	3.676	2.997	2.568	2.200	2.010	1.885	1.794	1.639	1.537	1.317	1.203	1.074	0.996	0.920	99
100	5.040	4.322	3.706	3.024	2.593	2.224	2.033	1.907	1.815	1.659	1.556	1.334	1.220	1.089	1.011	0.934	100
101	5.060	4.340	3.722	3.039	2.607	2.236	2.044	1.918	1.825	1.668	1.565	1.343	1.227	1.096	1.017	0.940	101
102	5.079	4.358	3.739	3.053	2.620	2.248	2.055	1.928	1.836	1.678	1.575	1.351	1.235	1.103	1.024	0.947	102
103	5.099	4.376	3.755	3.068	2.633	2.260	2.066	1.939	1.846	1.688	1.584	1.360	1.243	1.111	1.031	0.953	103
104	5.118	4.394	3.772	3.083	2.646	2.272	2.078	1.950	1.857	1.698	1.594	1.368	1.251	1.118	1.038	0.960	104
105	5.138	4.412	3.788	3.097	2.660	2.284	2.089	1.961	1.867	1.708	1.603	1.377	1.259	1.126	1.045	0.966	105
106	5.158	4.430	3.805	3.112	2.673	2.296	2.100	1.972	1.878	1.718	1.613	1.385	1.267	1.133	1.052	0.973	106
107	5.178	4.448	3.822	3.127	2.687	2.308	2.112	1.983	1.889	1.728	1.622	1.394	1.276	1.140	1.059	0.980	107
108	5.198	4.467	3.839	3.142	2.700	2.320	2.124	1.994	1.899	1.738	1.632	1.403	1.284	1.148	1.067	0.987	108
109	5.218	4.485	3.856	3.157	2.714	2.333	2.135	2.005	1.910	1.748	1.642	1.412	1.292	1.156	1.074	0.993	109
110	5.238	4.504	3.873	3.172	2.728	2.345	2.147	2.017	1.921	1.759	1.652	1.420	1.300	1.163	1.081	1.000	110
111	5.258	4.522	3.890	3.187	2.741	2.358	2.159	2.028	1.932	1.769	1.662	1.429	1.309	1.171	1.088	1.007	111
112	5.278	4.541	3.907	3.202	2.755	2.370	2.171	2.039	1.943	1.779	1.672	1.438	1.317	1.179	1.096	1.014	112

Table 19. Bank-storage loss for reusable-water flows ranging from 1 to 200 cubic feet per second for selected native streamflows for subreach MSR12, Monument Creek at Northern Water Reclamation facility downstream to station 07104905 Monument Creek at Bijou Street at Colorado Springs.—Continued

[Reusable-water flow, native streamflow, and bank-storage loss in cubic feet per second]

Reusable-water flow	Bank-storage loss for indicated native streamflow															Reusable-water flow	
	0	1	2	5	10	20	30	40	50	75	100	200	300	500	700		1,000
113	5.298	4.560	3.924	3.218	2.769	2.383	2.183	2.051	1.954	1.790	1.682	1.447	1.326	1.187	1.103	1.021	113
114	5.319	4.578	3.941	3.233	2.783	2.396	2.195	2.062	1.965	1.800	1.692	1.456	1.334	1.195	1.111	1.028	114
115	5.339	4.597	3.959	3.248	2.797	2.409	2.207	2.074	1.976	1.811	1.702	1.465	1.343	1.202	1.118	1.035	115
116	5.360	4.616	3.976	3.264	2.811	2.421	2.219	2.086	1.988	1.821	1.712	1.475	1.351	1.210	1.126	1.043	116
117	5.380	4.635	3.994	3.280	2.826	2.434	2.231	2.097	1.999	1.832	1.722	1.484	1.360	1.218	1.133	1.050	117
118	5.401	4.655	4.011	3.295	2.840	2.447	2.243	2.109	2.010	1.843	1.733	1.493	1.369	1.227	1.141	1.057	118
119	5.422	4.674	4.029	3.311	2.854	2.460	2.256	2.121	2.022	1.854	1.743	1.503	1.378	1.235	1.149	1.064	119
120	5.443	4.693	4.047	3.327	2.869	2.473	2.268	2.133	2.033	1.865	1.753	1.512	1.386	1.243	1.157	1.072	120
121	5.464	4.712	4.064	3.343	2.883	2.487	2.281	2.145	2.045	1.876	1.764	1.521	1.395	1.251	1.164	1.079	121
122	5.485	4.732	4.082	3.359	2.898	2.500	2.293	2.157	2.057	1.887	1.774	1.531	1.404	1.259	1.172	1.087	122
123	5.506	4.751	4.100	3.375	2.912	2.513	2.306	2.169	2.068	1.898	1.785	1.541	1.413	1.268	1.180	1.094	123
124	5.527	4.771	4.118	3.391	2.927	2.527	2.318	2.181	2.080	1.909	1.796	1.550	1.422	1.276	1.188	1.102	124
125	5.548	4.791	4.137	3.407	2.942	2.540	2.331	2.193	2.092	1.920	1.806	1.560	1.432	1.285	1.196	1.109	125
126	5.569	4.810	4.155	3.423	2.957	2.554	2.344	2.206	2.104	1.931	1.817	1.570	1.441	1.293	1.204	1.117	126
127	5.591	4.830	4.173	3.440	2.972	2.567	2.357	2.218	2.116	1.943	1.828	1.579	1.450	1.302	1.213	1.125	127
128	5.612	4.850	4.191	3.456	2.987	2.581	2.370	2.231	2.128	1.954	1.839	1.589	1.459	1.310	1.221	1.132	128
129	5.634	4.870	4.210	3.472	3.002	2.595	2.383	2.243	2.140	1.965	1.850	1.599	1.469	1.319	1.229	1.140	129
130	5.656	4.890	4.228	3.489	3.017	2.609	2.396	2.256	2.153	1.977	1.861	1.609	1.478	1.328	1.237	1.148	130
131	5.677	4.910	4.247	3.506	3.032	2.623	2.409	2.268	2.165	1.989	1.872	1.619	1.488	1.337	1.246	1.156	131
132	5.699	4.931	4.266	3.522	3.048	2.637	2.422	2.281	2.177	2.000	1.884	1.630	1.497	1.346	1.254	1.164	132
133	5.721	4.951	4.285	3.539	3.063	2.651	2.436	2.294	2.190	2.012	1.895	1.640	1.507	1.354	1.263	1.172	133
134	5.743	4.972	4.303	3.556	3.078	2.665	2.449	2.307	2.202	2.024	1.906	1.650	1.516	1.363	1.271	1.180	134
135	5.765	4.992	4.322	3.573	3.094	2.679	2.463	2.320	2.215	2.036	1.918	1.660	1.526	1.373	1.280	1.188	135
136	5.787	5.013	4.341	3.590	3.110	2.693	2.476	2.333	2.227	2.048	1.929	1.671	1.536	1.382	1.289	1.197	136
137	5.810	5.033	4.361	3.607	3.125	2.708	2.490	2.346	2.240	2.060	1.941	1.681	1.546	1.391	1.297	1.205	137
138	5.832	5.054	4.380	3.625	3.141	2.722	2.503	2.359	2.253	2.072	1.952	1.692	1.556	1.400	1.306	1.213	138
139	5.854	5.075	4.399	3.642	3.157	2.737	2.517	2.372	2.266	2.084	1.964	1.702	1.566	1.409	1.315	1.222	139
140	5.877	5.096	4.419	3.659	3.173	2.751	2.531	2.386	2.279	2.096	1.976	1.713	1.576	1.419	1.324	1.230	140
141	5.900	5.117	4.438	3.677	3.189	2.766	2.545	2.399	2.292	2.108	1.987	1.724	1.586	1.428	1.333	1.239	141
142	5.922	5.138	4.458	3.694	3.205	2.781	2.559	2.412	2.305	2.121	1.999	1.735	1.596	1.438	1.342	1.247	142
143	5.945	5.159	4.477	3.712	3.221	2.795	2.573	2.426	2.318	2.133	2.011	1.745	1.607	1.447	1.351	1.256	143
144	5.968	5.181	4.497	3.730	3.238	2.810	2.587	2.440	2.331	2.146	2.023	1.756	1.617	1.457	1.360	1.264	144
145	5.991	5.202	4.517	3.748	3.254	2.825	2.601	2.453	2.344	2.158	2.035	1.767	1.627	1.466	1.369	1.273	145
146	6.014	5.223	4.537	3.765	3.270	2.840	2.616	2.467	2.358	2.171	2.048	1.778	1.638	1.476	1.378	1.282	146
147	6.037	5.245	4.557	3.783	3.287	2.856	2.630	2.481	2.371	2.184	2.060	1.790	1.648	1.486	1.388	1.291	147
148	6.060	5.267	4.577	3.801	3.304	2.871	2.645	2.495	2.385	2.197	2.072	1.801	1.659	1.496	1.397	1.300	148
149	6.084	5.288	4.597	3.820	3.320	2.886	2.659	2.509	2.398	2.209	2.085	1.812	1.669	1.506	1.407	1.309	149
150	6.107	5.310	4.617	3.838	3.337	2.902	2.674	2.523	2.412	2.222	2.097	1.823	1.680	1.516	1.416	1.318	150
151	6.131	5.332	4.637	3.856	3.354	2.917	2.688	2.537	2.426	2.235	2.110	1.835	1.691	1.526	1.426	1.327	151
152	6.154	5.354	4.658	3.875	3.371	2.933	2.703	2.551	2.439	2.249	2.122	1.846	1.702	1.536	1.435	1.336	152
153	6.178	5.376	4.678	3.893	3.388	2.948	2.718	2.566	2.453	2.262	2.135	1.858	1.713	1.546	1.445	1.345	153
154	6.202	5.398	4.699	3.912	3.405	2.964	2.733	2.580	2.467	2.275	2.148	1.870	1.724	1.556	1.455	1.355	154
155	6.225	5.421	4.720	3.930	3.422	2.980	2.748	2.595	2.481	2.288	2.161	1.881	1.735	1.567	1.465	1.364	155
156	6.249	5.443	4.740	3.949	3.440	2.996	2.763	2.609	2.496	2.302	2.174	1.893	1.746	1.577	1.475	1.374	156
157	6.273	5.465	4.761	3.968	3.457	3.012	2.778	2.624	2.510	2.315	2.187	1.905	1.757	1.587	1.485	1.383	157
158	6.298	5.488	4.782	3.987	3.474	3.028	2.794	2.639	2.524	2.329	2.200	1.917	1.769	1.598	1.495	1.393	158
159	6.322	5.511	4.803	4.006	3.492	3.044	2.809	2.653	2.539	2.343	2.213	1.929	1.780	1.609	1.505	1.402	159
160	6.346	5.533	4.825	4.025	3.510	3.060	2.824	2.668	2.553	2.356	2.226	1.941	1.791	1.619	1.515	1.412	160
161	6.371	5.556	4.846	4.044	3.527	3.076	2.840	2.683	2.568	2.370	2.239	1.953	1.803	1.630	1.525	1.422	161
162	6.395	5.579	4.867	4.064	3.545	3.093	2.856	2.698	2.582	2.384	2.253	1.965	1.815	1.641	1.536	1.431	162
163	6.420	5.602	4.889	4.083	3.563	3.109	2.871	2.713	2.597	2.398	2.266	1.978	1.826	1.652	1.546	1.441	163
164	6.444	5.625	4.910	4.103	3.581	3.126	2.887	2.729	2.612	2.412	2.280	1.990	1.838	1.663	1.557	1.451	164
165	6.469	5.648	4.932	4.122	3.599	3.143	2.903	2.744	2.627	2.426	2.293	2.003	1.850	1.674	1.567	1.461	165
166	6.494	5.672	4.954	4.142	3.617	3.159	2.919	2.759	2.642	2.441	2.307	2.015	1.862	1.685	1.578	1.472	166
167	6.519	5.695	4.975	4.162	3.636	3.176	2.935	2.775	2.657	2.455	2.321	2.028	1.874	1.696	1.588	1.482	167
168	6.544	5.719	4.997	4.182	3.654	3.193	2.951	2.790	2.672	2.469	2.335	2.040	1.886	1.707	1.599	1.492	168

Table 19. Bank-storage loss for reusable-water flows ranging from 1 to 200 cubic feet per second for selected native streamflows for subreach MSR12, Monument Creek at Northern Water Reclamation facility downstream to station 07104905 Monument Creek at Bijou Street at Colorado Springs.—Continued

[Reusable-water flow, native streamflow, and bank-storage loss in cubic feet per second]

Reusable- water flow	Bank-storage loss for indicated native streamflow															Reusable- water flow	
	0	1	2	5	10	20	30	40	50	75	100	200	300	500	700		1,000
169	6.569	5.742	5.019	4.201	3.673	3.210	2.967	2.806	2.687	2.484	2.349	2.053	1.898	1.719	1.610	1.502	169
170	6.594	5.766	5.041	4.222	3.691	3.227	2.984	2.822	2.702	2.498	2.363	2.066	1.910	1.730	1.621	1.513	170
171	6.620	5.790	5.064	4.242	3.710	3.245	3.000	2.838	2.718	2.513	2.377	2.079	1.922	1.741	1.632	1.523	171
172	6.645	5.814	5.086	4.262	3.729	3.262	3.016	2.854	2.733	2.528	2.391	2.092	1.935	1.753	1.643	1.534	172
173	6.671	5.838	5.108	4.282	3.747	3.279	3.033	2.870	2.749	2.543	2.406	2.105	1.947	1.765	1.654	1.544	173
174	6.697	5.862	5.131	4.303	3.766	3.297	3.050	2.886	2.765	2.558	2.420	2.118	1.960	1.776	1.665	1.555	174
175	6.722	5.886	5.153	4.323	3.785	3.314	3.067	2.902	2.780	2.573	2.435	2.132	1.972	1.788	1.676	1.566	175
176	6.748	5.910	5.176	4.344	3.805	3.332	3.083	2.918	2.796	2.588	2.449	2.145	1.985	1.800	1.688	1.577	176
177	6.774	5.935	5.199	4.365	3.824	3.350	3.100	2.935	2.812	2.603	2.464	2.158	1.998	1.812	1.699	1.587	177
178	6.800	5.959	5.222	4.386	3.843	3.368	3.117	2.951	2.828	2.618	2.478	2.172	2.010	1.824	1.711	1.598	178
179	6.826	5.984	5.245	4.407	3.863	3.386	3.135	2.968	2.844	2.633	2.493	2.186	2.023	1.836	1.722	1.609	179
180	6.853	6.008	5.268	4.428	3.882	3.404	3.152	2.984	2.861	2.649	2.508	2.199	2.036	1.848	1.734	1.621	180
181	6.879	6.033	5.291	4.449	3.902	3.422	3.169	3.001	2.877	2.664	2.523	2.213	2.049	1.861	1.746	1.632	181
182	6.905	6.058	5.315	4.470	3.921	3.440	3.187	3.018	2.893	2.680	2.538	2.227	2.063	1.873	1.758	1.643	182
183	6.932	6.083	5.338	4.491	3.941	3.458	3.204	3.035	2.910	2.696	2.554	2.241	2.076	1.885	1.769	1.654	183
184	6.959	6.108	5.361	4.513	3.961	3.477	3.222	3.052	2.927	2.712	2.569	2.255	2.089	1.898	1.781	1.666	184
185	6.985	6.133	5.385	4.534	3.981	3.495	3.239	3.069	2.943	2.728	2.584	2.269	2.103	1.910	1.794	1.677	185
186	7.012	6.159	5.409	4.556	4.001	3.514	3.257	3.086	2.960	2.744	2.600	2.283	2.116	1.923	1.806	1.689	186
187	7.039	6.184	5.433	4.578	4.022	3.533	3.275	3.104	2.977	2.760	2.615	2.297	2.130	1.936	1.818	1.701	187
188	7.066	6.210	5.457	4.600	4.042	3.552	3.293	3.121	2.994	2.776	2.631	2.312	2.143	1.949	1.830	1.712	188
189	7.094	6.235	5.481	4.622	4.062	3.571	3.311	3.139	3.011	2.792	2.647	2.326	2.157	1.962	1.843	1.724	189
190	7.121	6.261	5.505	4.644	4.083	3.590	3.329	3.156	3.028	2.809	2.662	2.341	2.171	1.975	1.855	1.736	190
191	7.148	6.287	5.529	4.666	4.103	3.609	3.348	3.174	3.045	2.825	2.678	2.356	2.185	1.988	1.868	1.748	191
192	7.176	6.313	5.553	4.688	4.124	3.628	3.366	3.192	3.063	2.842	2.694	2.370	2.199	2.001	1.880	1.760	192
193	7.203	6.339	5.578	4.710	4.145	3.647	3.385	3.210	3.080	2.858	2.711	2.385	2.213	2.014	1.893	1.772	193
194	7.231	6.365	5.602	4.733	4.166	3.667	3.403	3.228	3.098	2.875	2.727	2.400	2.227	2.028	1.906	1.785	194
195	7.259	6.391	5.627	4.756	4.187	3.687	3.422	3.246	3.116	2.892	2.743	2.415	2.242	2.041	1.919	1.797	195
196	7.287	6.418	5.652	4.778	4.208	3.706	3.441	3.264	3.133	2.909	2.760	2.430	2.256	2.055	1.932	1.810	196
197	7.315	6.444	5.677	4.801	4.230	3.726	3.460	3.282	3.151	2.926	2.776	2.446	2.271	2.068	1.945	1.822	197
198	7.343	6.471	5.702	4.824	4.251	3.746	3.479	3.301	3.169	2.943	2.793	2.461	2.285	2.082	1.958	1.835	198
199	7.371	6.497	5.727	4.847	4.272	3.766	3.498	3.319	3.187	2.960	2.809	2.476	2.300	2.096	1.971	1.847	199
200	7.400	6.524	5.752	4.870	4.294	3.786	3.517	3.338	3.205	2.978	2.826	2.492	2.315	2.110	1.985	1.860	200

Table 20. Bank-storage loss for reusable-water flows ranging from 1 to 200 cubic feet per second for selected native streamflows for subreach MSR13, station 07104905 Monument Creek at Bijou Street at Colorado Springs downstream to Fountain Creek at confluence with Monument Creek.

[Reusable-water flow, native streamflow, and bank-storage loss in cubic feet per second]

Reusable-water flow	Bank-storage loss for indicated native streamflow															Reusable-water flow	
	0	1	2	5	10	20	30	40	50	75	100	200	300	500	700		1,000
1	0.332	0.220	0.146	0.084	0.056	0.037	0.029	0.024	0.021	0.017	0.014	0.009	0.007	0.005	0.004	0.004	1
2	0.527	0.352	0.236	0.138	0.093	0.062	0.049	0.041	0.036	0.029	0.024	0.016	0.013	0.010	0.008	0.006	2
3	0.835	0.565	0.382	0.227	0.154	0.104	0.083	0.070	0.062	0.049	0.042	0.028	0.023	0.017	0.014	0.011	3
4	0.995	0.679	0.463	0.279	0.190	0.130	0.104	0.089	0.078	0.063	0.053	0.036	0.029	0.022	0.018	0.015	4
5	1.186	0.816	0.562	0.343	0.236	0.162	0.130	0.112	0.099	0.080	0.068	0.047	0.038	0.029	0.024	0.020	5
6	1.309	0.908	0.630	0.388	0.269	0.187	0.151	0.130	0.115	0.093	0.080	0.055	0.045	0.034	0.029	0.024	6
7	1.444	1.010	0.706	0.440	0.308	0.215	0.175	0.150	0.134	0.109	0.094	0.066	0.053	0.041	0.034	0.029	7
8	1.539	1.083	0.762	0.479	0.337	0.237	0.193	0.167	0.149	0.121	0.105	0.074	0.060	0.046	0.039	0.033	8
9	1.640	1.161	0.823	0.521	0.369	0.262	0.214	0.185	0.166	0.135	0.117	0.083	0.068	0.053	0.045	0.037	9
10	1.748	1.246	0.888	0.568	0.405	0.288	0.237	0.206	0.184	0.151	0.131	0.094	0.077	0.060	0.051	0.043	10
11	1.811	1.298	0.930	0.598	0.429	0.307	0.253	0.220	0.198	0.163	0.142	0.101	0.084	0.065	0.056	0.047	11
12	1.877	1.351	0.973	0.631	0.454	0.327	0.270	0.236	0.212	0.175	0.153	0.110	0.091	0.071	0.061	0.051	12
13	1.945	1.408	1.019	0.665	0.481	0.348	0.288	0.252	0.227	0.188	0.164	0.119	0.099	0.078	0.066	0.056	13
14	2.015	1.466	1.067	0.700	0.510	0.371	0.308	0.270	0.243	0.202	0.177	0.129	0.107	0.085	0.073	0.062	14
15	2.089	1.527	1.117	0.738	0.540	0.395	0.329	0.289	0.261	0.217	0.191	0.140	0.116	0.092	0.079	0.068	15
16	2.141	1.571	1.153	0.766	0.562	0.413	0.344	0.303	0.274	0.229	0.201	0.148	0.123	0.098	0.084	0.072	16
17	2.194	1.616	1.190	0.794	0.585	0.431	0.360	0.317	0.288	0.241	0.212	0.156	0.131	0.104	0.090	0.077	17
18	2.249	1.662	1.229	0.824	0.609	0.450	0.377	0.333	0.302	0.253	0.223	0.165	0.138	0.111	0.096	0.082	18
19	2.305	1.710	1.269	0.855	0.634	0.471	0.395	0.349	0.317	0.266	0.235	0.175	0.147	0.118	0.102	0.087	19
20	2.362	1.759	1.310	0.887	0.660	0.492	0.414	0.366	0.333	0.280	0.248	0.185	0.155	0.125	0.108	0.093	20
21	2.398	1.790	1.337	0.909	0.678	0.507	0.427	0.378	0.344	0.290	0.257	0.192	0.162	0.130	0.113	0.097	21
22	2.434	1.822	1.365	0.931	0.697	0.522	0.441	0.391	0.356	0.300	0.266	0.200	0.169	0.136	0.118	0.102	22
23	2.471	1.855	1.393	0.953	0.716	0.537	0.455	0.404	0.368	0.311	0.276	0.207	0.175	0.142	0.124	0.107	23
24	2.508	1.888	1.422	0.977	0.735	0.554	0.469	0.417	0.381	0.322	0.286	0.216	0.183	0.148	0.129	0.112	24
25	2.545	1.922	1.451	1.001	0.756	0.570	0.484	0.431	0.393	0.334	0.297	0.224	0.190	0.155	0.135	0.117	25
26	2.584	1.956	1.481	1.025	0.776	0.588	0.499	0.445	0.407	0.346	0.308	0.233	0.198	0.161	0.141	0.122	26
27	2.622	1.991	1.512	1.050	0.797	0.605	0.515	0.459	0.421	0.358	0.319	0.242	0.206	0.168	0.147	0.128	27
28	2.662	2.027	1.543	1.076	0.819	0.623	0.532	0.475	0.435	0.371	0.331	0.252	0.215	0.176	0.154	0.134	28
29	2.702	2.063	1.575	1.102	0.841	0.642	0.548	0.490	0.450	0.384	0.343	0.262	0.224	0.183	0.161	0.140	29
30	2.743	2.099	1.607	1.129	0.864	0.662	0.566	0.507	0.465	0.398	0.356	0.272	0.233	0.191	0.168	0.147	30
31	2.770	2.125	1.630	1.148	0.881	0.676	0.579	0.518	0.476	0.407	0.365	0.280	0.240	0.197	0.173	0.151	31
32	2.798	2.150	1.653	1.167	0.897	0.690	0.591	0.530	0.487	0.418	0.374	0.288	0.247	0.203	0.179	0.156	32
33	2.825	2.176	1.676	1.187	0.914	0.704	0.605	0.543	0.499	0.428	0.384	0.296	0.254	0.210	0.185	0.161	33
34	2.854	2.203	1.700	1.207	0.932	0.719	0.618	0.555	0.511	0.439	0.394	0.304	0.261	0.216	0.191	0.167	34
35	2.882	2.229	1.724	1.228	0.949	0.734	0.632	0.568	0.523	0.450	0.404	0.313	0.269	0.223	0.197	0.172	35
36	2.911	2.256	1.748	1.248	0.967	0.750	0.646	0.581	0.535	0.461	0.415	0.322	0.277	0.230	0.203	0.178	36
37	2.940	2.283	1.773	1.269	0.986	0.766	0.660	0.595	0.548	0.473	0.426	0.331	0.285	0.237	0.209	0.184	37
38	2.969	2.311	1.798	1.291	1.005	0.782	0.675	0.608	0.561	0.485	0.437	0.340	0.293	0.244	0.216	0.190	38
39	2.999	2.339	1.824	1.313	1.024	0.798	0.690	0.622	0.575	0.497	0.448	0.349	0.302	0.251	0.223	0.196	39
40	3.029	2.367	1.849	1.335	1.043	0.815	0.706	0.637	0.588	0.509	0.460	0.359	0.311	0.259	0.230	0.203	40
41	3.051	2.388	1.869	1.352	1.058	0.828	0.718	0.648	0.599	0.519	0.469	0.367	0.318	0.265	0.236	0.208	41
42	3.074	2.410	1.889	1.369	1.073	0.841	0.730	0.660	0.610	0.529	0.478	0.375	0.325	0.272	0.241	0.213	42
43	3.097	2.432	1.909	1.387	1.089	0.855	0.742	0.671	0.621	0.539	0.488	0.383	0.332	0.278	0.247	0.218	43
44	3.120	2.454	1.930	1.405	1.105	0.869	0.755	0.683	0.632	0.550	0.497	0.391	0.340	0.285	0.253	0.224	44
45	3.143	2.476	1.950	1.423	1.121	0.883	0.768	0.695	0.644	0.560	0.507	0.400	0.348	0.292	0.260	0.230	45
46	3.166	2.498	1.971	1.441	1.137	0.897	0.781	0.708	0.656	0.571	0.517	0.408	0.355	0.298	0.266	0.236	46
47	3.190	2.521	1.992	1.459	1.153	0.912	0.794	0.720	0.668	0.582	0.528	0.417	0.363	0.306	0.273	0.242	47
48	3.213	2.543	2.013	1.478	1.170	0.926	0.808	0.733	0.680	0.593	0.538	0.426	0.372	0.313	0.279	0.248	48
49	3.237	2.566	2.035	1.497	1.187	0.941	0.822	0.746	0.692	0.605	0.549	0.435	0.380	0.320	0.286	0.254	49
50	3.261	2.590	2.056	1.516	1.204	0.956	0.836	0.760	0.705	0.616	0.560	0.445	0.389	0.328	0.293	0.260	50
51	3.277	2.605	2.071	1.529	1.215	0.966	0.845	0.768	0.713	0.623	0.567	0.451	0.394	0.333	0.298	0.264	51
52	3.294	2.621	2.085	1.541	1.226	0.976	0.854	0.776	0.721	0.631	0.574	0.456	0.399	0.337	0.302	0.268	52
53	3.311	2.636	2.100	1.554	1.237	0.985	0.863	0.785	0.729	0.638	0.581	0.463	0.405	0.342	0.306	0.273	53
54	3.327	2.652	2.114	1.567	1.249	0.995	0.872	0.793	0.737	0.646	0.588	0.469	0.410	0.347	0.311	0.277	54
55	3.344	2.668	2.129	1.579	1.260	1.005	0.881	0.802	0.746	0.654	0.595	0.475	0.416	0.352	0.316	0.281	55
56	3.361	2.684	2.144	1.592	1.272	1.015	0.890	0.811	0.754	0.661	0.602	0.481	0.422	0.357	0.320	0.285	56

Table 20. Bank-storage loss for reusable-water flows ranging from 1 to 200 cubic feet per second for selected native streamflows for subreach MSR13, station 07104905 Monument Creek at Bijou Street at Colorado Springs downstream to Fountain Creek at confluence with Monument Creek.—Continued

[Reusable-water flow, native streamflow, and bank-storage loss in cubic feet per second]

Reusable- water flow	Bank-storage loss for indicated native streamflow															Reusable- water flow	
	0	1	2	5	10	20	30	40	50	75	100	200	300	500	700		1,000
57	3.378	2.700	2.158	1.605	1.283	1.026	0.900	0.820	0.763	0.669	0.610	0.487	0.428	0.362	0.325	0.290	57
58	3.395	2.716	2.173	1.618	1.295	1.036	0.909	0.829	0.771	0.677	0.617	0.494	0.433	0.368	0.330	0.294	58
59	3.412	2.733	2.188	1.632	1.307	1.046	0.919	0.838	0.780	0.685	0.625	0.500	0.439	0.373	0.335	0.299	59
60	3.430	2.749	2.204	1.645	1.319	1.057	0.929	0.847	0.789	0.693	0.632	0.507	0.445	0.378	0.340	0.303	60
61	3.447	2.766	2.219	1.658	1.331	1.068	0.938	0.857	0.798	0.701	0.640	0.514	0.451	0.384	0.345	0.308	61
62	3.464	2.782	2.234	1.672	1.343	1.078	0.948	0.866	0.807	0.710	0.648	0.520	0.458	0.389	0.350	0.313	62
63	3.482	2.799	2.250	1.686	1.355	1.089	0.958	0.875	0.816	0.718	0.656	0.527	0.464	0.395	0.355	0.318	63
64	3.500	2.816	2.265	1.699	1.367	1.100	0.969	0.885	0.825	0.727	0.664	0.534	0.470	0.401	0.361	0.322	64
65	3.517	2.832	2.281	1.713	1.380	1.111	0.979	0.895	0.834	0.735	0.672	0.541	0.477	0.406	0.366	0.327	65
66	3.535	2.849	2.297	1.727	1.392	1.122	0.989	0.905	0.844	0.744	0.680	0.548	0.483	0.412	0.371	0.332	66
67	3.553	2.867	2.313	1.741	1.405	1.134	1.000	0.915	0.853	0.753	0.689	0.556	0.490	0.418	0.377	0.337	67
68	3.571	2.884	2.329	1.756	1.418	1.145	1.010	0.925	0.863	0.762	0.697	0.563	0.497	0.424	0.383	0.343	68
69	3.589	2.901	2.345	1.770	1.431	1.156	1.021	0.935	0.873	0.771	0.706	0.570	0.504	0.430	0.388	0.348	69
70	3.607	2.918	2.361	1.784	1.444	1.168	1.032	0.945	0.883	0.780	0.714	0.578	0.510	0.437	0.394	0.353	70
71	3.625	2.936	2.378	1.799	1.457	1.180	1.043	0.955	0.893	0.789	0.723	0.585	0.517	0.443	0.400	0.359	71
72	3.644	2.953	2.394	1.814	1.470	1.192	1.054	0.966	0.903	0.798	0.732	0.593	0.525	0.449	0.406	0.364	72
73	3.662	2.971	2.411	1.829	1.484	1.204	1.065	0.977	0.913	0.808	0.741	0.601	0.532	0.456	0.412	0.370	73
74	3.681	2.989	2.427	1.843	1.497	1.216	1.076	0.987	0.923	0.817	0.750	0.609	0.539	0.462	0.418	0.376	74
75	3.699	3.007	2.444	1.859	1.511	1.228	1.088	0.998	0.934	0.827	0.759	0.617	0.546	0.469	0.424	0.381	75
76	3.718	3.025	2.461	1.874	1.524	1.240	1.099	1.009	0.944	0.837	0.768	0.625	0.554	0.476	0.431	0.387	76
77	3.737	3.043	2.478	1.889	1.538	1.253	1.111	1.020	0.955	0.847	0.778	0.633	0.562	0.483	0.437	0.393	77
78	3.756	3.061	2.495	1.904	1.552	1.265	1.123	1.031	0.966	0.857	0.787	0.642	0.569	0.490	0.443	0.399	78
79	3.775	3.080	2.513	1.920	1.566	1.278	1.135	1.043	0.977	0.867	0.797	0.650	0.577	0.497	0.450	0.405	79
80	3.794	3.098	2.530	1.936	1.581	1.291	1.147	1.054	0.988	0.877	0.807	0.659	0.585	0.504	0.457	0.412	80
81	3.813	3.117	2.548	1.952	1.595	1.304	1.159	1.066	0.999	0.888	0.816	0.667	0.593	0.511	0.464	0.418	81
82	3.832	3.135	2.565	1.967	1.610	1.317	1.171	1.078	1.010	0.898	0.826	0.676	0.601	0.519	0.470	0.424	82
83	3.852	3.154	2.583	1.984	1.624	1.330	1.183	1.089	1.021	0.909	0.837	0.685	0.609	0.526	0.477	0.431	83
84	3.871	3.173	2.601	2.000	1.639	1.344	1.196	1.101	1.033	0.920	0.847	0.694	0.618	0.534	0.485	0.437	84
85	3.891	3.192	2.619	2.016	1.654	1.357	1.209	1.113	1.045	0.930	0.857	0.703	0.626	0.541	0.492	0.444	85
86	3.910	3.211	2.637	2.033	1.669	1.371	1.222	1.126	1.056	0.941	0.868	0.712	0.635	0.549	0.499	0.451	86
87	3.930	3.230	2.655	2.049	1.684	1.384	1.234	1.138	1.068	0.953	0.878	0.722	0.644	0.557	0.506	0.458	87
88	3.950	3.250	2.674	2.066	1.700	1.398	1.248	1.151	1.080	0.964	0.889	0.731	0.652	0.565	0.514	0.465	88
89	3.970	3.269	2.692	2.083	1.715	1.412	1.261	1.163	1.093	0.975	0.900	0.741	0.661	0.573	0.522	0.472	89
90	3.990	3.289	2.711	2.100	1.731	1.427	1.274	1.176	1.105	0.987	0.911	0.751	0.671	0.582	0.529	0.479	90
91	4.010	3.309	2.730	2.117	1.747	1.441	1.288	1.189	1.117	0.999	0.922	0.761	0.680	0.590	0.537	0.487	91
92	4.031	3.328	2.749	2.134	1.762	1.455	1.301	1.202	1.130	1.010	0.933	0.771	0.689	0.598	0.545	0.494	92
93	4.051	3.348	2.768	2.152	1.779	1.470	1.315	1.215	1.143	1.022	0.945	0.781	0.699	0.607	0.553	0.502	93
94	4.071	3.369	2.787	2.169	1.795	1.485	1.329	1.229	1.156	1.034	0.956	0.791	0.708	0.616	0.562	0.509	94
95	4.092	3.389	2.806	2.187	1.811	1.500	1.343	1.242	1.169	1.047	0.968	0.802	0.718	0.625	0.570	0.517	95
96	4.113	3.409	2.826	2.205	1.828	1.515	1.357	1.256	1.182	1.059	0.980	0.812	0.728	0.634	0.578	0.525	96
97	4.134	3.429	2.845	2.223	1.844	1.530	1.372	1.269	1.195	1.072	0.992	0.823	0.738	0.643	0.587	0.533	97
98	4.154	3.450	2.865	2.241	1.861	1.545	1.386	1.283	1.209	1.084	1.004	0.834	0.748	0.652	0.596	0.542	98
99	4.175	3.471	2.885	2.259	1.878	1.561	1.401	1.298	1.222	1.097	1.016	0.845	0.758	0.662	0.605	0.550	99
100	4.197	3.491	2.905	2.278	1.895	1.577	1.416	1.312	1.236	1.110	1.029	0.856	0.768	0.671	0.614	0.558	100
101	4.211	3.505	2.917	2.288	1.904	1.585	1.423	1.319	1.243	1.116	1.035	0.861	0.773	0.675	0.618	0.562	101
102	4.226	3.518	2.929	2.298	1.913	1.593	1.431	1.326	1.250	1.123	1.041	0.866	0.778	0.680	0.622	0.566	102
103	4.241	3.531	2.941	2.309	1.922	1.601	1.438	1.333	1.257	1.129	1.047	0.872	0.783	0.684	0.626	0.570	103
104	4.255	3.545	2.953	2.319	1.932	1.609	1.446	1.340	1.264	1.136	1.053	0.877	0.788	0.689	0.630	0.574	104
105	4.270	3.558	2.965	2.329	1.941	1.617	1.453	1.348	1.271	1.142	1.059	0.882	0.793	0.693	0.634	0.578	105
106	4.285	3.571	2.977	2.340	1.950	1.625	1.461	1.355	1.278	1.149	1.065	0.888	0.798	0.698	0.639	0.581	106
107	4.300	3.585	2.989	2.350	1.960	1.634	1.469	1.362	1.285	1.155	1.071	0.893	0.803	0.702	0.643	0.585	107
108	4.315	3.598	3.001	2.361	1.969	1.642	1.477	1.369	1.292	1.162	1.077	0.898	0.808	0.707	0.647	0.589	108
109	4.330	3.612	3.013	2.371	1.978	1.650	1.484	1.377	1.299	1.168	1.084	0.904	0.813	0.711	0.651	0.593	109
110	4.345	3.626	3.026	2.382	1.988	1.659	1.492	1.384	1.306	1.175	1.090	0.909	0.818	0.716	0.656	0.597	110
111	4.360	3.639	3.038	2.393	1.997	1.667	1.500	1.392	1.313	1.181	1.096	0.915	0.823	0.721	0.660	0.602	111
112	4.375	3.653	3.050	2.403	2.007	1.676	1.508	1.399	1.320	1.188	1.102	0.921	0.828	0.725	0.665	0.606	112

Table 20. Bank-storage loss for reusable-water flows ranging from 1 to 200 cubic feet per second for selected native streamflows for subreach MSR13, station 07104905 Monument Creek at Bijou Street at Colorado Springs downstream to Fountain Creek at confluence with Monument Creek.—Continued

[Reusable-water flow, native streamflow, and bank-storage loss in cubic feet per second]

Reusable-water flow	Bank-storage loss for indicated native streamflow															Reusable-water flow	
	0	1	2	5	10	20	30	40	50	75	100	200	300	500	700		1,000
113	4.390	3.667	3.063	2.414	2.017	1.684	1.516	1.407	1.328	1.195	1.109	0.926	0.834	0.730	0.669	0.610	113
114	4.406	3.681	3.075	2.425	2.026	1.693	1.524	1.414	1.335	1.202	1.115	0.932	0.839	0.735	0.673	0.614	114
115	4.421	3.695	3.088	2.436	2.036	1.701	1.532	1.422	1.342	1.208	1.122	0.938	0.844	0.740	0.678	0.618	115
116	4.436	3.709	3.101	2.447	2.046	1.710	1.540	1.430	1.350	1.215	1.128	0.943	0.849	0.744	0.682	0.622	116
117	4.452	3.723	3.113	2.458	2.055	1.719	1.548	1.437	1.357	1.222	1.135	0.949	0.855	0.749	0.687	0.627	117
118	4.467	3.737	3.126	2.469	2.065	1.728	1.556	1.445	1.364	1.229	1.141	0.955	0.860	0.754	0.691	0.631	118
119	4.483	3.751	3.139	2.480	2.075	1.736	1.564	1.453	1.372	1.236	1.148	0.961	0.866	0.759	0.696	0.635	119
120	4.498	3.765	3.151	2.491	2.085	1.745	1.573	1.461	1.379	1.243	1.155	0.966	0.871	0.764	0.701	0.639	120
121	4.514	3.779	3.164	2.502	2.095	1.754	1.581	1.469	1.387	1.250	1.161	0.972	0.876	0.769	0.705	0.644	121
122	4.530	3.794	3.177	2.513	2.105	1.763	1.589	1.477	1.395	1.257	1.168	0.978	0.882	0.774	0.710	0.648	122
123	4.545	3.808	3.190	2.525	2.115	1.772	1.598	1.485	1.402	1.264	1.175	0.984	0.887	0.779	0.715	0.653	123
124	4.561	3.822	3.203	2.536	2.125	1.781	1.606	1.493	1.410	1.272	1.182	0.990	0.893	0.784	0.720	0.657	124
125	4.577	3.837	3.216	2.547	2.135	1.790	1.615	1.501	1.418	1.279	1.189	0.996	0.899	0.789	0.724	0.661	125
126	4.593	3.851	3.229	2.559	2.146	1.799	1.623	1.509	1.426	1.286	1.195	1.002	0.904	0.794	0.729	0.666	126
127	4.609	3.866	3.243	2.570	2.156	1.808	1.632	1.517	1.433	1.293	1.202	1.009	0.910	0.799	0.734	0.671	127
128	4.625	3.880	3.256	2.582	2.166	1.818	1.640	1.525	1.441	1.301	1.209	1.015	0.916	0.805	0.739	0.675	128
129	4.641	3.895	3.269	2.593	2.177	1.827	1.649	1.533	1.449	1.308	1.216	1.021	0.921	0.810	0.744	0.680	129
130	4.657	3.910	3.283	2.605	2.187	1.836	1.658	1.542	1.457	1.315	1.223	1.027	0.927	0.815	0.749	0.684	130
131	4.673	3.925	3.296	2.617	2.198	1.846	1.666	1.550	1.465	1.323	1.230	1.033	0.933	0.820	0.754	0.689	131
132	4.690	3.940	3.309	2.628	2.208	1.855	1.675	1.558	1.473	1.330	1.238	1.040	0.939	0.826	0.759	0.694	132
133	4.706	3.954	3.323	2.640	2.219	1.864	1.684	1.567	1.481	1.338	1.245	1.046	0.945	0.831	0.764	0.698	133
134	4.722	3.969	3.336	2.652	2.229	1.874	1.693	1.575	1.489	1.346	1.252	1.052	0.951	0.837	0.769	0.703	134
135	4.739	3.984	3.350	2.664	2.240	1.883	1.702	1.584	1.498	1.353	1.259	1.059	0.957	0.842	0.774	0.708	135
136	4.755	3.999	3.364	2.676	2.251	1.893	1.711	1.592	1.506	1.361	1.267	1.065	0.963	0.847	0.779	0.713	136
137	4.772	4.015	3.378	2.688	2.261	1.903	1.720	1.601	1.514	1.369	1.274	1.072	0.969	0.853	0.784	0.718	137
138	4.788	4.030	3.391	2.700	2.272	1.912	1.729	1.609	1.522	1.376	1.281	1.078	0.975	0.859	0.789	0.722	138
139	4.805	4.045	3.405	2.712	2.283	1.922	1.738	1.618	1.531	1.384	1.289	1.085	0.981	0.864	0.795	0.727	139
140	4.822	4.060	3.419	2.724	2.294	1.932	1.747	1.627	1.539	1.392	1.296	1.092	0.987	0.870	0.800	0.732	140
141	4.838	4.076	3.433	2.736	2.305	1.942	1.756	1.636	1.548	1.400	1.304	1.098	0.993	0.875	0.805	0.737	141
142	4.855	4.091	3.447	2.749	2.316	1.952	1.765	1.644	1.556	1.408	1.311	1.105	1.000	0.881	0.811	0.742	142
143	4.872	4.106	3.461	2.761	2.327	1.961	1.775	1.653	1.565	1.416	1.319	1.112	1.006	0.887	0.816	0.747	143
144	4.889	4.122	3.475	2.773	2.338	1.971	1.784	1.662	1.573	1.424	1.326	1.118	1.012	0.893	0.822	0.752	144
145	4.906	4.138	3.489	2.786	2.350	1.982	1.794	1.671	1.582	1.432	1.334	1.125	1.018	0.898	0.827	0.758	145
146	4.923	4.153	3.504	2.798	2.361	1.992	1.803	1.680	1.591	1.440	1.342	1.132	1.025	0.904	0.832	0.763	146
147	4.940	4.169	3.518	2.811	2.372	2.002	1.813	1.689	1.599	1.448	1.350	1.139	1.031	0.910	0.838	0.768	147
148	4.957	4.185	3.532	2.823	2.383	2.012	1.822	1.698	1.608	1.456	1.358	1.146	1.038	0.916	0.844	0.773	148
149	4.975	4.200	3.547	2.836	2.395	2.022	1.832	1.707	1.617	1.465	1.365	1.153	1.044	0.922	0.849	0.778	149
150	4.992	4.216	3.561	2.849	2.406	2.032	1.841	1.717	1.626	1.473	1.373	1.160	1.051	0.928	0.855	0.784	150
151	5.009	4.232	3.576	2.862	2.418	2.043	1.851	1.726	1.635	1.481	1.381	1.167	1.057	0.934	0.861	0.789	151
152	5.027	4.248	3.590	2.874	2.429	2.053	1.861	1.735	1.644	1.490	1.389	1.174	1.064	0.940	0.866	0.794	152
153	5.044	4.264	3.605	2.887	2.441	2.064	1.871	1.745	1.653	1.498	1.397	1.181	1.071	0.946	0.872	0.800	153
154	5.062	4.280	3.620	2.900	2.453	2.074	1.880	1.754	1.662	1.507	1.405	1.189	1.078	0.952	0.878	0.805	154
155	5.079	4.297	3.635	2.913	2.464	2.085	1.890	1.764	1.671	1.515	1.414	1.196	1.084	0.959	0.884	0.811	155
156	5.097	4.313	3.649	2.926	2.476	2.095	1.900	1.773	1.680	1.524	1.422	1.203	1.091	0.965	0.890	0.816	156
157	5.115	4.329	3.664	2.939	2.488	2.106	1.910	1.783	1.689	1.532	1.430	1.210	1.098	0.971	0.895	0.822	157
158	5.132	4.346	3.679	2.953	2.500	2.117	1.920	1.792	1.699	1.541	1.438	1.218	1.105	0.977	0.901	0.827	158
159	5.150	4.362	3.694	2.966	2.512	2.128	1.930	1.802	1.708	1.550	1.447	1.225	1.112	0.984	0.907	0.833	159
160	5.168	4.378	3.709	2.979	2.524	2.138	1.941	1.812	1.717	1.559	1.455	1.233	1.119	0.990	0.913	0.839	160
161	5.186	4.395	3.725	2.993	2.536	2.149	1.951	1.821	1.727	1.568	1.463	1.240	1.126	0.997	0.920	0.844	161
162	5.204	4.412	3.740	3.006	2.548	2.160	1.961	1.831	1.736	1.576	1.472	1.248	1.133	1.003	0.926	0.850	162
163	5.222	4.428	3.755	3.019	2.560	2.171	1.972	1.841	1.746	1.585	1.480	1.255	1.140	1.010	0.932	0.856	163
164	5.240	4.445	3.770	3.033	2.573	2.182	1.982	1.851	1.755	1.594	1.489	1.263	1.147	1.016	0.938	0.862	164
165	5.259	4.462	3.786	3.047	2.585	2.193	1.992	1.861	1.765	1.603	1.498	1.271	1.154	1.023	0.944	0.868	165
166	5.277	4.479	3.801	3.060	2.597	2.205	2.003	1.871	1.775	1.612	1.506	1.279	1.162	1.029	0.951	0.874	166
167	5.295	4.496	3.817	3.074	2.610	2.216	2.013	1.881	1.785	1.622	1.515	1.286	1.169	1.036	0.957	0.880	167
168	5.314	4.513	3.832	3.088	2.622	2.227	2.024	1.891	1.794	1.631	1.524	1.294	1.176	1.043	0.963	0.886	168

Table 20. Bank-storage loss for reusable-water flows ranging from 1 to 200 cubic feet per second for selected native streamflows for subreach MSR13, station 07104905 Monument Creek at Bijou Street at Colorado Springs downstream to Fountain Creek at confluence with Monument Creek.—Continued

[Reusable-water flow, native streamflow, and bank-storage loss in cubic feet per second]

Reusable- water flow	Bank-storage loss for indicated native streamflow															Reusable- water flow	
	0	1	2	5	10	20	30	40	50	75	100	200	300	500	700		1,000
169	5.332	4.530	3.848	3.102	2.635	2.238	2.035	1.901	1.804	1.640	1.533	1.302	1.184	1.050	0.970	0.892	169
170	5.351	4.547	3.864	3.116	2.648	2.250	2.045	1.912	1.814	1.649	1.542	1.310	1.191	1.056	0.976	0.898	170
171	5.369	4.564	3.879	3.130	2.660	2.261	2.056	1.922	1.824	1.659	1.551	1.318	1.198	1.063	0.983	0.904	171
172	5.388	4.581	3.895	3.144	2.673	2.273	2.067	1.932	1.834	1.668	1.560	1.326	1.206	1.070	0.989	0.910	172
173	5.407	4.598	3.911	3.158	2.686	2.284	2.078	1.943	1.844	1.678	1.569	1.334	1.214	1.077	0.996	0.916	173
174	5.425	4.616	3.927	3.172	2.699	2.296	2.089	1.953	1.854	1.687	1.578	1.342	1.221	1.084	1.002	0.922	174
175	5.444	4.633	3.943	3.186	2.711	2.308	2.100	1.964	1.865	1.697	1.587	1.350	1.229	1.091	1.009	0.929	175
176	5.463	4.651	3.959	3.200	2.724	2.319	2.111	1.974	1.875	1.706	1.596	1.359	1.237	1.098	1.016	0.935	176
177	5.482	4.668	3.975	3.215	2.738	2.331	2.122	1.985	1.885	1.716	1.605	1.367	1.244	1.105	1.022	0.941	177
178	5.501	4.686	3.992	3.229	2.751	2.343	2.133	1.996	1.895	1.726	1.615	1.375	1.252	1.113	1.029	0.948	178
179	5.520	4.704	4.008	3.244	2.764	2.355	2.144	2.007	1.906	1.735	1.624	1.384	1.260	1.120	1.036	0.954	179
180	5.540	4.722	4.024	3.258	2.777	2.367	2.156	2.017	1.916	1.745	1.633	1.392	1.268	1.127	1.043	0.961	180
181	5.559	4.739	4.041	3.273	2.790	2.379	2.167	2.028	1.927	1.755	1.643	1.401	1.276	1.134	1.050	0.967	181
182	5.578	4.757	4.057	3.287	2.804	2.391	2.179	2.039	1.937	1.765	1.652	1.409	1.284	1.142	1.057	0.974	182
183	5.598	4.775	4.074	3.302	2.817	2.403	2.190	2.050	1.948	1.775	1.662	1.418	1.292	1.149	1.064	0.980	183
184	5.617	4.793	4.091	3.317	2.831	2.416	2.202	2.061	1.959	1.785	1.672	1.426	1.300	1.157	1.071	0.987	184
185	5.637	4.811	4.107	3.332	2.844	2.428	2.213	2.072	1.970	1.795	1.681	1.435	1.308	1.164	1.078	0.994	185
186	5.656	4.830	4.124	3.347	2.858	2.440	2.225	2.084	1.980	1.806	1.691	1.444	1.316	1.172	1.085	1.001	186
187	5.676	4.848	4.141	3.362	2.871	2.453	2.237	2.095	1.991	1.816	1.701	1.453	1.325	1.179	1.092	1.007	187
188	5.696	4.866	4.158	3.377	2.885	2.465	2.248	2.106	2.002	1.826	1.711	1.462	1.333	1.187	1.100	1.014	188
189	5.715	4.885	4.175	3.392	2.899	2.478	2.260	2.117	2.013	1.836	1.721	1.470	1.341	1.195	1.107	1.021	189
190	5.735	4.903	4.192	3.407	2.913	2.490	2.272	2.129	2.024	1.847	1.731	1.479	1.350	1.203	1.114	1.028	190
191	5.755	4.922	4.209	3.422	2.927	2.503	2.284	2.140	2.035	1.857	1.741	1.488	1.358	1.210	1.122	1.035	191
192	5.775	4.940	4.226	3.438	2.941	2.516	2.296	2.152	2.047	1.868	1.751	1.498	1.367	1.218	1.129	1.042	192
193	5.795	4.959	4.243	3.453	2.955	2.528	2.308	2.164	2.058	1.878	1.761	1.507	1.375	1.226	1.137	1.049	193
194	5.815	4.978	4.261	3.469	2.969	2.541	2.320	2.175	2.069	1.889	1.771	1.516	1.384	1.234	1.144	1.056	194
195	5.836	4.996	4.278	3.484	2.983	2.554	2.333	2.187	2.080	1.900	1.781	1.525	1.393	1.242	1.152	1.064	195
196	5.856	5.015	4.296	3.500	2.998	2.567	2.345	2.199	2.092	1.911	1.792	1.534	1.401	1.250	1.160	1.071	196
197	5.876	5.034	4.313	3.516	3.012	2.580	2.357	2.211	2.103	1.921	1.802	1.544	1.410	1.258	1.167	1.078	197
198	5.897	5.053	4.331	3.531	3.026	2.594	2.370	2.223	2.115	1.932	1.812	1.553	1.419	1.267	1.175	1.085	198
199	5.917	5.072	4.348	3.547	3.041	2.607	2.382	2.235	2.127	1.943	1.823	1.563	1.428	1.275	1.183	1.093	199
200	5.938	5.092	4.366	3.563	3.055	2.620	2.395	2.247	2.138	1.954	1.834	1.572	1.437	1.283	1.191	1.100	200

Table 21. Bank-storage loss for reusable-water flows ranging from 1 to 200 cubic feet per second for selected native streamflows for subreach MSR14, Fountain Creek at confluence with Monument Creek downstream to station 07105500 Fountain Creek at Colorado Springs.

[Reusable-water flow, native streamflow, and bank-storage loss in cubic feet per second]

Reusable- water flow	Bank-storage loss for indicated native streamflow															Reusable- water flow	
	0	1	2	5	10	20	30	40	50	75	100	200	300	500	700		1,000
1	0.458	0.313	0.214	0.129	0.088	0.060	0.048	0.041	0.036	0.029	0.025	0.017	0.014	0.010	0.009	0.007	1
2	0.748	0.514	0.354	0.216	0.148	0.102	0.082	0.070	0.062	0.050	0.043	0.029	0.024	0.018	0.015	0.012	2
3	1.219	0.845	0.585	0.360	0.250	0.173	0.140	0.120	0.106	0.086	0.074	0.051	0.041	0.031	0.026	0.022	3
4	1.467	1.024	0.715	0.445	0.311	0.217	0.176	0.152	0.135	0.109	0.094	0.066	0.053	0.041	0.034	0.029	4
5	1.764	1.242	0.874	0.550	0.387	0.273	0.222	0.192	0.171	0.140	0.121	0.085	0.069	0.053	0.045	0.038	5
6	1.990	1.408	0.997	0.631	0.447	0.316	0.258	0.224	0.200	0.164	0.142	0.100	0.082	0.064	0.054	0.045	6
7	2.244	1.597	1.136	0.725	0.516	0.367	0.301	0.261	0.234	0.192	0.167	0.119	0.097	0.076	0.064	0.054	7
8	2.438	1.742	1.245	0.798	0.571	0.408	0.335	0.291	0.261	0.215	0.187	0.134	0.110	0.086	0.073	0.061	8
9	2.649	1.901	1.364	0.880	0.631	0.453	0.373	0.325	0.292	0.241	0.210	0.150	0.124	0.097	0.083	0.070	9
10	2.879	2.074	1.495	0.969	0.698	0.503	0.415	0.363	0.326	0.269	0.235	0.169	0.140	0.110	0.094	0.079	10
11	3.025	2.187	1.581	1.030	0.745	0.538	0.445	0.389	0.351	0.290	0.254	0.183	0.152	0.119	0.102	0.086	11
12	3.178	2.306	1.673	1.095	0.794	0.576	0.478	0.418	0.377	0.313	0.274	0.199	0.165	0.130	0.111	0.094	12
13	3.339	2.431	1.770	1.164	0.847	0.617	0.512	0.449	0.405	0.337	0.295	0.215	0.179	0.141	0.121	0.103	13
14	3.508	2.563	1.873	1.237	0.904	0.660	0.549	0.482	0.436	0.363	0.318	0.233	0.194	0.154	0.132	0.112	14
15	3.686	2.703	1.981	1.314	0.964	0.706	0.589	0.518	0.469	0.391	0.344	0.252	0.210	0.167	0.144	0.123	15
16	3.819	2.806	2.062	1.372	1.008	0.741	0.619	0.545	0.493	0.412	0.362	0.266	0.222	0.177	0.153	0.130	16
17	3.956	2.914	2.146	1.433	1.055	0.777	0.650	0.573	0.519	0.434	0.382	0.282	0.235	0.188	0.162	0.138	17
18	4.098	3.025	2.234	1.496	1.104	0.815	0.683	0.602	0.546	0.457	0.403	0.298	0.249	0.199	0.172	0.147	18
19	4.245	3.141	2.325	1.562	1.156	0.855	0.717	0.633	0.575	0.482	0.425	0.315	0.264	0.211	0.183	0.156	19
20	4.397	3.262	2.420	1.630	1.209	0.897	0.753	0.666	0.605	0.508	0.449	0.333	0.279	0.224	0.194	0.166	20
21	4.483	3.333	2.478	1.675	1.245	0.926	0.778	0.688	0.626	0.526	0.465	0.346	0.291	0.234	0.202	0.174	21
22	4.571	3.406	2.538	1.720	1.282	0.955	0.804	0.712	0.647	0.545	0.482	0.359	0.303	0.244	0.211	0.182	22
23	4.660	3.480	2.599	1.767	1.320	0.986	0.831	0.736	0.670	0.565	0.500	0.374	0.315	0.254	0.220	0.190	23
24	4.752	3.556	2.662	1.815	1.359	1.017	0.858	0.761	0.693	0.585	0.519	0.388	0.328	0.265	0.230	0.198	24
25	4.845	3.634	2.726	1.864	1.399	1.049	0.887	0.787	0.718	0.606	0.538	0.404	0.341	0.276	0.240	0.207	25
26	4.939	3.714	2.792	1.915	1.440	1.083	0.916	0.814	0.743	0.628	0.558	0.420	0.355	0.288	0.251	0.216	26
27	5.036	3.795	2.860	1.967	1.482	1.117	0.947	0.842	0.768	0.651	0.579	0.436	0.370	0.300	0.262	0.226	27
28	5.135	3.878	2.929	2.021	1.526	1.152	0.978	0.870	0.795	0.675	0.601	0.453	0.385	0.313	0.273	0.236	28
29	5.235	3.962	2.999	2.075	1.571	1.189	1.010	0.900	0.823	0.699	0.623	0.471	0.401	0.326	0.285	0.247	29
30	5.338	4.049	3.072	2.132	1.617	1.227	1.044	0.931	0.851	0.725	0.646	0.490	0.417	0.340	0.297	0.258	30
31	5.405	4.107	3.121	2.171	1.650	1.254	1.068	0.953	0.872	0.743	0.663	0.504	0.429	0.350	0.307	0.266	31
32	5.473	4.166	3.171	2.211	1.683	1.281	1.092	0.975	0.893	0.761	0.680	0.517	0.441	0.361	0.316	0.275	32
33	5.542	4.226	3.222	2.251	1.717	1.309	1.117	0.998	0.915	0.781	0.697	0.532	0.454	0.372	0.326	0.283	33
34	5.612	4.286	3.274	2.293	1.751	1.338	1.143	1.022	0.937	0.800	0.716	0.547	0.467	0.383	0.336	0.292	34
35	5.683	4.348	3.327	2.335	1.786	1.367	1.169	1.046	0.959	0.820	0.734	0.562	0.480	0.394	0.346	0.302	35
36	5.754	4.410	3.380	2.378	1.822	1.397	1.195	1.070	0.983	0.841	0.753	0.577	0.494	0.406	0.357	0.311	36
37	5.827	4.473	3.434	2.421	1.859	1.427	1.223	1.096	1.006	0.862	0.773	0.593	0.508	0.418	0.368	0.321	37
38	5.900	4.537	3.489	2.466	1.896	1.458	1.251	1.122	1.031	0.884	0.793	0.610	0.523	0.431	0.379	0.331	38
39	5.975	4.603	3.546	2.511	1.935	1.490	1.279	1.148	1.056	0.906	0.813	0.626	0.538	0.444	0.391	0.342	39
40	6.050	4.668	3.602	2.557	1.973	1.523	1.309	1.175	1.081	0.929	0.834	0.644	0.553	0.457	0.403	0.353	40
41	6.105	4.717	3.645	2.592	2.003	1.548	1.331	1.196	1.101	0.947	0.851	0.657	0.565	0.468	0.412	0.361	41
42	6.160	4.766	3.688	2.628	2.033	1.573	1.354	1.218	1.121	0.965	0.867	0.671	0.578	0.478	0.422	0.370	42
43	6.216	4.816	3.732	2.664	2.064	1.599	1.378	1.239	1.142	0.983	0.885	0.685	0.590	0.489	0.432	0.379	43
44	6.272	4.867	3.776	2.700	2.095	1.626	1.402	1.262	1.163	1.002	0.902	0.700	0.603	0.501	0.443	0.388	44
45	6.329	4.917	3.821	2.737	2.127	1.653	1.426	1.284	1.184	1.021	0.920	0.715	0.617	0.512	0.453	0.398	45
46	6.386	4.969	3.866	2.775	2.159	1.680	1.451	1.307	1.206	1.041	0.938	0.730	0.630	0.524	0.464	0.408	46
47	6.444	5.021	3.912	2.813	2.191	1.708	1.476	1.330	1.228	1.061	0.957	0.745	0.644	0.536	0.475	0.418	47
48	6.502	5.073	3.958	2.851	2.225	1.736	1.501	1.354	1.250	1.081	0.975	0.761	0.658	0.548	0.486	0.428	48
49	6.561	5.126	4.005	2.890	2.258	1.764	1.527	1.379	1.273	1.102	0.995	0.777	0.673	0.561	0.498	0.438	49
50	6.620	5.180	4.052	2.930	2.292	1.793	1.554	1.403	1.297	1.123	1.014	0.794	0.688	0.574	0.509	0.449	50
51	6.656	5.212	4.081	2.954	2.313	1.811	1.570	1.418	1.311	1.136	1.027	0.804	0.697	0.582	0.517	0.456	51
52	6.692	5.245	4.111	2.979	2.334	1.829	1.586	1.434	1.326	1.149	1.039	0.814	0.706	0.590	0.524	0.462	52
53	6.729	5.278	4.140	3.003	2.356	1.848	1.603	1.449	1.340	1.163	1.051	0.825	0.715	0.598	0.532	0.469	53
54	6.765	5.311	4.170	3.028	2.377	1.866	1.620	1.465	1.355	1.176	1.064	0.835	0.725	0.607	0.539	0.476	54
55	6.802	5.345	4.199	3.053	2.399	1.885	1.637	1.481	1.370	1.190	1.077	0.846	0.735	0.615	0.547	0.483	55
56	6.839	5.378	4.229	3.078	2.421	1.904	1.654	1.497	1.386	1.204	1.090	0.857	0.745	0.624	0.555	0.490	56

Table 21. Bank-storage loss for reusable-water flows ranging from 1 to 200 cubic feet per second for selected native streamflows for subreach MSR14, Fountain Creek at confluence with Monument Creek downstream to station 07105500 Fountain Creek at Colorado Springs.—Continued

[Reusable-water flow, native streamflow, and bank-storage loss in cubic feet per second]

Reusable-water flow	Bank-storage loss for indicated native streamflow															Reusable-water flow	
	0	1	2	5	10	20	30	40	50	75	100	200	300	500	700		1,000
57	6.876	5.412	4.260	3.104	2.443	1.923	1.671	1.513	1.401	1.218	1.103	0.868	0.754	0.632	0.563	0.498	57
58	6.914	5.446	4.290	3.130	2.465	1.942	1.689	1.530	1.417	1.232	1.116	0.879	0.765	0.641	0.571	0.505	58
59	6.951	5.480	4.321	3.155	2.488	1.961	1.707	1.546	1.432	1.246	1.129	0.890	0.775	0.650	0.579	0.513	59
60	6.989	5.515	4.352	3.182	2.510	1.981	1.725	1.563	1.448	1.261	1.143	0.902	0.785	0.659	0.588	0.520	60
61	7.027	5.550	4.383	3.208	2.533	2.001	1.743	1.580	1.464	1.276	1.156	0.913	0.796	0.668	0.596	0.528	61
62	7.066	5.585	4.414	3.235	2.557	2.021	1.761	1.597	1.481	1.290	1.170	0.925	0.806	0.678	0.605	0.536	62
63	7.104	5.620	4.446	3.261	2.580	2.041	1.779	1.615	1.497	1.305	1.184	0.937	0.817	0.687	0.613	0.544	63
64	7.143	5.655	4.477	3.288	2.603	2.061	1.798	1.632	1.514	1.321	1.199	0.949	0.828	0.697	0.622	0.552	64
65	7.181	5.691	4.509	3.316	2.627	2.082	1.817	1.650	1.531	1.336	1.213	0.961	0.839	0.707	0.631	0.560	65
66	7.221	5.726	4.542	3.343	2.651	2.103	1.836	1.668	1.548	1.351	1.227	0.974	0.850	0.717	0.640	0.568	66
67	7.260	5.763	4.574	3.371	2.675	2.124	1.855	1.686	1.565	1.367	1.242	0.986	0.861	0.727	0.650	0.577	67
68	7.299	5.799	4.607	3.399	2.700	2.145	1.875	1.704	1.582	1.383	1.257	0.999	0.873	0.737	0.659	0.585	68
69	7.339	5.835	4.640	3.427	2.725	2.166	1.894	1.723	1.600	1.399	1.272	1.011	0.885	0.747	0.668	0.594	69
70	7.379	5.872	4.673	3.455	2.749	2.188	1.914	1.741	1.618	1.415	1.287	1.024	0.896	0.757	0.678	0.603	70
71	7.419	5.909	4.706	3.484	2.775	2.210	1.934	1.760	1.636	1.432	1.303	1.038	0.908	0.768	0.688	0.612	71
72	7.459	5.946	4.740	3.513	2.800	2.232	1.955	1.779	1.654	1.449	1.318	1.051	0.920	0.779	0.698	0.621	72
73	7.500	5.984	4.774	3.542	2.825	2.254	1.975	1.798	1.672	1.465	1.334	1.064	0.933	0.790	0.708	0.630	73
74	7.541	6.021	4.808	3.571	2.851	2.277	1.996	1.818	1.691	1.482	1.350	1.078	0.945	0.801	0.718	0.639	74
75	7.582	6.059	4.842	3.600	2.877	2.299	2.017	1.838	1.710	1.500	1.366	1.092	0.958	0.812	0.728	0.649	75
76	7.623	6.097	4.877	3.630	2.904	2.322	2.038	1.858	1.729	1.517	1.383	1.106	0.971	0.823	0.739	0.659	76
77	7.665	6.136	4.912	3.660	2.930	2.346	2.059	1.878	1.748	1.535	1.399	1.120	0.984	0.835	0.749	0.668	77
78	7.706	6.174	4.947	3.691	2.957	2.369	2.081	1.898	1.767	1.553	1.416	1.135	0.997	0.846	0.760	0.678	78
79	7.748	6.213	4.982	3.721	2.984	2.393	2.103	1.919	1.787	1.571	1.433	1.149	1.010	0.858	0.771	0.688	79
80	7.790	6.252	5.018	3.752	3.011	2.417	2.125	1.940	1.807	1.589	1.450	1.164	1.023	0.870	0.782	0.698	80
81	7.833	6.292	5.054	3.783	3.039	2.441	2.147	1.961	1.827	1.607	1.468	1.179	1.037	0.882	0.793	0.709	81
82	7.875	6.331	5.090	3.814	3.066	2.465	2.170	1.982	1.847	1.626	1.485	1.194	1.051	0.895	0.805	0.719	82
83	7.918	6.371	5.126	3.846	3.095	2.490	2.193	2.003	1.868	1.645	1.503	1.209	1.065	0.907	0.816	0.730	83
84	7.961	6.411	5.163	3.878	3.123	2.515	2.216	2.025	1.889	1.664	1.521	1.225	1.079	0.920	0.828	0.741	84
85	8.005	6.452	5.200	3.910	3.151	2.540	2.239	2.047	1.910	1.683	1.539	1.241	1.094	0.933	0.840	0.752	85
86	8.048	6.492	5.237	3.942	3.180	2.565	2.262	2.069	1.931	1.703	1.558	1.257	1.108	0.946	0.852	0.763	86
87	8.092	6.533	5.275	3.975	3.209	2.591	2.286	2.092	1.953	1.723	1.576	1.273	1.123	0.959	0.865	0.774	87
88	8.136	6.574	5.312	4.008	3.238	2.617	2.310	2.114	1.974	1.743	1.595	1.289	1.138	0.972	0.877	0.786	88
89	8.180	6.616	5.350	4.041	3.268	2.643	2.334	2.137	1.996	1.763	1.614	1.306	1.153	0.986	0.890	0.798	89
90	8.225	6.657	5.388	4.075	3.298	2.669	2.359	2.161	2.018	1.784	1.634	1.322	1.169	1.000	0.902	0.809	90
91	8.270	6.699	5.427	4.108	3.328	2.696	2.384	2.184	2.041	1.804	1.653	1.339	1.184	1.014	0.915	0.821	91
92	8.315	6.741	5.466	4.142	3.358	2.723	2.409	2.208	2.064	1.825	1.673	1.357	1.200	1.028	0.929	0.834	92
93	8.360	6.784	5.505	4.177	3.389	2.750	2.434	2.232	2.087	1.847	1.693	1.374	1.216	1.042	0.942	0.846	93
94	8.405	6.826	5.544	4.211	3.420	2.778	2.459	2.256	2.110	1.868	1.714	1.392	1.232	1.057	0.956	0.858	94
95	8.451	6.869	5.584	4.246	3.451	2.805	2.485	2.280	2.133	1.890	1.734	1.410	1.249	1.072	0.969	0.871	95
96	8.497	6.913	5.624	4.281	3.483	2.833	2.511	2.305	2.157	1.912	1.755	1.428	1.265	1.087	0.983	0.884	96
97	8.543	6.956	5.664	4.317	3.515	2.862	2.538	2.330	2.181	1.934	1.776	1.446	1.282	1.102	0.997	0.897	97
98	8.590	7.000	5.704	4.352	3.547	2.890	2.564	2.355	2.205	1.956	1.797	1.465	1.299	1.117	1.012	0.911	98
99	8.636	7.044	5.745	4.388	3.579	2.919	2.591	2.381	2.230	1.979	1.819	1.483	1.317	1.133	1.026	0.924	99
100	8.683	7.088	5.786	4.425	3.612	2.948	2.618	2.407	2.255	2.002	1.840	1.502	1.334	1.149	1.041	0.938	100
101	8.708	7.111	5.807	4.442	3.628	2.962	2.631	2.419	2.266	2.013	1.851	1.511	1.342	1.156	1.048	0.944	101
102	8.732	7.133	5.827	4.460	3.643	2.976	2.644	2.431	2.278	2.024	1.861	1.520	1.351	1.164	1.055	0.951	102
103	8.757	7.156	5.848	4.478	3.659	2.990	2.657	2.444	2.290	2.035	1.871	1.529	1.359	1.171	1.062	0.957	103
104	8.781	7.178	5.868	4.496	3.675	3.004	2.670	2.456	2.302	2.046	1.882	1.538	1.367	1.178	1.069	0.963	104
105	8.806	7.201	5.889	4.514	3.691	3.019	2.684	2.469	2.314	2.057	1.892	1.547	1.376	1.186	1.076	0.970	105
106	8.830	7.224	5.910	4.532	3.707	3.033	2.697	2.481	2.326	2.068	1.903	1.557	1.384	1.194	1.083	0.976	106
107	8.855	7.247	5.930	4.550	3.724	3.047	2.710	2.494	2.338	2.079	1.913	1.566	1.392	1.201	1.090	0.983	107
108	8.880	7.269	5.951	4.568	3.740	3.062	2.723	2.506	2.350	2.090	1.924	1.575	1.401	1.209	1.097	0.990	108
109	8.905	7.292	5.972	4.586	3.756	3.076	2.737	2.519	2.362	2.102	1.935	1.584	1.410	1.217	1.104	0.996	109
110	8.930	7.316	5.993	4.605	3.772	3.090	2.750	2.532	2.374	2.113	1.945	1.594	1.418	1.224	1.112	1.003	110
111	8.955	7.339	6.014	4.623	3.789	3.105	2.764	2.545	2.387	2.125	1.956	1.603	1.427	1.232	1.119	1.010	111
112	8.980	7.362	6.036	4.642	3.805	3.120	2.778	2.558	2.399	2.136	1.967	1.613	1.436	1.240	1.126	1.017	112

Table 21. Bank-storage loss for reusable-water flows ranging from 1 to 200 cubic feet per second for selected native streamflows for subreach MSR14, Fountain Creek at confluence with Monument Creek downstream to station 07105500 Fountain Creek at Colorado Springs.—Continued

[Reusable-water flow, native streamflow, and bank-storage loss in cubic feet per second]

Reusable-water flow	Bank-storage loss for indicated native streamflow															Reusable-water flow	
	0	1	2	5	10	20	30	40	50	75	100	200	300	500	700		1,000
113	9.005	7.385	6.057	4.660	3.822	3.134	2.791	2.571	2.412	2.148	1.978	1.622	1.444	1.248	1.134	1.024	113
114	9.030	7.408	6.078	4.679	3.839	3.149	2.805	2.584	2.424	2.159	1.989	1.632	1.453	1.256	1.141	1.030	114
115	9.055	7.432	6.099	4.697	3.855	3.164	2.819	2.597	2.437	2.171	2.000	1.641	1.462	1.264	1.149	1.037	115
116	9.081	7.455	6.121	4.716	3.872	3.179	2.833	2.610	2.449	2.183	2.011	1.651	1.471	1.272	1.156	1.044	116
117	9.106	7.479	6.142	4.735	3.889	3.194	2.847	2.623	2.462	2.194	2.022	1.661	1.480	1.280	1.164	1.052	117
118	9.132	7.502	6.164	4.754	3.906	3.209	2.861	2.637	2.475	2.206	2.033	1.671	1.489	1.288	1.171	1.059	118
119	9.157	7.526	6.186	4.773	3.923	3.224	2.875	2.650	2.488	2.218	2.045	1.681	1.498	1.297	1.179	1.066	119
120	9.183	7.550	6.208	4.792	3.940	3.239	2.889	2.663	2.501	2.230	2.056	1.691	1.508	1.305	1.187	1.073	120
121	9.209	7.574	6.229	4.811	3.957	3.255	2.903	2.677	2.514	2.242	2.068	1.701	1.517	1.313	1.195	1.080	121
122	9.234	7.598	6.251	4.830	3.974	3.270	2.917	2.691	2.527	2.254	2.079	1.711	1.526	1.322	1.202	1.088	122
123	9.260	7.622	6.273	4.850	3.992	3.285	2.932	2.704	2.540	2.266	2.091	1.721	1.535	1.330	1.210	1.095	123
124	9.286	7.646	6.295	4.869	4.009	3.301	2.946	2.718	2.553	2.279	2.102	1.731	1.545	1.339	1.218	1.102	124
125	9.312	7.670	6.318	4.889	4.027	3.317	2.961	2.732	2.566	2.291	2.114	1.741	1.554	1.347	1.226	1.110	125
126	9.338	7.694	6.340	4.908	4.044	3.332	2.975	2.746	2.580	2.303	2.126	1.751	1.564	1.356	1.234	1.117	126
127	9.364	7.719	6.362	4.928	4.062	3.348	2.990	2.760	2.593	2.316	2.137	1.762	1.573	1.365	1.242	1.125	127
128	9.391	7.743	6.385	4.947	4.079	3.364	3.005	2.774	2.607	2.328	2.149	1.772	1.583	1.373	1.251	1.132	128
129	9.417	7.767	6.407	4.967	4.097	3.380	3.020	2.788	2.620	2.341	2.161	1.783	1.593	1.382	1.259	1.140	129
130	9.443	7.792	6.430	4.987	4.115	3.396	3.034	2.802	2.634	2.354	2.173	1.793	1.603	1.391	1.267	1.148	130
131	9.470	7.817	6.452	5.007	4.133	3.412	3.049	2.816	2.647	2.366	2.185	1.804	1.612	1.400	1.275	1.155	131
132	9.496	7.841	6.475	5.027	4.151	3.428	3.064	2.830	2.661	2.379	2.197	1.815	1.622	1.409	1.284	1.163	132
133	9.523	7.866	6.498	5.047	4.169	3.444	3.080	2.845	2.675	2.392	2.210	1.825	1.632	1.418	1.292	1.171	133
134	9.549	7.891	6.521	5.067	4.187	3.460	3.095	2.859	2.689	2.405	2.222	1.836	1.642	1.427	1.301	1.179	134
135	9.576	7.916	6.544	5.088	4.205	3.476	3.110	2.874	2.703	2.418	2.234	1.847	1.652	1.436	1.309	1.187	135
136	9.603	7.941	6.567	5.108	4.224	3.493	3.125	2.888	2.717	2.431	2.247	1.858	1.662	1.445	1.318	1.195	136
137	9.630	7.966	6.590	5.128	4.242	3.509	3.141	2.903	2.731	2.444	2.259	1.869	1.673	1.454	1.326	1.203	137
138	9.657	7.991	6.613	5.149	4.261	3.526	3.156	2.918	2.745	2.457	2.272	1.880	1.683	1.464	1.335	1.211	138
139	9.684	8.016	6.636	5.169	4.279	3.542	3.172	2.932	2.759	2.471	2.284	1.891	1.693	1.473	1.344	1.219	139
140	9.711	8.042	6.660	5.190	4.298	3.559	3.187	2.947	2.774	2.484	2.297	1.902	1.703	1.482	1.353	1.228	140
141	9.738	8.067	6.683	5.211	4.317	3.576	3.203	2.962	2.788	2.497	2.310	1.913	1.714	1.492	1.362	1.236	141
142	9.765	8.093	6.706	5.232	4.335	3.593	3.219	2.977	2.803	2.511	2.323	1.925	1.724	1.501	1.371	1.244	142
143	9.793	8.118	6.730	5.252	4.354	3.610	3.235	2.993	2.817	2.525	2.336	1.936	1.735	1.511	1.380	1.253	143
144	9.820	8.144	6.754	5.273	4.373	3.627	3.251	3.008	2.832	2.538	2.349	1.948	1.746	1.521	1.389	1.261	144
145	9.848	8.170	6.778	5.295	4.392	3.644	3.267	3.023	2.847	2.552	2.362	1.959	1.756	1.530	1.398	1.270	145
146	9.875	8.195	6.801	5.316	4.411	3.661	3.283	3.038	2.861	2.566	2.375	1.971	1.767	1.540	1.407	1.278	146
147	9.903	8.221	6.825	5.337	4.431	3.678	3.299	3.054	2.876	2.580	2.388	1.982	1.778	1.550	1.416	1.287	147
148	9.931	8.247	6.849	5.358	4.450	3.696	3.315	3.069	2.891	2.593	2.401	1.994	1.789	1.560	1.426	1.296	148
149	9.959	8.273	6.873	5.380	4.469	3.713	3.332	3.085	2.906	2.607	2.414	2.006	1.800	1.570	1.435	1.304	149
150	9.986	8.299	6.898	5.401	4.489	3.731	3.348	3.101	2.921	2.622	2.428	2.018	1.811	1.580	1.444	1.313	150
151	10.014	8.326	6.922	5.423	4.508	3.748	3.364	3.116	2.936	2.636	2.441	2.030	1.822	1.590	1.454	1.322	151
152	10.042	8.352	6.946	5.444	4.528	3.766	3.381	3.132	2.952	2.650	2.455	2.042	1.833	1.600	1.463	1.331	152
153	10.071	8.378	6.971	5.466	4.548	3.784	3.398	3.148	2.967	2.664	2.469	2.054	1.844	1.610	1.473	1.340	153
154	10.099	8.405	6.995	5.488	4.568	3.802	3.414	3.164	2.982	2.679	2.482	2.066	1.856	1.621	1.483	1.349	154
155	10.127	8.431	7.020	5.510	4.588	3.819	3.431	3.180	2.998	2.693	2.496	2.078	1.867	1.631	1.492	1.358	155
156	10.155	8.458	7.045	5.532	4.608	3.837	3.448	3.196	3.013	2.708	2.510	2.090	1.878	1.642	1.502	1.367	156
157	10.184	8.485	7.069	5.554	4.628	3.856	3.465	3.212	3.029	2.722	2.524	2.103	1.890	1.652	1.512	1.376	157
158	10.212	8.512	7.094	5.576	4.648	3.874	3.482	3.229	3.045	2.737	2.538	2.115	1.901	1.663	1.522	1.386	158
159	10.241	8.539	7.119	5.599	4.668	3.892	3.499	3.245	3.061	2.752	2.552	2.128	1.913	1.673	1.532	1.395	159
160	10.270	8.566	7.144	5.621	4.688	3.910	3.517	3.262	3.077	2.767	2.566	2.140	1.925	1.684	1.542	1.405	160
161	10.298	8.593	7.170	5.643	4.709	3.929	3.534	3.278	3.093	2.782	2.580	2.153	1.937	1.695	1.552	1.414	161
162	10.327	8.620	7.195	5.666	4.729	3.947	3.551	3.295	3.109	2.797	2.595	2.166	1.949	1.706	1.562	1.424	162
163	10.356	8.647	7.220	5.689	4.750	3.966	3.569	3.312	3.125	2.812	2.609	2.179	1.960	1.716	1.573	1.433	163
164	10.385	8.674	7.246	5.711	4.771	3.985	3.587	3.328	3.141	2.827	2.624	2.191	1.972	1.727	1.583	1.443	164
165	10.414	8.702	7.271	5.734	4.791	4.004	3.604	3.345	3.157	2.842	2.638	2.204	1.985	1.738	1.593	1.453	165
166	10.443	8.729	7.297	5.757	4.812	4.022	3.622	3.362	3.174	2.858	2.653	2.217	1.997	1.750	1.604	1.462	166
167	10.473	8.757	7.322	5.780	4.833	4.041	3.640	3.379	3.190	2.873	2.668	2.231	2.009	1.761	1.614	1.472	167
168	10.502	8.784	7.348	5.803	4.854	4.060	3.658	3.397	3.207	2.889	2.682	2.244	2.021	1.772	1.625	1.482	168

Table 21. Bank-storage loss for reusable-water flows ranging from 1 to 200 cubic feet per second for selected native streamflows for subreach MSR14, Fountain Creek at confluence with Monument Creek downstream to station 07105500 Fountain Creek at Colorado Springs.—Continued

[Reusable-water flow, native streamflow, and bank-storage loss in cubic feet per second]

Reusable-water flow	Bank-storage loss for indicated native streamflow															Reusable-water flow	
	0	1	2	5	10	20	30	40	50	75	100	200	300	500	700		1,000
169	10.531	8.812	7.374	5.826	4.875	4.080	3.676	3.414	3.223	2.904	2.697	2.257	2.034	1.783	1.636	1.492	169
170	10.561	8.840	7.400	5.850	4.897	4.099	3.694	3.431	3.240	2.920	2.712	2.270	2.046	1.795	1.646	1.502	170
171	10.590	8.868	7.426	5.873	4.918	4.118	3.712	3.449	3.257	2.936	2.727	2.284	2.059	1.806	1.657	1.513	171
172	10.620	8.896	7.452	5.897	4.939	4.138	3.730	3.466	3.274	2.952	2.743	2.297	2.071	1.818	1.668	1.523	172
173	10.650	8.924	7.478	5.920	4.961	4.157	3.749	3.484	3.291	2.968	2.758	2.311	2.084	1.829	1.679	1.533	173
174	10.680	8.952	7.505	5.944	4.983	4.177	3.767	3.501	3.308	2.984	2.773	2.325	2.097	1.841	1.690	1.543	174
175	10.709	8.981	7.531	5.967	5.004	4.196	3.786	3.519	3.325	3.000	2.788	2.338	2.110	1.853	1.701	1.554	175
176	10.739	9.009	7.558	5.991	5.026	4.216	3.804	3.537	3.342	3.016	2.804	2.352	2.122	1.865	1.712	1.564	176
177	10.770	9.037	7.584	6.015	5.048	4.236	3.823	3.555	3.360	3.032	2.820	2.366	2.135	1.877	1.724	1.575	177
178	10.800	9.066	7.611	6.039	5.070	4.256	3.842	3.573	3.377	3.049	2.835	2.380	2.149	1.889	1.735	1.585	178
179	10.830	9.095	7.638	6.063	5.092	4.276	3.861	3.591	3.395	3.065	2.851	2.394	2.162	1.901	1.746	1.596	179
180	10.860	9.123	7.665	6.088	5.114	4.296	3.880	3.609	3.412	3.082	2.867	2.408	2.175	1.913	1.758	1.607	180
181	10.891	9.152	7.692	6.112	5.136	4.317	3.899	3.628	3.430	3.098	2.883	2.423	2.188	1.925	1.769	1.618	181
182	10.921	9.181	7.719	6.136	5.159	4.337	3.918	3.646	3.448	3.115	2.899	2.437	2.202	1.937	1.781	1.629	182
183	10.952	9.210	7.746	6.161	5.181	4.357	3.938	3.665	3.466	3.132	2.915	2.451	2.215	1.950	1.793	1.640	183
184	10.982	9.239	7.773	6.186	5.204	4.378	3.957	3.683	3.484	3.149	2.931	2.466	2.229	1.962	1.804	1.651	184
185	11.013	9.268	7.800	6.210	5.227	4.399	3.977	3.702	3.502	3.166	2.947	2.480	2.242	1.975	1.816	1.662	185
186	11.044	9.298	7.828	6.235	5.249	4.419	3.996	3.721	3.520	3.183	2.964	2.495	2.256	1.987	1.828	1.673	186
187	11.075	9.327	7.855	6.260	5.272	4.440	4.016	3.740	3.538	3.200	2.980	2.510	2.270	2.000	1.840	1.685	187
188	11.106	9.357	7.883	6.285	5.295	4.461	4.036	3.759	3.557	3.218	2.997	2.525	2.284	2.013	1.852	1.696	188
189	11.137	9.386	7.911	6.310	5.318	4.482	4.056	3.778	3.575	3.235	3.013	2.540	2.298	2.026	1.864	1.707	189
190	11.168	9.416	7.939	6.335	5.341	4.503	4.076	3.797	3.594	3.252	3.030	2.555	2.312	2.039	1.877	1.719	190
191	11.200	9.446	7.967	6.361	5.365	4.525	4.096	3.816	3.613	3.270	3.047	2.570	2.326	2.052	1.889	1.731	191
192	11.231	9.475	7.995	6.386	5.388	4.546	4.116	3.836	3.631	3.288	3.064	2.585	2.340	2.065	1.901	1.742	192
193	11.262	9.505	8.023	6.412	5.412	4.567	4.136	3.855	3.650	3.305	3.081	2.600	2.355	2.078	1.914	1.754	193
194	11.294	9.535	8.051	6.437	5.435	4.589	4.156	3.875	3.669	3.323	3.098	2.616	2.369	2.091	1.927	1.766	194
195	11.325	9.566	8.079	6.463	5.459	4.611	4.177	3.894	3.688	3.341	3.115	2.631	2.384	2.105	1.939	1.778	195
196	11.357	9.596	8.108	6.489	5.483	4.632	4.198	3.914	3.707	3.359	3.133	2.647	2.398	2.118	1.952	1.790	196
197	11.389	9.626	8.136	6.515	5.506	4.654	4.218	3.934	3.727	3.378	3.150	2.662	2.413	2.132	1.965	1.802	197
198	11.421	9.657	8.165	6.541	5.530	4.676	4.239	3.954	3.746	3.396	3.167	2.678	2.428	2.145	1.978	1.814	198
199	11.453	9.687	8.194	6.567	5.555	4.698	4.260	3.974	3.765	3.414	3.185	2.694	2.443	2.159	1.991	1.826	199
200	11.485	9.718	8.222	6.593	5.579	4.720	4.281	3.994	3.785	3.433	3.203	2.710	2.458	2.173	2.004	1.839	200

Table 22. Bank-storage loss for reusable-water flows ranging from 1 to 200 cubic feet per second for selected native streamflows for subreach MSR15, station 07105500 Fountain Creek at Colorado Springs downstream to Fountain Creek at Las Vegas Street wastewater-treatment facility.

[Reusable-water flow, native streamflow, and bank-storage loss in cubic feet per second]

Reusable-water flow	Bank-storage loss for indicated native streamflow															Reusable-water flow	
	0	1	2	5	10	20	30	40	50	75	100	200	300	500	700		1,000
1	0.235	0.163	0.113	0.069	0.048	0.033	0.027	0.023	0.020	0.016	0.014	0.010	0.008	0.006	0.005	0.004	1
2	0.389	0.271	0.188	0.117	0.081	0.057	0.046	0.039	0.035	0.028	0.024	0.017	0.014	0.010	0.009	0.007	2
3	0.643	0.450	0.315	0.196	0.138	0.096	0.078	0.067	0.060	0.049	0.042	0.029	0.024	0.018	0.015	0.013	3
4	0.804	0.564	0.396	0.248	0.175	0.123	0.100	0.086	0.077	0.062	0.054	0.038	0.031	0.024	0.020	0.017	4
5	1.004	0.708	0.499	0.314	0.222	0.156	0.127	0.110	0.098	0.080	0.069	0.049	0.040	0.031	0.026	0.022	5
6	1.146	0.811	0.574	0.363	0.257	0.182	0.149	0.129	0.115	0.094	0.082	0.058	0.047	0.037	0.031	0.026	6
7	1.308	0.929	0.660	0.420	0.299	0.212	0.174	0.151	0.135	0.111	0.096	0.068	0.056	0.043	0.037	0.031	7
8	1.421	1.013	0.723	0.463	0.330	0.236	0.193	0.168	0.151	0.124	0.108	0.077	0.063	0.049	0.042	0.035	8
9	1.543	1.105	0.792	0.509	0.365	0.261	0.215	0.187	0.168	0.138	0.120	0.086	0.071	0.055	0.047	0.040	9
10	1.676	1.206	0.867	0.561	0.403	0.290	0.239	0.209	0.188	0.155	0.135	0.097	0.080	0.063	0.054	0.045	10
11	1.755	1.267	0.915	0.595	0.429	0.310	0.256	0.224	0.201	0.167	0.145	0.105	0.087	0.068	0.058	0.049	11
12	1.838	1.332	0.965	0.631	0.457	0.331	0.274	0.240	0.216	0.179	0.157	0.114	0.094	0.074	0.064	0.054	12
13	1.925	1.400	1.019	0.669	0.487	0.354	0.294	0.257	0.232	0.193	0.169	0.123	0.102	0.081	0.069	0.059	13
14	2.016	1.472	1.075	0.709	0.518	0.378	0.315	0.276	0.250	0.208	0.182	0.133	0.111	0.088	0.075	0.064	14
15	2.111	1.547	1.134	0.752	0.551	0.404	0.337	0.296	0.268	0.224	0.197	0.144	0.120	0.095	0.082	0.070	15
16	2.179	1.602	1.178	0.784	0.576	0.424	0.354	0.311	0.282	0.235	0.207	0.152	0.127	0.101	0.087	0.074	16
17	2.251	1.659	1.223	0.817	0.602	0.444	0.371	0.327	0.296	0.248	0.218	0.161	0.135	0.108	0.093	0.079	17
18	2.324	1.718	1.269	0.851	0.629	0.465	0.390	0.344	0.312	0.261	0.230	0.170	0.143	0.114	0.099	0.084	18
19	2.400	1.779	1.318	0.887	0.657	0.487	0.409	0.361	0.328	0.275	0.243	0.180	0.151	0.121	0.105	0.090	19
20	2.478	1.842	1.368	0.924	0.687	0.510	0.429	0.379	0.345	0.290	0.256	0.190	0.160	0.129	0.111	0.095	20
21	2.530	1.884	1.403	0.950	0.707	0.527	0.443	0.392	0.357	0.300	0.266	0.198	0.166	0.134	0.116	0.100	21
22	2.583	1.927	1.438	0.976	0.728	0.544	0.458	0.406	0.369	0.311	0.275	0.205	0.173	0.140	0.121	0.104	22
23	2.637	1.972	1.474	1.004	0.750	0.561	0.473	0.419	0.382	0.322	0.285	0.213	0.180	0.145	0.126	0.109	23
24	2.692	2.017	1.511	1.031	0.773	0.579	0.489	0.434	0.395	0.334	0.296	0.222	0.187	0.151	0.132	0.113	24
25	2.748	2.063	1.549	1.060	0.796	0.597	0.505	0.448	0.409	0.346	0.307	0.230	0.195	0.158	0.137	0.118	25
26	2.806	2.111	1.588	1.090	0.820	0.617	0.522	0.464	0.423	0.358	0.318	0.239	0.203	0.164	0.143	0.124	26
27	2.865	2.159	1.627	1.120	0.844	0.636	0.539	0.480	0.438	0.371	0.330	0.249	0.211	0.171	0.149	0.129	27
28	2.924	2.209	1.668	1.151	0.869	0.657	0.557	0.496	0.453	0.385	0.342	0.258	0.219	0.178	0.156	0.135	28
29	2.986	2.259	1.710	1.183	0.895	0.678	0.576	0.513	0.469	0.398	0.355	0.269	0.228	0.186	0.162	0.141	29
30	3.048	2.311	1.753	1.216	0.922	0.699	0.595	0.530	0.485	0.413	0.368	0.279	0.237	0.193	0.169	0.147	30
31	3.089	2.346	1.782	1.239	0.941	0.715	0.608	0.543	0.497	0.423	0.377	0.287	0.244	0.199	0.174	0.151	31
32	3.130	2.381	1.812	1.262	0.960	0.730	0.622	0.555	0.509	0.434	0.387	0.294	0.251	0.205	0.180	0.156	32
33	3.172	2.417	1.842	1.285	0.979	0.746	0.636	0.569	0.521	0.444	0.397	0.302	0.258	0.211	0.185	0.161	33
34	3.215	2.453	1.872	1.309	0.999	0.763	0.651	0.582	0.533	0.455	0.407	0.311	0.265	0.217	0.191	0.166	34
35	3.258	2.490	1.903	1.334	1.020	0.779	0.666	0.596	0.546	0.467	0.417	0.319	0.273	0.224	0.196	0.171	35
36	3.302	2.528	1.935	1.359	1.040	0.796	0.681	0.610	0.559	0.478	0.428	0.328	0.280	0.230	0.202	0.176	36
37	3.346	2.565	1.967	1.384	1.061	0.814	0.697	0.624	0.573	0.490	0.439	0.337	0.288	0.237	0.208	0.182	37
38	3.391	2.604	2.000	1.410	1.083	0.832	0.712	0.638	0.586	0.502	0.450	0.346	0.296	0.244	0.214	0.187	38
39	3.437	2.643	2.033	1.437	1.105	0.850	0.729	0.653	0.600	0.515	0.462	0.355	0.305	0.251	0.221	0.193	39
40	3.483	2.683	2.066	1.463	1.127	0.868	0.745	0.669	0.615	0.528	0.474	0.365	0.313	0.258	0.228	0.199	40
41	3.515	2.711	2.091	1.484	1.144	0.883	0.758	0.681	0.626	0.538	0.483	0.372	0.320	0.264	0.233	0.204	41
42	3.548	2.740	2.116	1.504	1.161	0.897	0.771	0.693	0.638	0.548	0.492	0.380	0.327	0.270	0.238	0.209	42
43	3.581	2.769	2.142	1.525	1.179	0.912	0.784	0.705	0.649	0.558	0.502	0.388	0.334	0.276	0.244	0.214	43
44	3.614	2.799	2.167	1.546	1.197	0.927	0.798	0.718	0.661	0.569	0.512	0.396	0.341	0.283	0.250	0.219	44
45	3.648	2.829	2.193	1.567	1.215	0.942	0.812	0.730	0.673	0.580	0.522	0.405	0.349	0.289	0.255	0.224	45
46	3.682	2.859	2.220	1.588	1.233	0.957	0.826	0.743	0.685	0.591	0.532	0.413	0.356	0.296	0.261	0.230	46
47	3.716	2.889	2.246	1.610	1.252	0.973	0.840	0.757	0.698	0.602	0.542	0.422	0.364	0.302	0.268	0.235	47
48	3.751	2.920	2.273	1.632	1.271	0.989	0.854	0.770	0.710	0.614	0.553	0.431	0.372	0.309	0.274	0.241	48
49	3.786	2.951	2.300	1.655	1.290	1.005	0.869	0.784	0.723	0.625	0.564	0.440	0.380	0.316	0.280	0.246	49
50	3.821	2.982	2.328	1.678	1.309	1.022	0.884	0.798	0.737	0.637	0.575	0.449	0.388	0.323	0.287	0.252	50
51	3.843	3.002	2.345	1.692	1.321	1.032	0.893	0.806	0.745	0.645	0.582	0.454	0.393	0.328	0.291	0.256	51
52	3.865	3.022	2.362	1.706	1.334	1.043	0.903	0.815	0.753	0.652	0.589	0.460	0.399	0.332	0.295	0.260	52
53	3.887	3.041	2.380	1.720	1.346	1.053	0.912	0.824	0.761	0.660	0.596	0.466	0.404	0.337	0.299	0.264	53
54	3.910	3.061	2.397	1.735	1.358	1.064	0.922	0.833	0.770	0.667	0.603	0.472	0.409	0.342	0.303	0.267	54
55	3.932	3.081	2.415	1.749	1.371	1.074	0.932	0.842	0.778	0.675	0.610	0.478	0.414	0.346	0.308	0.271	55
56	3.955	3.102	2.433	1.764	1.384	1.085	0.941	0.851	0.787	0.683	0.617	0.484	0.420	0.351	0.312	0.275	56

Table 22. Bank-storage loss for reusable-water flows ranging from 1 to 200 cubic feet per second for selected native streamflows for subreach MSR15, station 07105500 Fountain Creek at Colorado Springs downstream to Fountain Creek at Las Vegas Street wastewater-treatment facility.—Continued

[Reusable-water flow, native streamflow, and bank-storage loss in cubic feet per second]

Reusable-water flow	Bank-storage loss for indicated native streamflow															Reusable-water flow	
	0	1	2	5	10	20	30	40	50	75	100	200	300	500	700		1,000
57	3.978	3.122	2.451	1.779	1.396	1.096	0.951	0.860	0.796	0.691	0.625	0.490	0.425	0.356	0.316	0.279	57
58	4.001	3.142	2.469	1.794	1.409	1.107	0.961	0.870	0.805	0.699	0.632	0.496	0.431	0.361	0.321	0.283	58
59	4.024	3.163	2.487	1.809	1.422	1.118	0.971	0.879	0.814	0.707	0.640	0.503	0.437	0.366	0.325	0.288	59
60	4.047	3.184	2.505	1.824	1.435	1.129	0.982	0.889	0.823	0.715	0.647	0.509	0.443	0.371	0.330	0.292	60
61	4.070	3.205	2.523	1.840	1.449	1.141	0.992	0.898	0.832	0.723	0.655	0.516	0.448	0.376	0.335	0.296	61
62	4.093	3.226	2.542	1.855	1.462	1.152	1.002	0.908	0.841	0.732	0.663	0.522	0.454	0.381	0.339	0.300	62
63	4.117	3.247	2.561	1.871	1.476	1.164	1.013	0.918	0.850	0.740	0.671	0.529	0.460	0.386	0.344	0.305	63
64	4.141	3.268	2.580	1.887	1.489	1.175	1.023	0.928	0.860	0.749	0.679	0.536	0.466	0.392	0.349	0.309	64
65	4.164	3.290	2.599	1.903	1.503	1.187	1.034	0.938	0.869	0.757	0.687	0.542	0.473	0.397	0.354	0.314	65
66	4.188	3.311	2.618	1.919	1.517	1.199	1.045	0.948	0.879	0.766	0.695	0.549	0.479	0.403	0.359	0.318	66
67	4.212	3.333	2.637	1.935	1.531	1.211	1.056	0.958	0.889	0.775	0.703	0.556	0.485	0.408	0.364	0.323	67
68	4.237	3.355	2.656	1.951	1.545	1.223	1.067	0.969	0.899	0.784	0.711	0.563	0.491	0.414	0.369	0.328	68
69	4.261	3.377	2.676	1.967	1.559	1.236	1.078	0.979	0.909	0.793	0.720	0.571	0.498	0.419	0.375	0.332	69
70	4.286	3.399	2.696	1.984	1.574	1.248	1.090	0.990	0.919	0.802	0.729	0.578	0.505	0.425	0.380	0.337	70
71	4.310	3.421	2.715	2.001	1.588	1.260	1.101	1.000	0.929	0.811	0.737	0.585	0.511	0.431	0.385	0.342	71
72	4.335	3.443	2.735	2.018	1.603	1.273	1.113	1.011	0.939	0.821	0.746	0.593	0.518	0.437	0.391	0.347	72
73	4.360	3.466	2.756	2.035	1.618	1.286	1.124	1.022	0.950	0.830	0.755	0.600	0.525	0.443	0.396	0.352	73
74	4.385	3.489	2.776	2.052	1.632	1.299	1.136	1.033	0.960	0.840	0.764	0.608	0.532	0.449	0.402	0.357	74
75	4.410	3.512	2.796	2.069	1.647	1.312	1.148	1.045	0.971	0.850	0.773	0.615	0.539	0.455	0.408	0.363	75
76	4.436	3.535	2.817	2.086	1.663	1.325	1.160	1.056	0.982	0.859	0.782	0.623	0.546	0.462	0.413	0.368	76
77	4.461	3.558	2.838	2.104	1.678	1.338	1.172	1.067	0.992	0.869	0.791	0.631	0.553	0.468	0.419	0.373	77
78	4.487	3.581	2.858	2.122	1.694	1.352	1.185	1.079	1.003	0.879	0.801	0.639	0.560	0.475	0.425	0.379	78
79	4.513	3.605	2.879	2.140	1.709	1.365	1.197	1.091	1.015	0.890	0.810	0.647	0.568	0.481	0.431	0.384	79
80	4.538	3.628	2.901	2.158	1.725	1.379	1.210	1.102	1.026	0.900	0.820	0.656	0.575	0.488	0.437	0.390	80
81	4.565	3.652	2.922	2.176	1.741	1.393	1.222	1.114	1.037	0.910	0.830	0.664	0.583	0.494	0.444	0.396	81
82	4.591	3.676	2.944	2.194	1.757	1.407	1.235	1.126	1.049	0.921	0.840	0.672	0.590	0.501	0.450	0.401	82
83	4.617	3.700	2.965	2.213	1.773	1.421	1.248	1.139	1.060	0.932	0.850	0.681	0.598	0.508	0.456	0.407	83
84	4.644	3.724	2.987	2.231	1.790	1.435	1.261	1.151	1.072	0.942	0.860	0.690	0.606	0.515	0.463	0.413	84
85	4.671	3.749	3.009	2.250	1.806	1.450	1.275	1.164	1.084	0.953	0.870	0.698	0.614	0.522	0.469	0.419	85
86	4.697	3.773	3.031	2.269	1.823	1.464	1.288	1.176	1.096	0.964	0.880	0.707	0.622	0.529	0.476	0.425	86
87	4.724	3.798	3.053	2.288	1.840	1.479	1.302	1.189	1.108	0.975	0.891	0.716	0.630	0.537	0.483	0.432	87
88	4.752	3.823	3.076	2.307	1.857	1.494	1.315	1.202	1.121	0.987	0.902	0.725	0.639	0.544	0.490	0.438	88
89	4.779	3.848	3.099	2.327	1.874	1.509	1.329	1.215	1.133	0.998	0.912	0.735	0.647	0.552	0.497	0.444	89
90	4.806	3.873	3.121	2.346	1.891	1.524	1.343	1.228	1.146	1.010	0.923	0.744	0.656	0.559	0.504	0.451	90
91	4.834	3.899	3.144	2.366	1.908	1.539	1.357	1.241	1.158	1.021	0.934	0.753	0.664	0.567	0.511	0.457	91
92	4.862	3.924	3.167	2.386	1.926	1.555	1.371	1.255	1.171	1.033	0.945	0.763	0.673	0.575	0.518	0.464	92
93	4.890	3.950	3.191	2.406	1.944	1.570	1.386	1.268	1.184	1.045	0.957	0.773	0.682	0.583	0.525	0.471	93
94	4.918	3.976	3.214	2.427	1.962	1.586	1.400	1.282	1.197	1.057	0.968	0.783	0.691	0.591	0.533	0.478	94
95	4.946	4.002	3.238	2.447	1.980	1.602	1.415	1.296	1.211	1.069	0.979	0.792	0.700	0.599	0.540	0.485	95
96	4.975	4.028	3.262	2.468	1.998	1.618	1.430	1.310	1.224	1.082	0.991	0.803	0.709	0.607	0.548	0.492	96
97	5.003	4.055	3.286	2.488	2.017	1.634	1.445	1.324	1.238	1.094	1.003	0.813	0.719	0.615	0.556	0.499	97
98	5.032	4.081	3.310	2.509	2.035	1.651	1.460	1.339	1.251	1.107	1.015	0.823	0.728	0.624	0.564	0.506	98
99	5.061	4.108	3.334	2.530	2.054	1.667	1.476	1.353	1.265	1.120	1.027	0.834	0.738	0.633	0.572	0.514	99
100	5.090	4.135	3.359	2.552	2.073	1.684	1.491	1.368	1.279	1.133	1.039	0.844	0.748	0.641	0.580	0.521	100
101	5.103	4.147	3.370	2.562	2.082	1.692	1.498	1.375	1.286	1.139	1.045	0.849	0.752	0.645	0.584	0.525	101
102	5.116	4.159	3.381	2.571	2.090	1.699	1.506	1.381	1.292	1.145	1.051	0.854	0.757	0.649	0.587	0.528	102
103	5.130	4.172	3.393	2.581	2.099	1.707	1.513	1.388	1.299	1.151	1.056	0.859	0.761	0.654	0.591	0.532	103
104	5.143	4.184	3.404	2.591	2.108	1.715	1.520	1.395	1.306	1.157	1.062	0.864	0.766	0.658	0.595	0.535	104
105	5.156	4.196	3.415	2.601	2.117	1.723	1.527	1.402	1.312	1.163	1.068	0.869	0.771	0.662	0.599	0.539	105
106	5.170	4.209	3.427	2.611	2.126	1.731	1.535	1.409	1.319	1.169	1.074	0.874	0.775	0.666	0.603	0.542	106
107	5.183	4.221	3.438	2.621	2.135	1.739	1.542	1.416	1.326	1.176	1.080	0.879	0.780	0.670	0.607	0.546	107
108	5.196	4.234	3.450	2.631	2.144	1.747	1.550	1.423	1.332	1.182	1.086	0.885	0.785	0.675	0.611	0.550	108
109	5.210	4.246	3.461	2.641	2.153	1.755	1.557	1.430	1.339	1.188	1.092	0.890	0.789	0.679	0.615	0.553	109
110	5.223	4.259	3.473	2.652	2.162	1.763	1.565	1.437	1.346	1.195	1.098	0.895	0.794	0.683	0.619	0.557	110
111	5.237	4.272	3.484	2.662	2.171	1.771	1.572	1.445	1.353	1.201	1.104	0.900	0.799	0.688	0.623	0.561	111
112	5.250	4.284	3.496	2.672	2.180	1.779	1.580	1.452	1.360	1.207	1.110	0.905	0.804	0.692	0.627	0.565	112

Table 22. Bank-storage loss for reusable-water flows ranging from 1 to 200 cubic feet per second for selected native streamflows for subreach MSR15, station 07105500 Fountain Creek at Colorado Springs downstream to Fountain Creek at Las Vegas Street wastewater-treatment facility.—Continued

[Reusable-water flow, native streamflow, and bank-storage loss in cubic feet per second]

Reusable-water flow	Bank-storage loss for indicated native streamflow															Reusable-water flow	
	0	1	2	5	10	20	30	40	50	75	100	200	300	500	700		1,000
113	5.264	4.297	3.508	2.682	2.190	1.787	1.587	1.459	1.367	1.214	1.116	0.911	0.809	0.696	0.631	0.569	113
114	5.277	4.310	3.519	2.692	2.199	1.796	1.595	1.466	1.374	1.220	1.122	0.916	0.814	0.701	0.635	0.572	114
115	5.291	4.322	3.531	2.703	2.208	1.804	1.603	1.474	1.381	1.227	1.128	0.921	0.819	0.705	0.639	0.576	115
116	5.305	4.335	3.543	2.713	2.217	1.812	1.610	1.481	1.388	1.233	1.134	0.927	0.824	0.710	0.644	0.580	116
117	5.318	4.348	3.555	2.724	2.227	1.820	1.618	1.488	1.395	1.240	1.140	0.932	0.829	0.714	0.648	0.584	117
118	5.332	4.361	3.567	2.734	2.236	1.829	1.626	1.496	1.402	1.246	1.147	0.938	0.834	0.719	0.652	0.588	118
119	5.346	4.374	3.578	2.745	2.246	1.837	1.634	1.503	1.409	1.253	1.153	0.943	0.839	0.723	0.656	0.592	119
120	5.360	4.387	3.590	2.755	2.255	1.846	1.642	1.511	1.416	1.260	1.159	0.949	0.844	0.728	0.661	0.596	120
121	5.373	4.400	3.602	2.766	2.265	1.854	1.650	1.518	1.424	1.266	1.166	0.954	0.849	0.733	0.665	0.600	121
122	5.387	4.413	3.614	2.776	2.274	1.863	1.657	1.526	1.431	1.273	1.172	0.960	0.854	0.737	0.669	0.604	122
123	5.401	4.426	3.627	2.787	2.284	1.871	1.665	1.533	1.438	1.280	1.178	0.966	0.859	0.742	0.674	0.608	123
124	5.415	4.439	3.639	2.798	2.293	1.880	1.673	1.541	1.445	1.287	1.185	0.971	0.865	0.747	0.678	0.612	124
125	5.429	4.452	3.651	2.808	2.303	1.889	1.682	1.549	1.453	1.294	1.191	0.977	0.870	0.751	0.682	0.616	125
126	5.443	4.465	3.663	2.819	2.313	1.897	1.690	1.556	1.460	1.300	1.198	0.983	0.875	0.756	0.687	0.620	126
127	5.457	4.478	3.675	2.830	2.322	1.906	1.698	1.564	1.468	1.307	1.204	0.988	0.880	0.761	0.691	0.625	127
128	5.471	4.492	3.687	2.841	2.332	1.915	1.706	1.572	1.475	1.314	1.211	0.994	0.886	0.766	0.696	0.629	128
129	5.486	4.505	3.700	2.852	2.342	1.924	1.714	1.580	1.483	1.321	1.218	1.000	0.891	0.771	0.701	0.633	129
130	5.500	4.518	3.712	2.863	2.352	1.932	1.722	1.588	1.490	1.328	1.224	1.006	0.897	0.776	0.705	0.637	130
131	5.514	4.532	3.725	2.874	2.362	1.941	1.731	1.595	1.498	1.335	1.231	1.012	0.902	0.781	0.710	0.642	131
132	5.528	4.545	3.737	2.885	2.372	1.950	1.739	1.603	1.505	1.342	1.238	1.018	0.908	0.786	0.714	0.646	132
133	5.542	4.559	3.749	2.896	2.382	1.959	1.747	1.611	1.513	1.350	1.245	1.024	0.913	0.791	0.719	0.650	133
134	5.557	4.572	3.762	2.907	2.392	1.968	1.756	1.619	1.521	1.357	1.251	1.030	0.919	0.796	0.724	0.655	134
135	5.571	4.586	3.775	2.918	2.402	1.977	1.764	1.627	1.529	1.364	1.258	1.036	0.924	0.801	0.729	0.659	135
136	5.585	4.599	3.787	2.929	2.412	1.986	1.773	1.636	1.536	1.371	1.265	1.042	0.930	0.806	0.733	0.664	136
137	5.600	4.613	3.800	2.941	2.422	1.995	1.781	1.644	1.544	1.379	1.272	1.048	0.935	0.811	0.738	0.668	137
138	5.614	4.627	3.812	2.952	2.433	2.005	1.790	1.652	1.552	1.386	1.279	1.054	0.941	0.816	0.743	0.672	138
139	5.629	4.640	3.825	2.963	2.443	2.014	1.799	1.660	1.560	1.393	1.286	1.060	0.947	0.821	0.748	0.677	139
140	5.643	4.654	3.838	2.975	2.453	2.023	1.807	1.668	1.568	1.401	1.293	1.066	0.953	0.826	0.753	0.682	140
141	5.658	4.668	3.851	2.986	2.463	2.032	1.816	1.677	1.576	1.408	1.300	1.073	0.958	0.832	0.758	0.686	141
142	5.673	4.682	3.864	2.998	2.474	2.042	1.825	1.685	1.584	1.416	1.307	1.079	0.964	0.837	0.763	0.691	142
143	5.687	4.695	3.877	3.009	2.484	2.051	1.834	1.693	1.592	1.423	1.314	1.085	0.970	0.842	0.768	0.695	143
144	5.702	4.709	3.890	3.021	2.495	2.061	1.842	1.702	1.600	1.431	1.322	1.092	0.976	0.848	0.773	0.700	144
145	5.717	4.723	3.903	3.032	2.505	2.070	1.851	1.710	1.608	1.438	1.329	1.098	0.982	0.853	0.778	0.705	145
146	5.731	4.737	3.916	3.044	2.516	2.080	1.860	1.719	1.617	1.446	1.336	1.104	0.988	0.858	0.783	0.710	146
147	5.746	4.751	3.929	3.056	2.526	2.089	1.869	1.727	1.625	1.454	1.343	1.111	0.994	0.864	0.788	0.714	147
148	5.761	4.765	3.942	3.067	2.537	2.099	1.878	1.736	1.633	1.461	1.351	1.117	1.000	0.869	0.793	0.719	148
149	5.776	4.779	3.955	3.079	2.548	2.108	1.887	1.745	1.641	1.469	1.358	1.124	1.006	0.875	0.798	0.724	149
150	5.791	4.794	3.968	3.091	2.559	2.118	1.896	1.753	1.650	1.477	1.366	1.131	1.012	0.881	0.803	0.729	150
151	5.806	4.808	3.981	3.103	2.569	2.128	1.905	1.762	1.658	1.485	1.373	1.137	1.018	0.886	0.809	0.734	151
152	5.821	4.822	3.995	3.115	2.580	2.138	1.915	1.771	1.667	1.493	1.381	1.144	1.024	0.892	0.814	0.739	152
153	5.836	4.836	4.008	3.127	2.591	2.147	1.924	1.780	1.675	1.501	1.388	1.150	1.031	0.897	0.819	0.744	153
154	5.851	4.851	4.021	3.139	2.602	2.157	1.933	1.788	1.684	1.509	1.396	1.157	1.037	0.903	0.825	0.749	154
155	5.866	4.865	4.035	3.151	2.613	2.167	1.942	1.797	1.692	1.517	1.403	1.164	1.043	0.909	0.830	0.754	155
156	5.881	4.879	4.048	3.163	2.624	2.177	1.952	1.806	1.701	1.525	1.411	1.171	1.050	0.915	0.835	0.759	156
157	5.896	4.894	4.062	3.175	2.635	2.187	1.961	1.815	1.710	1.533	1.419	1.178	1.056	0.920	0.841	0.764	157
158	5.912	4.908	4.075	3.187	2.646	2.197	1.971	1.824	1.718	1.541	1.427	1.185	1.062	0.926	0.846	0.769	158
159	5.927	4.923	4.089	3.199	2.657	2.207	1.980	1.833	1.727	1.549	1.435	1.192	1.069	0.932	0.852	0.774	159
160	5.942	4.938	4.103	3.212	2.669	2.217	1.990	1.842	1.736	1.558	1.442	1.198	1.075	0.938	0.858	0.780	160
161	5.958	4.952	4.116	3.224	2.680	2.228	1.999	1.852	1.745	1.566	1.450	1.206	1.082	0.944	0.863	0.785	161
162	5.973	4.967	4.130	3.236	2.691	2.238	2.009	1.861	1.754	1.574	1.458	1.213	1.089	0.950	0.869	0.790	162
163	5.988	4.982	4.144	3.249	2.703	2.248	2.019	1.870	1.763	1.583	1.466	1.220	1.095	0.956	0.874	0.795	163
164	6.004	4.996	4.158	3.261	2.714	2.259	2.028	1.879	1.772	1.591	1.474	1.227	1.102	0.962	0.880	0.801	164
165	6.019	5.011	4.172	3.274	2.725	2.269	2.038	1.889	1.781	1.599	1.482	1.234	1.108	0.968	0.886	0.806	165
166	6.035	5.026	4.186	3.286	2.737	2.279	2.048	1.898	1.790	1.608	1.490	1.241	1.115	0.975	0.892	0.812	166
167	6.051	5.041	4.200	3.299	2.748	2.290	2.058	1.908	1.799	1.617	1.499	1.249	1.122	0.981	0.898	0.817	167
168	6.066	5.056	4.214	3.312	2.760	2.300	2.068	1.917	1.808	1.625	1.507	1.256	1.129	0.987	0.903	0.823	168

Table 22. Bank-storage loss for reusable-water flows ranging from 1 to 200 cubic feet per second for selected native streamflows for subreach MSR15, station 07105500 Fountain Creek at Colorado Springs downstream to Fountain Creek at Las Vegas Street wastewater-treatment facility.—Continued

[Reusable-water flow, native streamflow, and bank-storage loss in cubic feet per second]

Reusable-water flow	Bank-storage loss for indicated native streamflow															Reusable-water flow	
	0	1	2	5	10	20	30	40	50	75	100	200	300	500	700		1,000
169	6.082	5.071	4.228	3.324	2.772	2.311	2.078	1.927	1.817	1.634	1.515	1.263	1.136	0.993	0.909	0.828	169
170	6.098	5.086	4.242	3.337	2.783	2.322	2.088	1.936	1.826	1.643	1.523	1.271	1.143	1.000	0.915	0.834	170
171	6.113	5.101	4.256	3.350	2.795	2.332	2.098	1.946	1.836	1.651	1.532	1.278	1.150	1.006	0.921	0.839	171
172	6.129	5.116	4.270	3.363	2.807	2.343	2.108	1.956	1.845	1.660	1.540	1.286	1.157	1.012	0.927	0.845	172
173	6.145	5.131	4.284	3.376	2.819	2.354	2.118	1.965	1.855	1.669	1.549	1.293	1.164	1.019	0.933	0.851	173
174	6.161	5.146	4.299	3.389	2.831	2.365	2.128	1.975	1.864	1.678	1.557	1.301	1.171	1.025	0.940	0.856	174
175	6.177	5.161	4.313	3.402	2.843	2.375	2.139	1.985	1.873	1.687	1.566	1.308	1.178	1.032	0.946	0.862	175
176	6.193	5.177	4.327	3.415	2.855	2.386	2.149	1.995	1.883	1.696	1.574	1.316	1.185	1.038	0.952	0.868	176
177	6.209	5.192	4.342	3.428	2.867	2.397	2.159	2.005	1.893	1.705	1.583	1.324	1.192	1.045	0.958	0.874	177
178	6.225	5.207	4.356	3.441	2.879	2.408	2.170	2.015	1.902	1.714	1.591	1.331	1.199	1.052	0.964	0.880	178
179	6.241	5.223	4.371	3.454	2.891	2.419	2.180	2.025	1.912	1.723	1.600	1.339	1.207	1.058	0.971	0.886	179
180	6.257	5.238	4.386	3.468	2.903	2.431	2.191	2.035	1.922	1.732	1.609	1.347	1.214	1.065	0.977	0.892	180
181	6.273	5.254	4.400	3.481	2.915	2.442	2.201	2.045	1.932	1.741	1.618	1.355	1.221	1.072	0.983	0.898	181
182	6.289	5.269	4.415	3.494	2.928	2.453	2.212	2.055	1.941	1.751	1.627	1.363	1.229	1.079	0.990	0.904	182
183	6.305	5.285	4.430	3.508	2.940	2.464	2.222	2.065	1.951	1.760	1.636	1.371	1.236	1.085	0.996	0.910	183
184	6.322	5.301	4.444	3.521	2.952	2.476	2.233	2.076	1.961	1.769	1.644	1.379	1.244	1.092	1.003	0.916	184
185	6.338	5.316	4.459	3.535	2.965	2.487	2.244	2.086	1.971	1.779	1.653	1.387	1.251	1.099	1.009	0.922	185
186	6.354	5.332	4.474	3.548	2.977	2.498	2.255	2.096	1.981	1.788	1.663	1.395	1.259	1.106	1.016	0.928	186
187	6.371	5.348	4.489	3.562	2.990	2.510	2.266	2.107	1.991	1.798	1.672	1.403	1.267	1.113	1.023	0.935	187
188	6.387	5.364	4.504	3.575	3.002	2.521	2.276	2.117	2.002	1.807	1.681	1.411	1.274	1.120	1.029	0.941	188
189	6.404	5.380	4.519	3.589	3.015	2.533	2.287	2.128	2.012	1.817	1.690	1.420	1.282	1.128	1.036	0.947	189
190	6.420	5.396	4.534	3.603	3.028	2.545	2.298	2.138	2.022	1.826	1.699	1.428	1.290	1.135	1.043	0.954	190
191	6.437	5.412	4.549	3.617	3.041	2.556	2.310	2.149	2.032	1.836	1.709	1.436	1.298	1.142	1.050	0.960	191
192	6.454	5.428	4.565	3.631	3.053	2.568	2.321	2.160	2.043	1.846	1.718	1.445	1.306	1.149	1.057	0.967	192
193	6.470	5.444	4.580	3.645	3.066	2.580	2.332	2.171	2.053	1.856	1.727	1.453	1.314	1.157	1.064	0.973	193
194	6.487	5.460	4.595	3.659	3.079	2.592	2.343	2.181	2.064	1.866	1.737	1.462	1.322	1.164	1.070	0.980	194
195	6.504	5.476	4.610	3.673	3.092	2.604	2.354	2.192	2.074	1.876	1.746	1.470	1.330	1.171	1.077	0.986	195
196	6.521	5.492	4.626	3.687	3.105	2.616	2.366	2.203	2.085	1.886	1.756	1.479	1.338	1.179	1.085	0.993	196
197	6.537	5.508	4.641	3.701	3.118	2.628	2.377	2.214	2.095	1.896	1.766	1.488	1.346	1.186	1.092	1.000	197
198	6.554	5.525	4.657	3.715	3.132	2.640	2.389	2.225	2.106	1.906	1.775	1.496	1.354	1.194	1.099	1.006	198
199	6.571	5.541	4.672	3.729	3.145	2.652	2.400	2.236	2.117	1.916	1.785	1.505	1.362	1.201	1.106	1.013	199
200	6.588	5.557	4.688	3.744	3.158	2.664	2.412	2.247	2.128	1.926	1.795	1.514	1.370	1.209	1.113	1.020	200