Hydrologic, Sediment, and Biological Data Associated with Irrigation Drainage in the Middle Green River Basin, Utah and Colorado, Water Years 1991-2000

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U.S. GEOLOGICAL SURVEY

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CONVERSION FACTORS, DATUMS, AND ABBREVIATED WATER-QUALITY UNITS

Multiply	By	To obtain
cubic foot per second (ft^3/s)	0.02832	cubic meter per second
foot (ft)	0.3048	meter
gallon per minute (gal/min)	0.06308	liter per second
inch (in.)	25.4	millimeter
inch (in.)	2.54	centimeter
mile (mi)	1.609	kilometer
square mile (mi^2)	2.590	square kilometer
ton	0.9072	metric ton or megagram

Degree Celsius (°C) may be converted to degree Fahrenheit (°F) by using the following equation:

$°F = 9/5(°C)+32.$

Degree Fahrenheit (°F) may be converted to degree Celsius (°C) by using the following equation:

$°C = 5/9(°F-32).$

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).

Chemical concentration and water temperature are reported only in metric units. Chemical concentration in water is reported in milligrams per liter (mg/L) or micrograms per liter (µg/L). Milligrams per liter is a unit expressing the solute per unit volume (liter) of water. One thousand micrograms per liter is equivalent to 1 milligram per liter. For concentrations less than 7,000 milligrams per liter, the numerical value is about the same as for concentrations in parts per million. Stable isotope concentration is reported as permil, which is equivalent to parts per thousand. Radioactivity in water is expressed in picocuries per liter (pCi/L), which is the amount of radioactive decay producing 2.2 disintegrations per minute in a unit volume (liter) of water. Radioactivity in sediment is expressed in picocuries per gram (pCi/g), which is the amount of radioactive decay producing 2.2 disintegrations per minute in a unit mass (gram) of sediment. Specific conductance is reported in microsiemens per centimeter at 25 degrees Celsius (µS/cm). Chemical concentration in sediment is reported in micrograms per gram (µg/g), which is equal to parts per million.

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ABSTRACT

Hydrologic, sediment, and biological data were collected in the middle Green River basin in eastern Utah from 1991 to 2000 in an effort to monitor the effects of irrigation drainage on wetland areas and streams, aid in the development of remediation plans, and evaluate the effectiveness of selenium remediation efforts at Stewart Lake Waterfowl Management Area (WMA). Data consist primarily of selenium concentrations in surface water, ground water, bottom sediment, and biological samples. Supporting hydrologic data include field measurements of temperature, pH, specific conductance, water levels in wells, and discharge at surface-water sites. Selected water samples also were analyzed for major ions, trace elements, nutrients, and gross alpha and beta radiation. The concentration of selected selenium species is reported for several bottom-sediment samples from Stewart Lake WMA and the concentration of total selenium in suspended-sediment samples from the area are included. Well logs for six wells installed at Stewart Lake WMA are presented along with trace-element data for several biological samples collected at selected sites throughout the middle Green River basin.

INTRODUCTION

During the last two decades, there has been increasing concern about the water quality of irrigation drainage, both surface and subsurface, and its potential effects on the health of humans, fish, and wildlife. In 1983, occurrences of mortality, birth defects, and reproductive failure in waterfowl were discovered by the U.S. Fish and Wildlife Service (USFWS) at the Kesterson National Wildlife Refuge (NWR) in western San Joaquin Valley, California. The unhealthy condition of waterfowl at Kesterson NWR was attributed to high selenium concentrations in irrigation drain water impounded in the refuge.

Because of concern that water-quality problems related to selenium or other trace inorganic and organic constituents in irrigation drainage might not be limited to the Kesterson NWR area, the U.S. Department of the Interior (DOI) began the National Irrigation Drainage Water-Quality Program (NIWQP) in 1985 to determine whether irrigation-related problems existed at other DOI-constructed or managed irrigation projects, NWRs, or other wetland areas for which the DOI has responsibility under the Migratory Bird Treaty Act, The Endangered Species Act, or other legislation. The program evolved into a five-phase process: (1) site identification, (2) reconnaissance investigations, (3) detailed studies, (4) planning for remediation, and (5) remediation. In the first three phases, the U.S. Geological Survey (USGS) directed the activities of study teams composed of scientists from the USGS, the USFWS, the Bureau of Reclamation (BOR), and the Bureau of Indian Affairs (BIA). Activities for phases 4 and 5 are conducted by the agency that constructed the project, either BIA or BOR.

The NIWQP identified 26 areas in 14 states that warranted reconnaissance investigations, which have been completed (U.S. Department of the Interior, 2002). The investigations were conducted to determine whether irrigation drainage (1) has caused or has the potential to cause significant harmful effects on the health of humans, fish, and wildlife, or (2) may adversely affect the suitability of water for other uses. The reconnaissance investigations indicated there were

sufficient problems to warrant further investigation at (1) Stillwater Wildlife Management Area, Nevada; (2) Salton Sea area, California; (3) middle Green River basin area, Utah, including Stewart Lake Wildlife Management Area (WMA) (Stephens and others, 1988); (4) Kendrick Project area, Wyoming; (5) Gunnison-Grand Valley areas, Colorado; (6) Sun River area, Montana; (7) San Juan River, New Mexico; and (8) Klamath Basin, California and Oregon. Detailed studies of each of these areas have been completed (U.S. Department of the Interior, 2002).

During the detailed study of the middle Green River basin (fig. 1), several areas were identified in which selenium was adversely affecting water quality and creating a hazard to wildlife (Stephens and others, 1992). For example, the median dissolved-selenium concentration in irrigation drain water that discharged to Stewart Lake WMA continually exceeded the State of Utah's standard for wildlife protection of 5 µg/L and was as high as 140 µg/L. Dissolved-selenium concentrations in the discharge measured at the irrigation drains and the outflow from Stewart Lake during the detailed study showed that 75 percent of the selenium load from the drains was retained in Stewart Lake, presumably in the bottom sediment and biota. Concentrations of total selenium in bottom material collected near the outfall of the irrigation drains at Stewart Lake were as high as 250 µg/g. Selenium concentrations in biota from Stewart Lake were high relative to concentrations measured at other sites in the middle Green River basin, resulting in low waterfowl nesting success and low populations of benthic insects. The elevated levels of selenium in water, sediment, and biota at Stewart Lake were of heightened concern because endangered fish that are endemic to the Green River, such as the razorback sucker (*Xyrauchen texamus*) and the Colorado pikeminnow (*Ptychocheilus lucius*), were known to use Stewart Lake as a rearing area. The source of the selenium in irrigation drain water at Stewart Lake WMA is irrigated soils derived from the Cretaceous-age Mancos Shale, a geologic formation known to contain elevated levels of selenium.

On the basis of findings in the detailed study of the middle Green River basin, an environmental assessment and alternatives for remediation of the Stewart Lake area were published (U.S. Department of the Interior, 1997). The NIWQP initiated remediation activities the same year. An inlet channel was excavated between Stewart Lake and the Green River in May 1997 to provide a temporary source of good-quality water during high stage events on the Green River. Stewart Lake was drained in July 1997 to dry the bottom sediment, discourage waterfowl from using the WMA, and prevent endangered fish, such as the razorback sucker, from migrating from the Green River to the lake during remediation activities. To prevent ponding of seepage water in the lake bottom during remediation activities, drain channels were excavated in October 1997. In November 1997 and June 1998, the subsurface irrigation drains that were the major source of selenium to Stewart Lake were rerouted around the lake and into the Green River. In May 1999, water-flow control structures were constructed at the new inlet channel and the outlet channel of Stewart Lake to aid in its future management. The infrastructure for a new water source for Stewart Lake will be completed in 2002. However, the new water source will not be used until efforts to reduce the concentration of selenium in the sediment are completed. These remediation actions are summarized in chronological order below. The reader will find it useful to refer to this chronology when viewing the data from Stewart Lake WMA in this report.

Stewart Lake Remediation Chronology

- May 1997—Inlet channel excavated between Stewart Lake and Green River.
- July 1997—Stewart Lake drained.
- October 1997—Drain channels excavated in lake bottom.
- November 1997—Subsurface irrigation drains J1 and J1a were combined and diverted around Stewart Lake to the Green River.
- June 1998—Subsurface irrigation drains J2, J3, and J4 were combined and diverted around Stewart Lake to the Green River.
- May 1999—Water-flow control structures were constructed at the inlet channel and outlet of Stewart Lake.

Beginning in the spring of 1997, annual flooding and draining of Stewart Lake with water from the Green River has been used to facilitate removal of selenium from bottom sediments in the WMA. This method of selenium remediation was chosen because of the relatively large decrease in selenium concentration in sediments following the 1997 flood

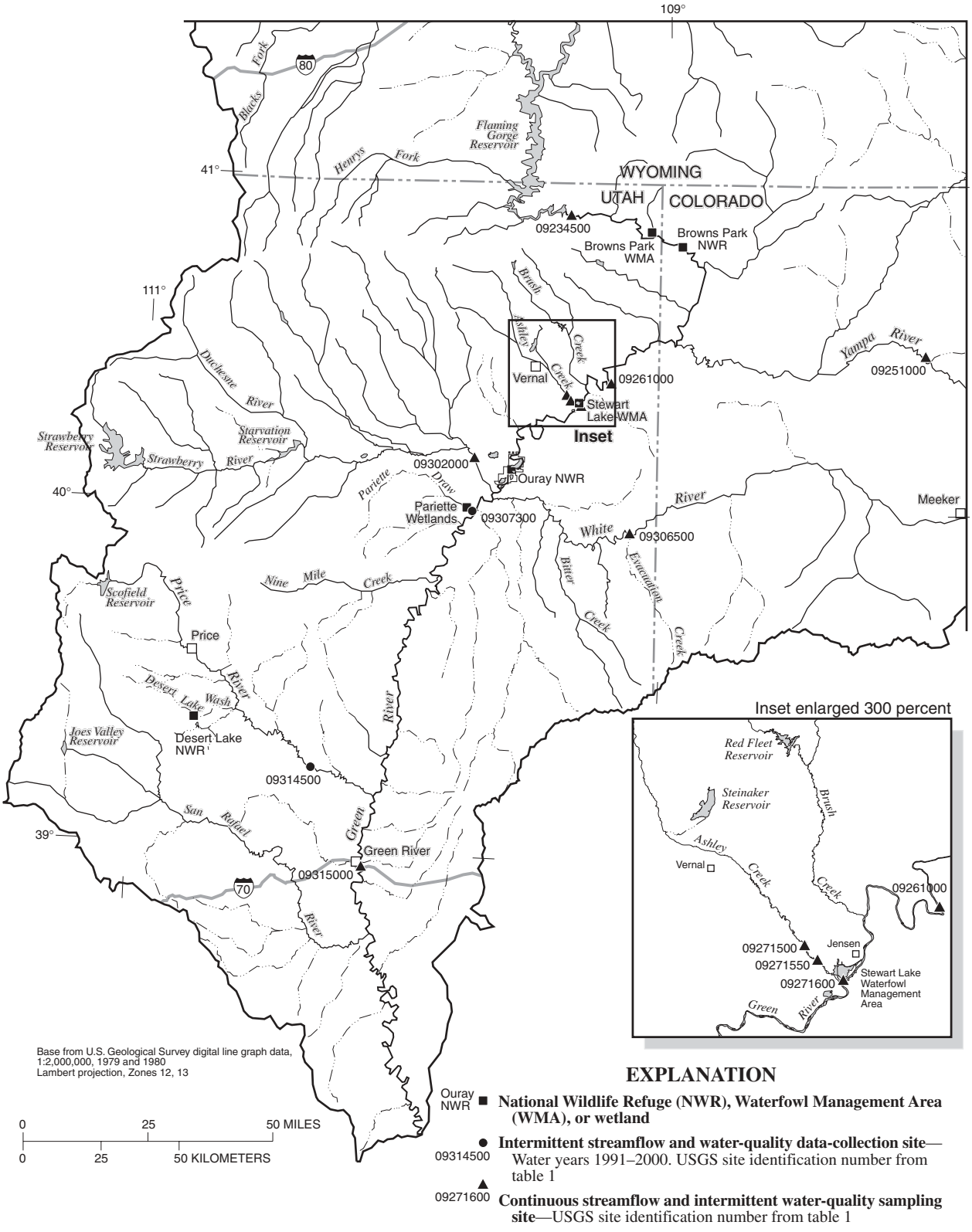


Figure 1. Location of National Wildlife Refuges, Waterfowl Management Areas, wetlands, and surface-water sampling sites in the middle Green River basin, eastern Utah.

with water from the Green River. The theory behind the flood and drain cycle is that elemental selenium and adsorbed selenium, in the form of selenite, are oxidized when the lake is drained. The oxidized selenium, in the form of selenate, is then dissolved by flood water from the Green River and discharged to the Green River when the lake is drained. Generally, the lake was flooded from late April to early July and dry the rest of the year. In 1999, experimental test plots were established at three sites in Stewart Lake to discern if tilling the sediments prior to the annual flood cycle improved selenium removal. Each till plot was 100 ft by 100 ft. Control plots with the same dimensions were established adjacent to each till plot. The control plots were left undisturbed. Within each till plot, an area 8 ft by 8 ft was framed with timber, lined with plastic, and filled with sediments from the till plot to a depth of approximately 6 in. The purpose of the small box plots was to provide a test area unaffected by shallow ground water during the flood cycle. Bottom-sediment data from the test plots are included in this report. Annual flooding and draining of Stewart Lake to remove selenium from bottom sediments will continue through the spring and early summer of 2002.

The detailed study of the middle Green River basin also identified high selenium concentrations in water and biota from Ashley Creek downstream from the sewage lagoons near Vernal, Utah (Stephens and others, 1992). During the study, the average concentration of selenium in water from lower Ashley Creek was 73 µg/L during the detailed study. Biota from Ashley Creek had selenium concentrations that ranked among the highest in the middle Green River basin. The source of the selenium was identified as selenium-laden shallow ground water and seepage that originated as leakage from the nearby sewage lagoons that overlie the Mancos Shale and discharged to Ashley Creek.

The elevated levels of selenium and high salinity in Ashley Creek below the Vernal sewage lagoons prompted the USFWS to urge the Ashley Valley Water Management District, the Utah Department of Environmental Quality, and the U.S. Environmental Protection Agency to take action to prevent seepage from the Vernal sewage lagoons from contaminating Ashley Creek (Stephens and Waddell, 1998). The sewage lagoons were decommissioned in April 2001 after a new wastewater treatment facility was constructed. The new facility utilizes a sealed oxidation ditch containing activated sludge to break down organic matter. Wastewater is then passed through secondary clarifiers and an ultraviolet disinfection system before it is discharged to Ashley Creek. Wastewater and treated wastewater do not come in contact with the Mancos Shale, eliminating the potential for selenium contamination. The USGS, in conjunction with the BOR Colorado River Basin Salinity Control Program, is monitoring Ashley Creek to evaluate water-quality improvements. Note that because the significant source of selenium to Ashley Creek was not related to DOI irrigation projects, NIWQP was not asked to participate in the Ashley Creek remediation activities described above.

Data collected for the detailed study of the middle Green River basin is contained in Peltz and Waddell (1991). Additional literature regarding irrigation drainage in the middle Green River basin is contained in Stephens and others (1988), Stephens and others (1991), Stephens (1992), and Stephens and Waddell (1998).

Purpose and Scope

This report presents the results of data collection in the middle Green River basin area in Utah and Colorado during water years 1991-2000, especially in the vicinity of Stewart Lake WMA. The middle Green River basin is operationally defined as an area of about 12,500 mi^2 that comprises the main stem of the Green River and its tributaries between Flaming Gorge Reservoir and the confluence of the Price and Green Rivers, about 15 mi north of the city of Green River, Utah (fig. 1). Included are the lower parts of the Yampa River and White River drainage basins, all of the Duchesne River and Price River drainage basins, and smaller tributaries such as Pariette Draw and Nine Mile Creek.

These data were collected to (1) further assess the effects of irrigation drainage on water quality, bottom sediments, and biota; (2) aid remediation planning in the middle Green River basin; and (3) assess the success of remediation actions at Stewart Lake WMA. Data consist primarily of selenium concentrations in surface-water, ground-water, bottom-sediment, and biological samples. Additional water-related data include field measurements of temperature, pH, specific conductance, water levels in wells, and discharge at surface-water sites. Data for selected water samples also include analyses of major ions, trace

elements, nutrients, and gross alpha and beta radiation. The concentration of selected selenium species is reported for several bottom-sediment samples from Stewart Lake WMA and the concentration of total selenium in suspended-sediment samples from the area are included. Well logs for six wells installed at Stewart Lake WMA are presented along with trace-element data for several biological samples collected throughout the middle Green River basin.

The data-collection effort included (1) water-quality data from the Green River and select tributaries (fig. 1), Brush Creek drainage (fig. 2), Ashley Creek, Vernal sewage lagoons, and selected subsurface irrigation drains in the Vernal area (fig. 3), and Stewart Lake WMA (fig. 4); (2) bottom-sediment and suspended-sediment data collected from Stewart Lake WMA and the Green River (figs. 5, 6, 7, and 8); and (3) biological data collected from Stewart Lake WMA (fig. 9) and selected sites in the middle Green River basin (figs. 9 and 10).

Data are organized into tables of sample site information (tables 1-3); physical and chemical data for water samples collected from the middle Green River basin, including Stewart Lake WMA (tables 4-10 and 13-15); water-level data and well logs for wells at Stewart Lake WMA (tables 11 and 12, respectively); physical and chemical data for bottom-sediment and suspended-sediment samples collected in and near Stewart Lake WMA (tables 16-26); and biological data collected from Stewart Lake WMA and selected sites in the middle Green River basin (tables 27-37).

Physical and Chemical Data for Hydrologic Samples

Water-sampling site designations and identification numbers used by the BOR and USGS are cross-referenced in table 1. Water-sample collection sites are located by latitude and longitude. If more than one site exists at the same latitude and longitude, the USGS uses a sequential number to form a unique identifier for each site (table 1).

Water-quality data for water from the middle Green River are listed in tables 4-10. Results of analyses of quality-control water samples are contained in table 4. The quality-control samples consisted of process blanks of inorganic-free water processed with sampling equipment in the field. The process blank sample collected on March 26, 1993, had a high selenium concentration (32 µg/L). The value was probably a result of miscommunication between a new employee and the USGS field technician regarding proper quality-assurance procedures at the time the sample was collected. Discharge, physical properties, and selenium concentrations for water from the Green River and select tributaries are shown in table 5. Data are presented for three sites on the Green River (Green River near Greendale, Utah; Green River near Jensen, Utah; and Green River near Green River, Utah); the Yampa River near Maybell, Colorado; two sites on Ashley Creek (Ashley Creek near Jensen, Utah, and Ashley Creek below the Union Canal diversion near Jensen, Utah); irrigation drain discharge above and below Stewart Lake WMA; the Stewart Lake outflow near Jensen, Utah; the Duchesne River near Randlett, Utah; the White River near Watson, Utah; Pariette Draw near Ouray, Utah; and finally, the Price River at Woodside, Utah. Discharge, physical properties, selenium concentrations, and depth of surface water (Red Fleet Reservoir) for water from selected sites in the Brush Creek drainage are shown in table 6. Data are presented for Big Brush Creek above and below Red Fleet Reservoir, Red Fleet Reservoir, several sites on Brush Creek, and several sites on Burns Bench canal, including several seeps that discharge to the canal.

Discharge, physical properties, and selected chemical analyses of surface-water inflow, including irrigation drains, to Stewart Lake WMA are shown in table 7. Note that irrigation drains J1 and J1A were combined and extended to the Green River in November 1997. Likewise, irrigation drains J2, J3, and J4 were combined and extended to the Green River in June 1998. Data from the inlet to Stewart Lake (constructed in May 1997), the North Collector Ditch (constructed in October 1997), and several seeps along the north edge of Stewart Lake are also contained in table 7. Nitrogen concentrations in water from irrigation drains J1, J1A, J2, J3, and J4 are shown in table 8. The concentration of selected radiochemicals in water from irrigation drains J3 and J4 is shown in table 9. Physical properties and chemical analyses (including selenium) for water from wells located in the Stewart Lake WMA are shown in table 10. Water levels for selected wells in the Stewart Lake WMA are shown in table 11. Pedologic descriptions of borehole cuttings collected from wells installed in the Stewart Lake WMA are shown in table 12. Discharge, physical properties, selenium concentrations, and dissolved-solids concentrations of water from Ashley Creek

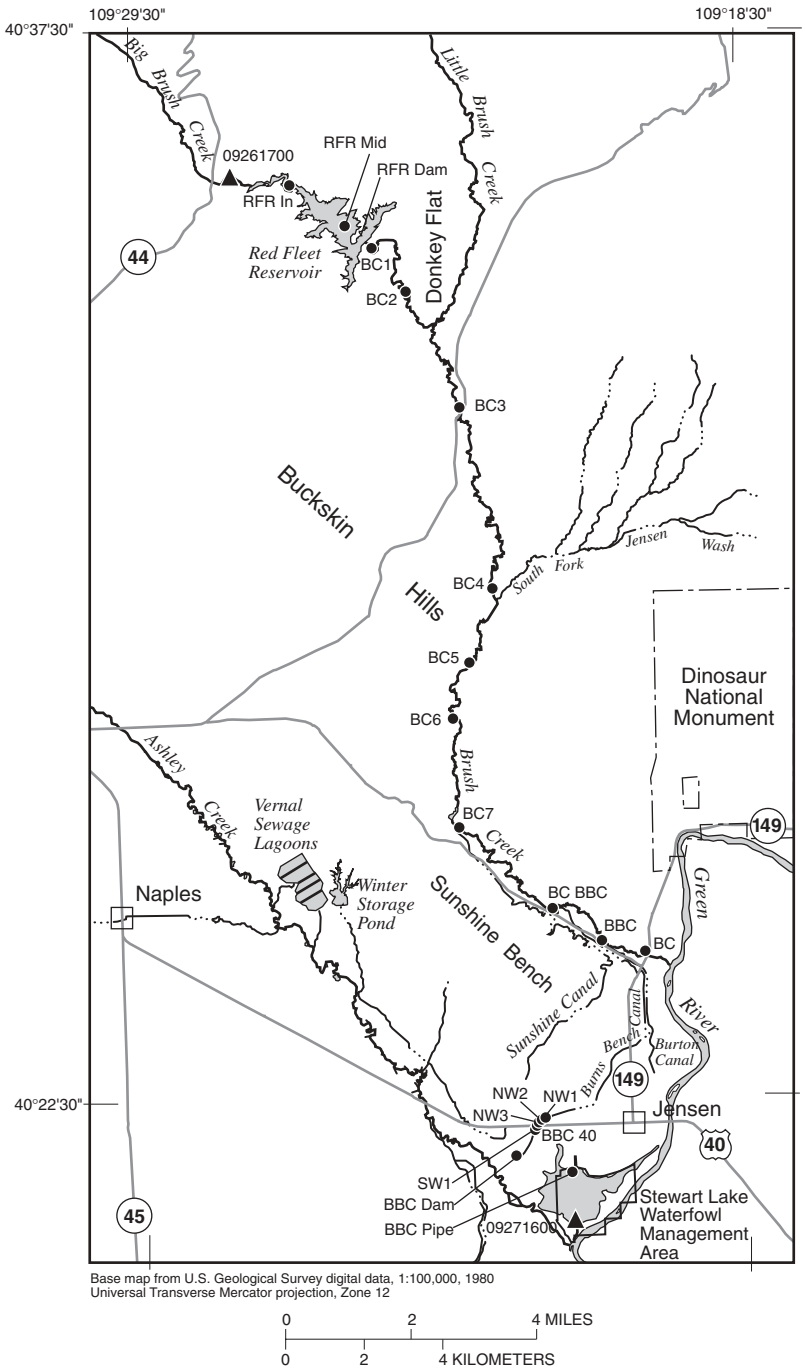


Figure 2. Location of surface-water sampling sites along the Brush Creek drainage, eastern Utah.

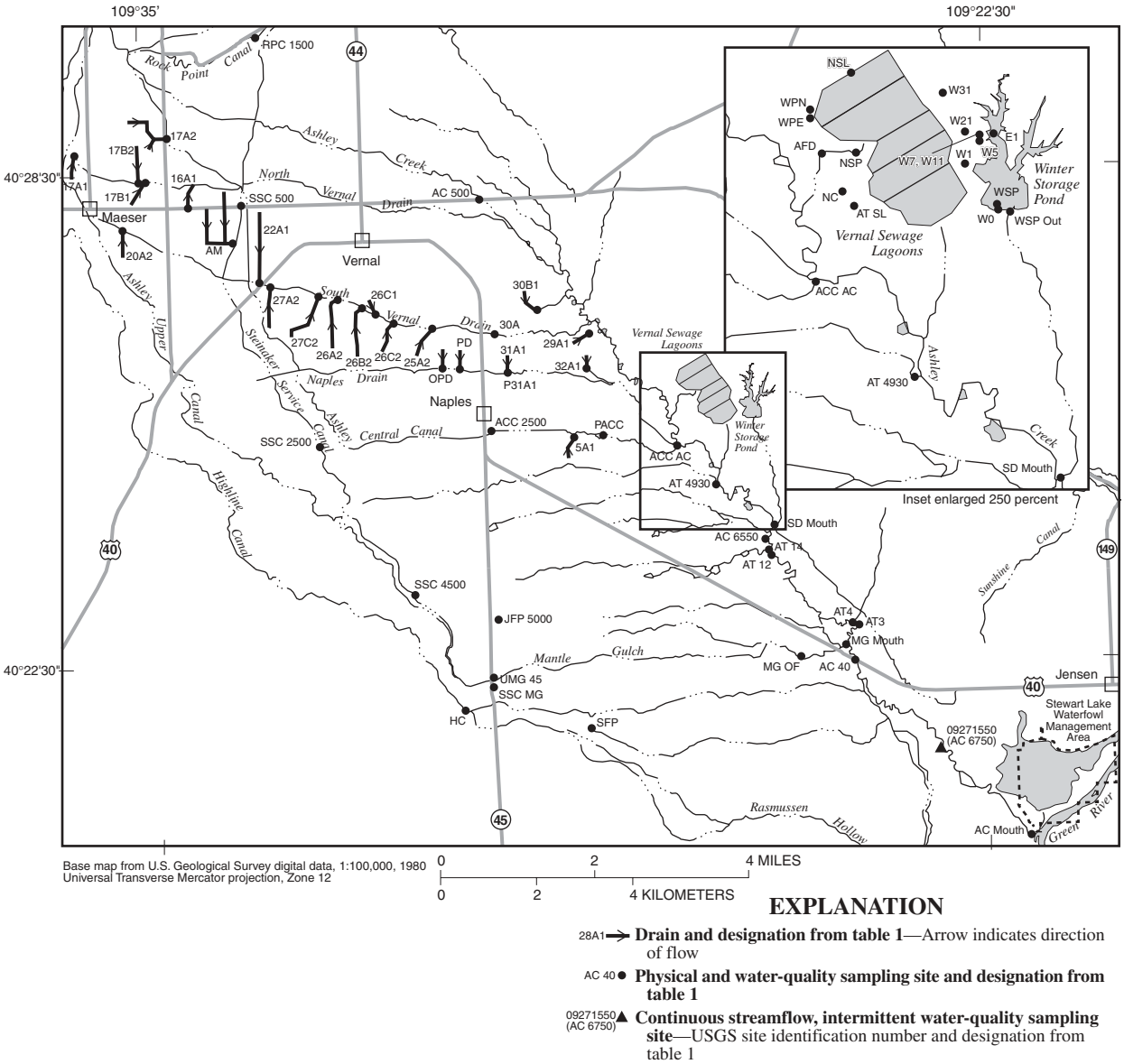


Figure 3. Location of Vernal sewage lagoons, subsurface irrigation drains, and surface-water sampling sites along Ashley Creek drainage, eastern Utah.

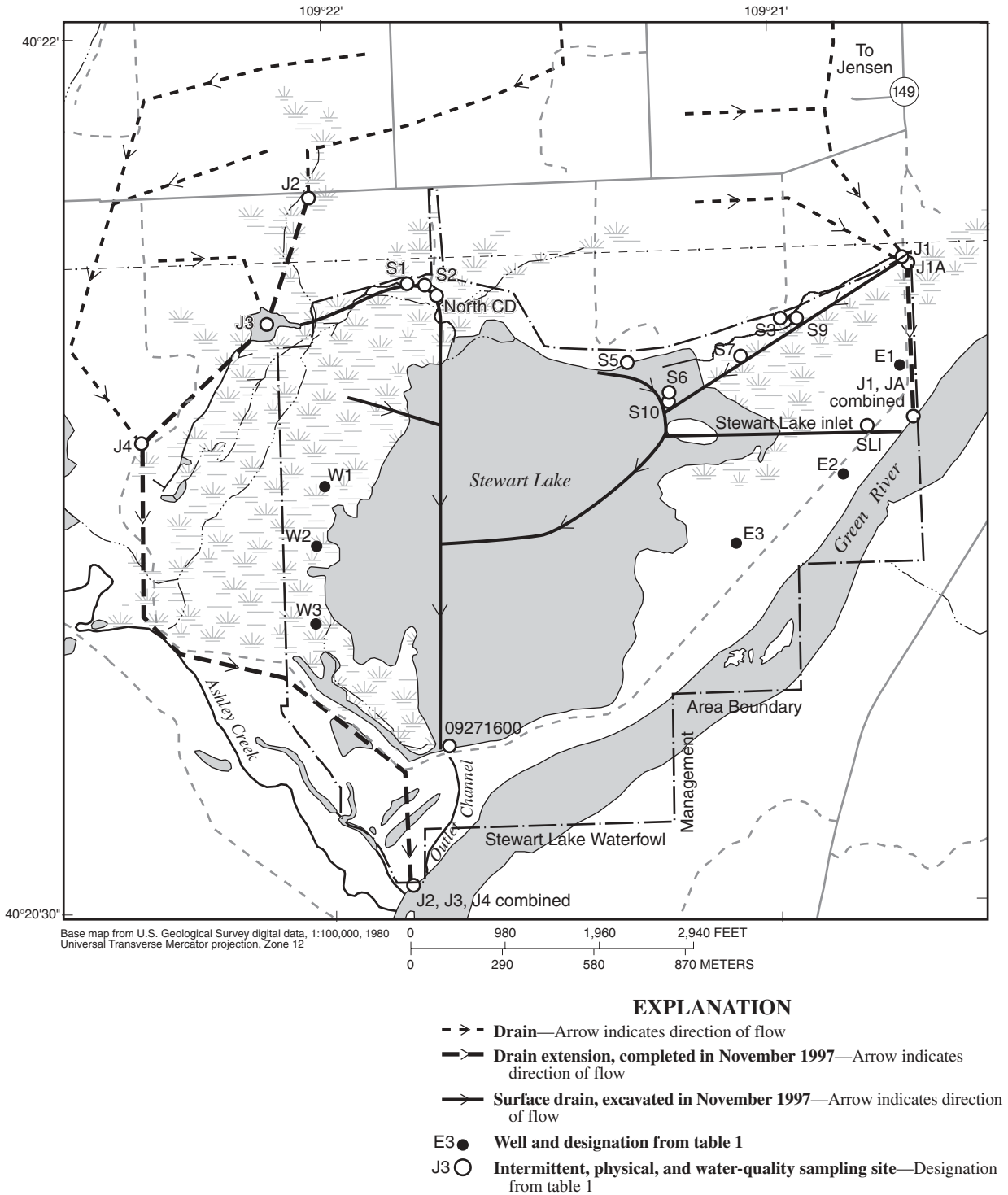
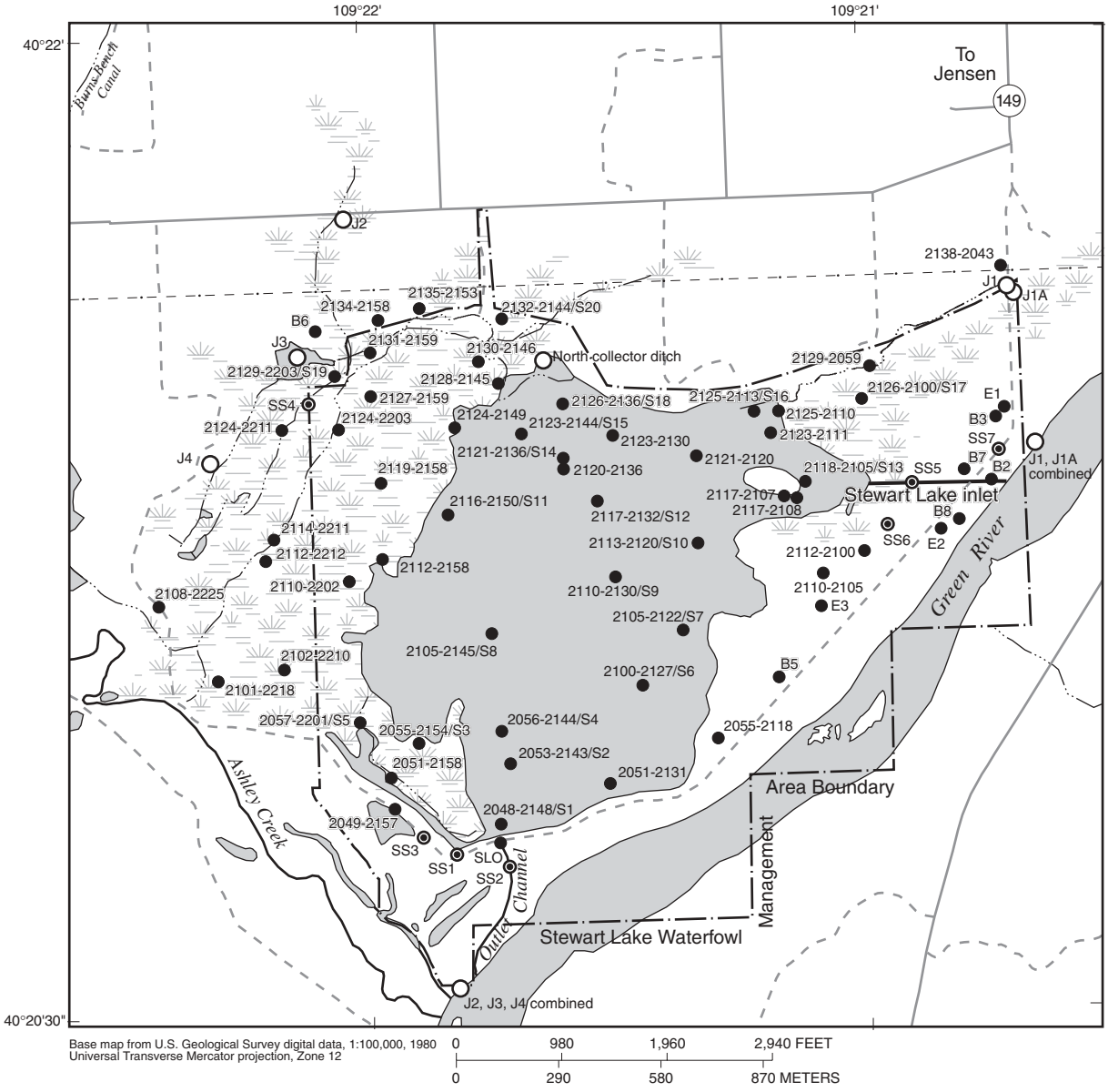


Figure 4. Location of drains, wells, and water-quality sampling sites in Stewart Lake Waterfowl Management Area, eastern Utah.



EXPLANATION

J3 ○ **Intermittent, physical, and water-quality sampling site**—Designation from table 1

2051-2131 ● **Sediment-sample site**—Designation from table 3

SS2 ◉ **Suspended-sediment sample site**—Designation from table 2

Figure 5. Location of sediment sampling sites sampled by the Bureau of Reclamation in and near Stewart Lake Waterfowl Management Area and the Green River, eastern Utah.

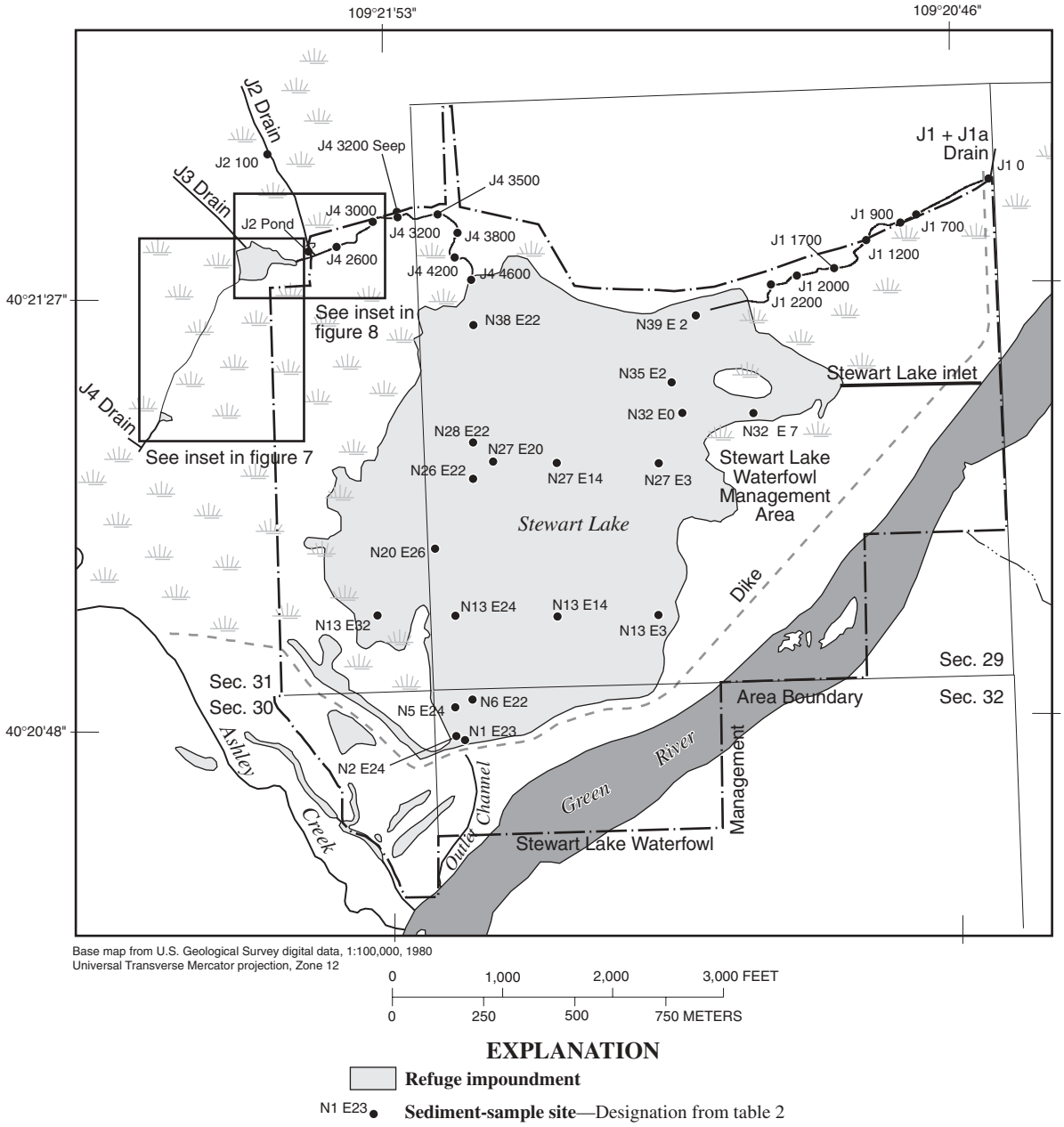


Figure 6. Location of bottom-sediment sampling sites sampled by the U.S. Geological Survey and Bureau of Reclamation in and near Stewart Lake Waterfowl Management Area, eastern Utah.

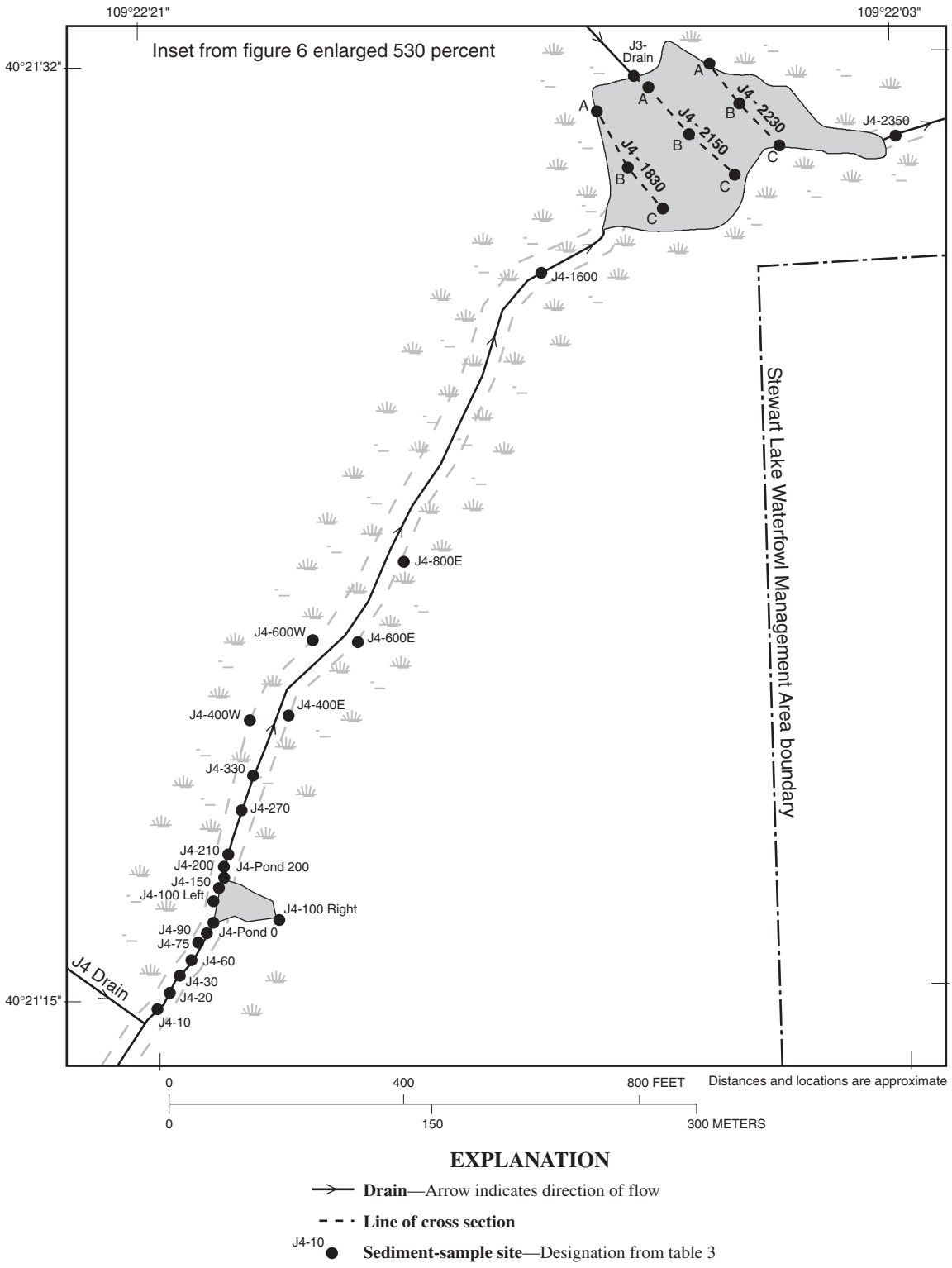


Figure 7. Location of bottom-sediment sampling sites sampled by the U.S. Geological Survey and Bureau of Reclamation between irrigation drains J3 and J4 near Stewart Lake Waterfowl Management Area, eastern Utah, July 1994.

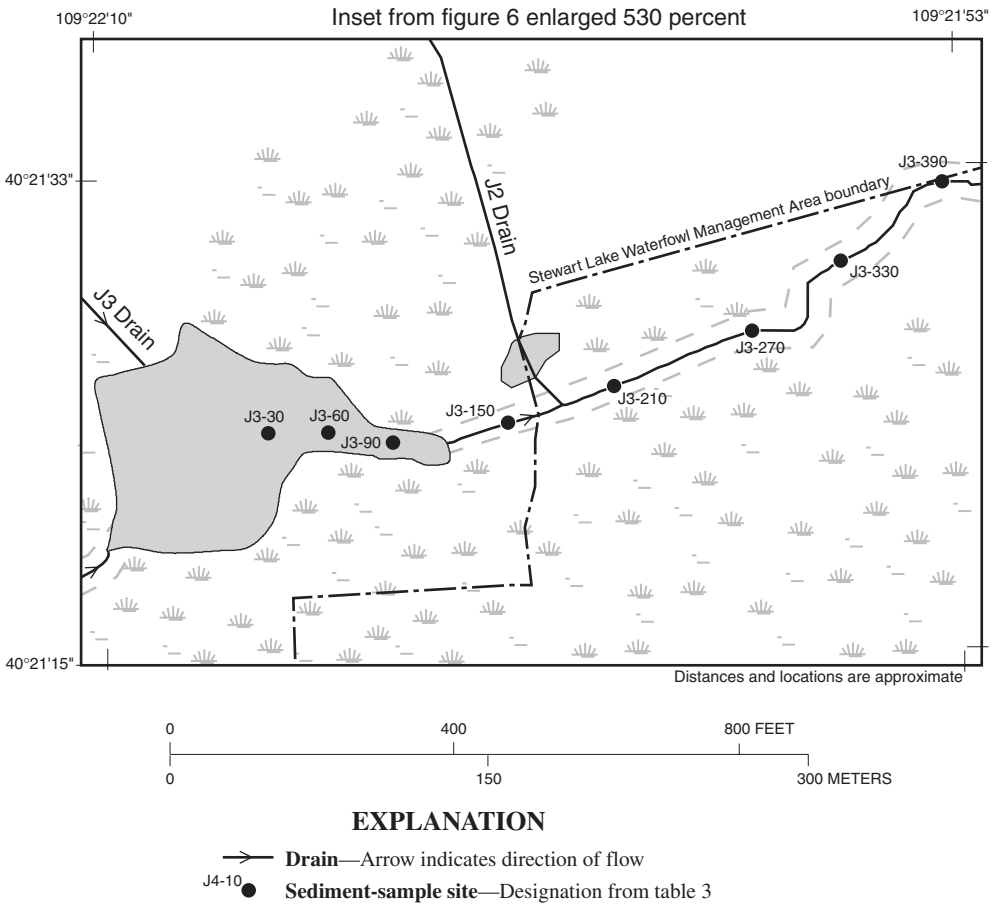


Figure 8. Location of bottom-sediment sampling sites sampled by the U.S. Geological Survey and Bureau of Reclamation between drains J3 and J2 near Stewart Lake Waterfowl Management Area, eastern Utah, June 1995.

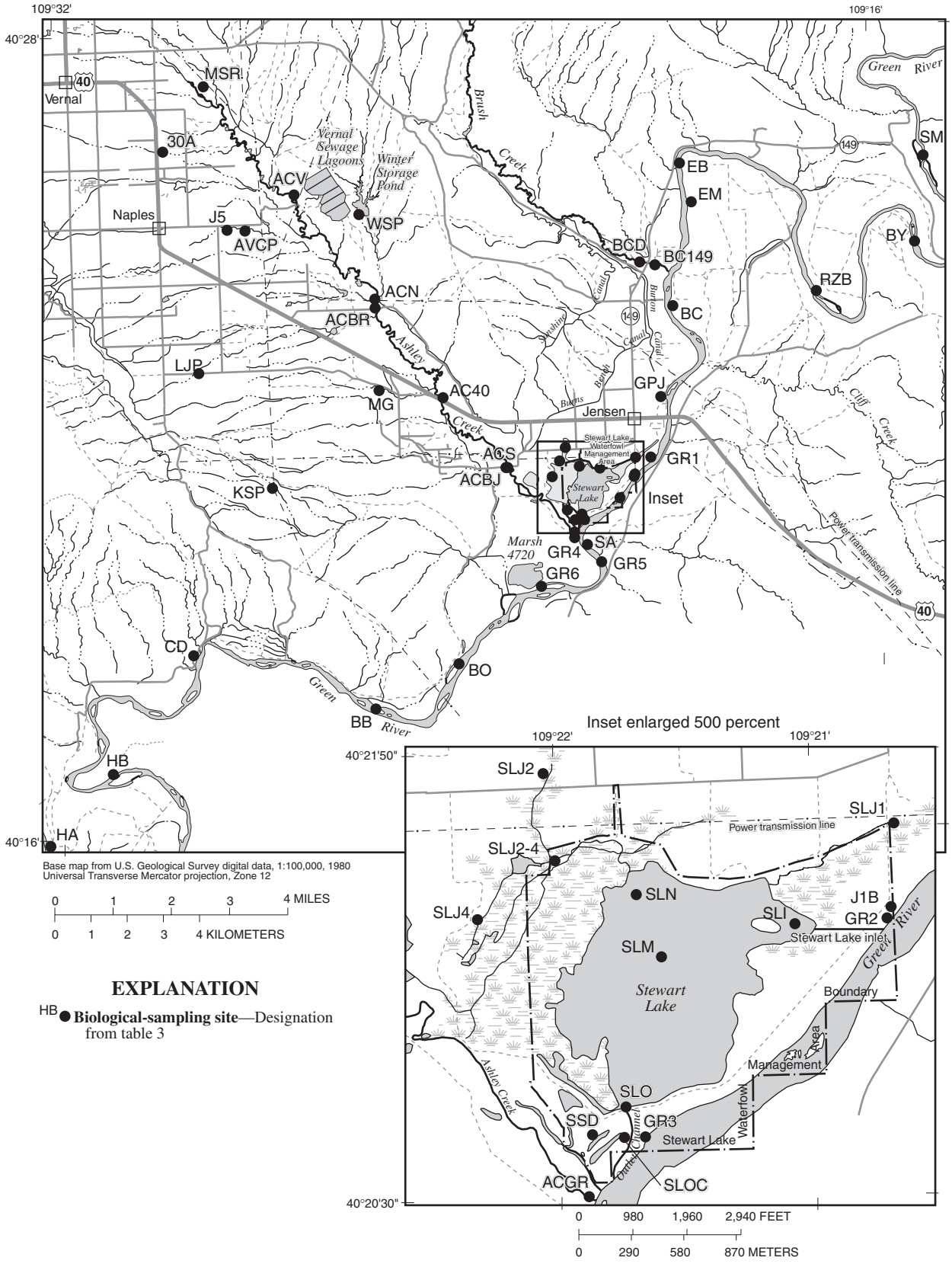


Figure 9. Location of biological-sampling sites in and near Stewart Lake Waterfowl Management Area and selected sites in the middle Green River basin, eastern Utah.

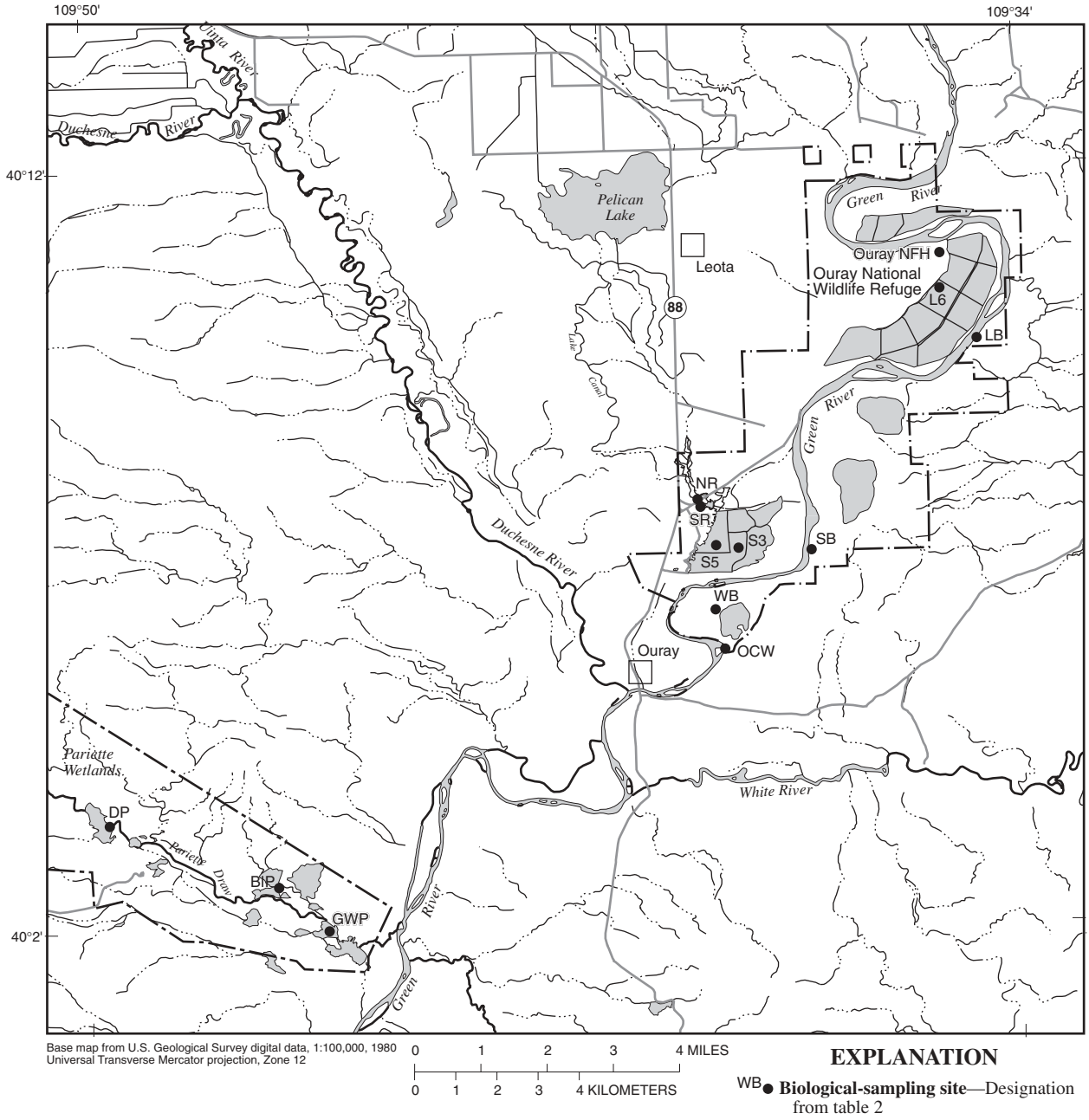


Figure 10. Location of biological-sampling sites in and near the Ouray National Wildlife Refuge, and selected sites in the middle Green River basin, eastern Utah.

and selected tributaries near Vernal and Naples, Utah, are shown in table 13. Discharge, physical properties, and chemical analyses of water from ponds, canals, and drains in the Ashley Creek drainage are shown in table 14. Discharge, physical properties, and chemical analyses of water from seeps and sewage lagoons in the vicinity of Vernal and Naples, Utah, are shown in table 15.

Physical and Chemical Data for Sediment Samples

Sediment-sampling sites sampled by the BOR, the USFWS, and the USGS are listed in table 2, which correlates each site with a location figure in this report. Physical and chemical data for bottom-sediment and suspended-sediment samples collected from Stewart Lake WMA and the Green River adjacent to Stewart Lake are shown in tables 16-26. Analyses of selected radiochemicals in sediment samples collected in 1992 near the discharge points of irrigation drains J3 and J4 are shown in table 16. The concentration of total selenium in bottom-sediment samples collected in July 1994 are shown in table 17. Total selenium concentrations in bottom-sediment samples collected from upland areas adjacent to Stewart Lake WMA in June 1995 are shown in table 18. Total selenium concentrations in bottom-sediment samples collected near irrigation drains J3 and J4 discharge points in June 1995 are shown in table 19. Total selenium concentrations in bottom-sediment samples collected from Stewart Lake WMA in August 1995 are shown in table 20. Concentrations of selected selenium species in bottom-sediment samples collected from Stewart Lake WMA in April 1996 are shown in table 21. The concentration of total selenium in suspended-sediment samples from Stewart Lake WMA and the Green River are shown in table 22. Total selenium concentrations in bottom-sediment samples collected from the Green River at selected sites adjacent to Stewart Lake WMA between July 1997 and July 1999 are shown in table 23. Total selenium concentrations in bottom-sediment samples collected from selected sites in the Stewart Lake WMA between July 1997 and December 2000 are shown in table 24. Concentrations of selenium species in bottom-sediment samples collected from experimental test plots and selected sample sites in the Stewart Lake WMA between April 2000 and August 2000 are shown in table 25. Total concentration of selenium in bottom-sediment samples collected from experimental test plots and selected sites in the Stewart Lake WMA between April 2000 and December 2000 are shown in table 26.

Physical and Chemical Data for Biological Samples

Biological-sampling sites sampled by the USFWS are listed in table 3, which correlates each site to a location figure in this report. Biological data are shown in tables 27-34. Trace-element concentrations in common carp collected from the Green River near Jensen, Utah, in 1995 are shown in table 27. Selenium concentrations in common carp collected from the Green River near Jensen, Utah, between 1996 and 2000 are shown in table 28. Selenium concentrations in crayfish and fish samples collected from Green River backwaters adjacent to Stewart Lake WMA from 1997 to 2000 are shown in table 29. Selenium concentrations in composite samples of carp collected in the Stewart Lake WMA between 1991 and 2000 are shown in table 30. Selenium concentrations in small fish collected from Stewart Lake WMA between 1994 and 2000 are shown in table 31. Selenium concentrations in large fish collected from Stewart Lake between 1994 and 2000 are shown in table 32. Selenium concentrations in bird eggs collected from Stewart Lake WMA between 1995 and 2000 are shown in table 33. Selenium concentrations in bird livers collected from Stewart Lake WMA in 1995 are shown in table 34. Trace-element concentrations in fish, birds, bird eggs, plants, and invertebrates at selected sites in the middle Green River basin, except for Stewart Lake WMA, are shown in table 35. The concentration of selenium in muscle plugs from endangered fish captured and released at Stewart Lake WMA between 1997 and 2000 are shown in table 36. The concentration of selenium in muscle plugs from endangered fish captured and released at selected sites in the middle Green River basin between 1995 and 2000 are shown in table 37.

SAMPLE COLLECTION AND ANALYSIS

Hydrologic Samples

Surface Water

Surface-water samples were collected and processed by using a modification of the trace element protocol developed by the USGS. Where water was sampled from wide streams such as the Green River or sources not known to be well mixed, a DH48-TM sampler (U.S. Geological Survey, 1977) was employed with equal-width depth-integrated procedures. Field measurements of discharge, water temperature, pH, and specific conductance were made at the time the samples were collected. Samples were filtered in the field with 0.45-micrometer porosity cartridge or plate filters, acidified with nitric acid where necessary, and submitted to the USGS National Water Quality Laboratory (NWQL) in Arvada or Denver, Colorado (the NWQL moved to Denver in April 1999). Analytical methods used at the NWQL are described in Techniques of Water-Resources Investigations of the U.S. Geological Survey (Fishman and Friedman, 1989).

Ground Water

Ground-water samples were collected and processed according to the procedures described in Techniques of Water-Resources Investigations of the U.S. Geological Survey (Wilde and Radtke, 1999). Depending on the well, a peristaltic pump, WaTerra inertial pump, or a dedicated bailer was used to purge and collect samples from the well. Three casing volumes of water were purged from each well, or the well was pumped dry and allowed to recover prior to sample collection. Parameters such as temperature, pH, and specific conductance were measured in the field. Samples were filtered in the field with 0.45-micrometer porosity cartridge or plate filters, acidified with nitric acid where necessary, and submitted to the NWQL.

Sediment Samples

A variety of methods were used to collect bottom-material samples from Stewart Lake WMA. In July 1994, bottom-material samples were collected with a BMH-53 sampler (U.S. Geological Survey, 1977, p. 3-37). Samples were homogenized and pebbles and large stems removed, but the sediment was not sieved. In June 1995, a truck-mounted Giddings hydraulic drill rig was used to collect sediment from upland areas adjacent to Stewart Lake, and hand augers or polycarbonate tubes were used at areas in the lake bottom. Between 1996 and 2000, polycarbonate tubes, stainless steel tubes, or Oakfield probes were used to collect shallow (less than 6 in.) samples. Samples collected at depths greater than 6 in. generally were collected with a hand auger. Shallow samples (0-6 in.) generally were composites of 5 to 10 soil plugs collected from the sample area. Samples from depths greater than 6 in. were generally composites of three to five samples from the sample area.

Samples were chilled after collection and transported to the BOR Soils Laboratory in Denver, Colorado, where they were air dried, ground, sieved, and split. Samples were analyzed for total selenium by the NWQL and (or) the USGS Mineral Resources Laboratory in Denver, Colorado. The NWQL analyzed samples by digestion in hot nitric, hydrofluoric, and perchloric acids followed by hydride generation atomic absorption spectrophotometry (Fishman and Friedman, 1989). The USGS Mineral Resources Laboratory analyzed sediment samples by digestion in hydrochloric acid, hydrofluoric acid, perchloric acid, and aqua regia followed by atomic adsorption spectroscopy. A comparison of the results from each laboratory revealed no significant differences. Selenium speciation analyses were performed on bottom-material samples collected from Stewart Lake WMA in April 1996, April 2000, and August 2000. Selenium species measured in the April 1996 samples included soluble selenate (Se(VI)), adsorbed selenite (Se(IV)), elemental selenium (Se(0)), organic selenium, selenium oxides, and selenium in organic material separated from the sediment. These samples were analyzed at the University of Montana. Selenium species in the April and August 2000 samples were determined by a direct extraction procedure at the University of California, Riverside, Department of Environmental Sciences, followed by hydride generation atomic absorption spectroscopy (W.T. Frankenberger, Jr., and Y. Zhang, University of California, written commun., 2001). Selenium species determined by the direct extraction procedure included soluble selenate (Se(VI)), soluble selenite (Se(IV)), and soluble organic selenium (redox state of selenium unknown); NaOH extractable (insoluble) Se(VI),

Se(IV), and organic selenium (redox state of selenium unknown); elemental selenium (Se(0)) plus selenide (Se(-II)); organic materials-related selenium (selenium in sediment organic materials after soluble and NaOH extractable organic selenium were removed from the samples); residue selenium; and total selenium. The total selenium determined by the direct extraction procedure differs from the total selenium determined at the USGS labs. The direct extraction procedure uses hydrochloric acid and hydrogen peroxide for total selenium digestion, rather than a series of strong acids used in the USGS digestions.

Suspended-sediment samples were either depth integrated using a DH-48TM sampler or discrete grab samples. The samples were processed and analyzed by the BOR soils laboratory in Denver, Colorado.

Sediment samples collected from Green River backwaters by the USFWS were collected with a stainless steel pan and scoop. Each sample was a composite of five subsamples. The samples were collected from the top 1/8 in. of sediment. Roots and vegetation were carefully removed from the samples by hand. Samples were placed in plastic bags and chilled. The samples were analyzed by the Geochemical and Environmental Research Group (GERG) at Texas A&M University.

Biological Samples

Plants

Aquatic plants were collected at most sites. Sampling schedules varied by site and by year. Species collected included those commonly available and those thought to be important as food or cover for aquatic birds. As many as three species were collected at each site. Generally, the non-rooted sections were collected, except for cattail and hardstem bullrush. The cattail samples typically consisted of 6 to 8 in. of stem starting at the root and 6 to 8 in. of root. Samples were double bagged in plastic and then frozen for storage. Samples were analyzed for inorganic elements only.

Birds

Few waterfowl were collected during the data collection period. Birds collected were shot with steel shot. Tissues analyzed were not contaminated by lead shot. Livers and whole-body juvenile birds were collected. All samples were placed in chemically clean jars or wrapped in aluminum foil for analyses. Data on age, sex, and weight were recorded.

The volume of each egg was measured by egg displacement in water; length by calipers to 0.1 millimeter (mm); net weight of egg contents to 1 gram. Eggs were usually opened by cracking the air-cell end with clean forceps and peeling the shell until the contents could be removed. Samples were placed in chemically clean jars and frozen. Eggs were analyzed individually.

Fish

Fish were collected predominantly by using trammel nets at Stewart Lake. In some instances, fish at Stewart Lake were collected with Fyke nets, dip nets, or minnow traps. Fish from the Green River were predominantly captured by electro-fishing. In most cases, each sample consisted of five adult fish of similar size. All adult fish were weighed, measured for total length, and double bagged in plastic bags prior to shipment for analysis. Three or more composite samples were collected at most data collection sites. In some samples consisting of small fish, only the weight of the composite sample was recorded.

Muscle plugs were opportunistically collected from endangered fish that were captured during routine sampling. Muscle plugs were collected with a sterile 4-mm biopsy punch that was inserted into the fish with a twisting motion in the dorsal-medial quadrant of the fish. The plug was removed from the biopsy punch by being blown into a clean vial, placed in a sealable plastic bag, and stored on wet ice (less than 8 hours) or dry ice until it could be frozen. The hole in the fish was completely filled with an antibiotic ointment to speed healing. Measurements of total length, weight, body condition, and location also were collected for each endangered fish, except in the event of equipment failure. Endangered fish were immediately released after the muscle plug and field data were collected.

Invertebrates

Plankton samples were obtained by using light traps or plankton tow nets. All nonsnail invertebrates collected in the traps were included in these composite samples. Excess water was removed from samples, and samples were placed in chemically clean jars. Other invertebrates, such as snails and damselfly larvae, were opportunistically sampled by using Kick nets.

Tissue samples were analyzed at a number of laboratories under contract to the USFWS, Patuxent Analytical Control Facility. Concentrations of the following elements were determined in the analyses of biological tissues: aluminum, arsenic, barium, beryllium, boron, cadmium, chromium, copper, iron, lead, magnesium, manganese, mercury, molybdenum, nickel, selenium, strontium, vanadium, and zinc. Muscle plugs from endangered fish were analyzed for selenium concentrations using neutron activation at the Columbia Environmental Research Center in Columbia, Missouri.

The reporting limits for constituents in biological samples varied over time and among laboratories performing the analyses. Reporting levels can be affected by a number of factors, including quantity of samples submitted, percent moisture, type of equipment used to analyze samples, and method of sampling.

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Table 1. Hydrologic sampling-site designations, Bureau of Reclamation identifier, U.S. Geological Survey site identification number, and site type for data-collection sites in the middle Green River basin, Utah and Colorado

[USGS: U.S. Geological Survey; Site type: SW, surface water; LK, pond, lake, or reservoir; SP, spring or seep; GW, ground-water well]

Site designation	Short site name	Bureau of Reclamation	USGS site ID number	Site type
Green River drainage and selected tributaries (fig. 1)				
Green River near Greendale, Utah			09234500	SW
Yampa River near Maybell, Colorado			09251000	SW
Green River near Jensen, Utah			09261000	SW
Ashley Creek near Jensen, Utah	AC 40	GACO 30	09271500	SW
Ashley Creek below Union Canal diversion near Jensen, Utah	AC6750		09271550	SW
Stewart Lake outflow near Jensen, Utah			09271600	LK
Green River at Bonanza Bridge, near Vernal, Utah			401840109283101	SW
Duchesne River near Randlett, Utah			09302000	SW
White River near Watson, Utah			09306500	SW
Pariette Draw at mouth near Ouray, Utah			09307300	SW
Price River at Woodside, Utah			09314500	SW
Green River at Green River, Utah			09315000	SW
Brush Creek drainage (fig. 2)				
Big Brush Creek above Red Fleet Reservoir, near Vernal, Utah			09261700	SW
Red Fleet Reservoir inflow arm	RFR In		403451109260001	LK
Red Fleet Reservoir midlake	RFR Mid		403444109254001	LK
Red Fleet Reservoir near dam	RFR Dam		403428109253301	LK
Big Brush Creek below Red Fleet Reservoir	BC1		403430109251801	SW
Big Brush Creek at county road near Donkey Flat	BC2		403345109243501	SW
Brush Creek below Red Fleet at the corral	BC3		403206109233501	SW
Brush Creek upstream of South Fork of Jensen Wash	BC4		402940109230201	SW
Brush Creek at Sunshine Pipeline Diversion	BC5		402840109233201	SW
Brush Creek at county road east of Bullwinkle Reservoir	BC6		402756109235701	SW
Brush Creek at old diversion for Sunshine Canal	BC 7		402623109235701	SW
Brush Creek at Burns Bench Canal diversion structure	BC BBC		402511109221501	SW
Burns Bench Canal below Sunshine Pipeline crossing	BBC		402426109204901	SW
NW 1 Seep to Burns Bench Canal, north of U.S. 40	NW1		402208109222601	SP
NW 2 Seep to Burns Bench Canal, north of U.S. 40	NW2		402208109222602	SP
NW 3 Seep to Burns Bench Canal, north of U.S. 40	NW3		402213109222101	SP
Burns Bench Canal at U.S. 40	BBC 40		402211109222601	SW
SW 1 Seep to Burns Bench Canal, south of U.S. 40	SW1		402208109222603	SP
Burns Bench Canal at diversion dam, south of U.S.40	BBC Dam		402147109224101	SW
Pipeline from Burns Bench Canal to Stewart Lake	BBC Pipe		402134109214401	SW
Brush Creek near Jensen, Utah	BC		09263500	SW
Stewart Lake area (fig. 4)				
Stewart Lake Inlet	SLI		402118109204801	SW
Stewart Lake Outlet	SLO		09271600	SW
J1 drain, Stewart Lake inflow	J1	GASL01	402136109204103	SW
J1A drain, Stewart Lake inflow	J1A		402136109204104	SW
J1 and J1A drains (combined)	J1/J1A		402136109204102	SW
J2 drain, Stewart Lake inflow	J2	GASL02	402146109220301	SW
J3 drain, Stewart Lake inflow	J3	GASL03	402134109221001	SW
J4 drain, Stewart Lake inflow	J4	GASL04	402120109221901	SW
J2, J3, J4 drains (combined)	J2,J3,J4		402037109215003	SW
North Seepage Collector at Stewart Lake	NorthCD		402134109215400	SW
Bureau of Reclamation Well E1	E1		402126109204901	GW

Table 1. Hydrologic sampling-site designations, Bureau of Reclamation identifier, U.S. Geological Survey site identification number, and site type for data-collection sites in the middle Green River basin, Utah and Colorado—Continued

Site designation	Short site name	Bureau of Reclamation	USGS site ID number	Site type
Stewart Lake area (fig. 4)—Continued				
Bureau of Reclamation Well E2	E2		402117109204901	GW
Bureau of Reclamation Well E3	E3		402111109210701	GW
Bureau of Reclamation Well W1	W1		402111109215901	GW
Bureau of Reclamation Well W2	W2		402106109220601	GW
Bureau of Reclamation Well W3	W3		402056109220301	GW
Seep 1	S1		402134109215301	SW
Seep 2	S2		402134109214301	SW
Seep 3	S3		402130109210001	SW
Seep 5	S5		402126109211901	SW
Seep 6	S6		402123109211301	SW
Seep 7	S7		402126109210501	SW
Seep 9	S9		402130109205702	SW
Seep 10	S10		402122109211302	SW
Ashley Creek drainage, Ashley Creek, and selected tributaries (fig. 3)				
Ashley Creek at 500 North, near Steinaker Draw	AC 500		402749109295401	SW
Unnamed Tributary (east bank), below Sewer Lagoon	AT SL		402517109271001	SW
Ashley Central Canal return flow, at Ashley Creek	ACC AC		402459109270401	SW
4930 Tributary (west bank) above Sadlier Draw	AT 4930		402432109262801	SW
Sadlier Draw at mouth—Sunshine/Burns Bench runoff	SD Mouth		402406109253401	SW
Ashley Creek at 6550 East, near Naples	AC 6550		402354109254301	SW
Unnamed Tributary 14 (west bank), North of HWY 40	AT14		402347109254201	SW
Unnamed Tributary 12 (east bank), North of HWY 40	AT12		402340109252701	SW
Unnamed Tributary 4 (east bank), North of HWY 40	AT4		402256109242901	SW
Unnamed Tributary 3 (east bank), North of HWY 40	AT3		402256109242501	SW
Mantle Gulch at mouth, inflow to Ashley Creek	MG Mouth		402241109243501	SW
Ashley Creek near Jensen	AC 40	GACO 30	09271500	SW
Ashley Creek below Union Canal Diversion near Jensen	AC 6750		09271550	SW
Ashley Creek at mouth at the Green River	AC Mouth		402030109215401	SW
Ashley Creek drainage, Vernal Sewage Lagoons, and Winter Storage Pond (fig. 3)				
North Sewage Lagoon, Pond 1, at gate	NSL		402550109270001	LK
Seep W31 at Winter Storage Pond, near Vernal	W31		402550109261701	SW
Seep W21 at Winter Storage Pond, near Vernal	W21		402540109261101	SW
Seep W7 at Winter Storage Pond, near Vernal	W7		402538109260502	SW
Seep W11 at Winter Storage Pond, near Vernal	W11		402538109260501	SW
Seep E1, East Arm of Winter Storage Pond, near Vernal	E1		402538109261701	SW
Wildlife Pond west of Ashley Sewage Lagoons, east inflow	WPE		402534109265602	SW
Wildlife Pond west of Ashley Sewage Lagoons, north inflow	WPN		402534109265603	SW
Seep W5 at Winter Storage Pond, near Vernal	W5		402535109260501	SW
Seep W1 at Winter Storage Pond, near Vernal	W1		402530109261101	SW
Seep W0 at Winter Storage Pond, near Vernal	W0		402519109260101	SW
New state permit site for Ashley Sewage Lagoons	NSP		402519109265700	SW
North Canal near Ashley Sewage Lagoons, near Vernal	NC		402516109270301	SW
Abandoned farm drain, upper end, near Ashley Sewage Lagoons	AFD		402516109270302	SW
Winter Storage Pond	WSP		402516109260001	LK
Winter Storage Pond at outflow Structure	WSP Out		402510109255301	SW

Table 1. Hydrologic sampling-site designations, Bureau of Reclamation identifier, U.S. Geological Survey site identification number, and site type for data-collection sites in the middle Green River basin, Utah and Colorado—Continued

Site designation	Short site name	Bureau of Reclamation	USGS site ID number	Site type
Ashley Creek drainage, canals, ponds, and drains (fig. 3)				
Rock Point Canal at 1500 West in Vernal	RPC 1500		402918109295801	SW
17A2 Drain, near Vernal	17A2	17A2	402830109343301	SW
17B1 Drain, near Vernal	17B1	17B1	402804109345301	SW
17B2 Drain, near Vernal	17B2	17B2	402802109350001	SW
17A1 Drain, near Vernal	17A1	17A1	402802109343901	SW
16A1 Drain, Vernal	16A1	16A1	402802109340901	SW
Steinaker Service Canal at 500 North in Vernal	SSC 500		402746109332701	SW
20A2 Drain, Vernal	20A2	20A2	402736109352301	SW
Amos/Merkley Drain in Maeser	AM	AM	402720109333401	SW
22A1 Drain near Vernal	22A1	22A1	402653109331301	SW
27A2 Drain, Vernal	27A2	27A2	402651109330401	SW
27C2 Drain, Vernal	27C2	27C2	402644109321901	SW
26A2 Drain, Vernal	26A2	26A2	402644109321101	SW
26B2 Drain, near Vernal	26B2	26B2	402636109314101	SW
30B1 Drain, near Naples	30B1	30B1	402634109291501	SW
26C1 Drain, Vernal	26C1	26C1	402633109313501	SW
26C2 Drain, near Vernal	26C2	26C2	402625109311501	SW
25A2 Drain, Vernal	25A2	25A2	402624109310001	SW
Pond 30A, in Naples	30A	30A	402617109294901	LK
29A1 Drain, near Naples	29A1	29A1	402611109282901	SW
Open Pilot Drain, near Vernal	OPD	OPD	402555109303301	SW
Pilot Drain, near Vernal	PD	PD	402555109301301	SW
Pond 31A1 at 1830 East 1700 South, in Naples	P31A1	P31A1	402555109293202	LK
31A1 Drain, Vernal	31A1	31A1	402555109293201	SW
32A1 Drain, near Naples	32A1	32A1	402553109282301	SW
Ashley Central Canal at flume, 2500 South, Naples	ACC 2500		402511109293201	SW
Steinaker Service Canal at 2500 South near 500 West	SSC 2500		402509109322301	SW
5A1 Drain, near Naples	5A1	5A1	402506109283501	SW
Pond on Ashley Central Canal at 2500 South St., Naples	PACC		402505109281401	LK
Ashley Central Canal return flow, at Ashley Creek	ACC AC		402459109270401	SW
Steinaker Service Canal at 4500 South, in Vernal	SSC 4500		402324109310201	SW
River Irrigation Canal at diversion, 6800 South in Naples	RIC 6800		402305109241901	SW
Jackson Farm Pond at 5000 South St., near Naples	JFP 5000		402258109291001	LK
Mantle Gulch at mouth, inflow to Ashley Creek	MG Mouth		402241109243501	SW
Highline Canal near Asphalt Ridge near Vernal	HC		402146109300301	SW
Squires Farm Pond on Steinaker Service Canal	SFP		402114109274701	LK
Steinaker Service Canal at Mantle Gulch near Vernal	SSC MG		402214109295101	SW
Upper Mantle Gulch at U.S. 45, road to Bonanza	UMG 45		402222109295101	SW
Mantle Gulch at Oilfield Road East, Naples	MG OF		402233109251601	SW

Table 2. Site number and site ID for bottom-sediment and suspended-sediment-samplng sites sampled by the Bureau of Reclamation, the U.S. Fish and Wildlife Service, and the U.S. Geological Survey at and near Stewart Lake Waterfowl Management Area, middle Green River basin, eastern Utah

Site ID number	Permanent site ID	Comments
	Bureau of Reclamation sediment-sampling sites (fig. 5)	
2048-2148	S1	Undisturbed sample site
2048-2148	S1 Till plot	100-by-100-foot plot that is tilled to a depth of 6 inches
2048-2148	S1 Box plot	8-by-8-foot by 6-inch plot in the till plot that is lined with plastic
2048-2148	S1 Control plot	100-by-100-foot plot adjacent to the till plot that is undisturbed
2049-2157		Undisturbed sample site
2051-2131		Undisturbed sample site
2053-2143	S2	Undisturbed sample site
2055-2118		Undisturbed sample site
2055-2154	S3	Undisturbed sample site
2056-2144	S4	Undisturbed sample site
2057-2201	S5	Undisturbed sample site
2100-2127	S6	Undisturbed sample site
2101-2218		Undisturbed sample site
2102-2210		Undisturbed sample site
2105-2122	S7	Undisturbed sample site
2105-2145	S8	Undisturbed sample site
2108-2225		Undisturbed sample site
2110-2105		Undisturbed sample site
2110-2130	S9	Undisturbed sample site
2110-2202		Undisturbed sample site
2110-2202		Undisturbed sample site
2112-2100		Undisturbed sample site
2112-2158		Undisturbed sample site
2112-2212		Undisturbed sample site
2113-2119	S10	Undisturbed sample site
2113-2119	S10 Till plot	100-by-100-foot plot that is tilled to a depth of 6 inches
2113-2119	S10 Box plot	8-by-8-foot by 6-inch plot in the till plot that is lined with plastic
2113-2119	S10 Control plot	100-by-100-foot plot adjacent to the till plot that is undisturbed
2114-2211		Undisturbed sample site
2116-2150	S11	Undisturbed sample site
2117-2108		Undisturbed sample site
2117-2132	S12	Undisturbed sample site
2118-2105	S13	Undisturbed sample site
2119-2158		Undisturbed sample site
2120-2136		Undisturbed sample site
2121-2120		Undisturbed sample site
2121-2136	S14	Undisturbed sample site
2123-2111		Undisturbed sample site
2123-2130		Undisturbed sample site
2123-2144	S15	Undisturbed sample site
2123-2144	S15 Till plot	100-by-100-foot plot that is tilled to a depth of 6 inches
2123-2144	S15 Box plot	8-by-8-foot by 6-inch plot in the till plot that is lined with plastic
2123-2144	S15 Control plot	100-by-100-foot plot adjacent to the till plot that is undisturbed
2124-2149		Undisturbed sample site
2124-2203		Undisturbed sample site

Table 2. Site number and site ID for bottom-sediment and suspended-sediment-samplng sites sampled by the Bureau of Reclamation, the U.S. Fish and Wildlife Service, and the U.S. Geological Survey at and near Stewart Lake Waterfowl Management Area, middle Green River basin, eastern Utah—Continued

Site ID number	Permanent site ID	Comments
Bureau of Reclamation sediment-sampling sites (fig. 5)—Continued		
2125-2110	S16	Undisturbed sample site
2125-2113		Undisturbed sample site
2126-2100	S17	Undisturbed sample site
2126-2136	S18	Undisturbed sample site
2127-2159		Undisturbed sample site
2129-2059		Undisturbed sample site
2129-2203		Undisturbed sample site
2130-2146	S19	Undisturbed sample site
2131-2159		Undisturbed sample site
2132-2144	S20	Undisturbed sample site
2134-2158		Undisturbed sample site
2135-2153		Undisturbed sample site
2138-2043		Undisturbed sample site
B2		Undisturbed sample site
B3		Undisturbed sample site
B5		Undisturbed sample site
B7		Undisturbed sample site
B8		Undisturbed sample site
B6		Undisturbed sample site
J3		Undisturbed sample site
J4		Undisturbed sample site
U.S. Fish and Wildlife Service sediment-sampling sites (fig. 9)		
GR1		Green River backwater near Stewart Lake
GR2		Green River backwater near Stewart Lake
GR3		Green River backwater near Stewart Lake
GR4		Green River backwater near Stewart Lake
GR5		Green River backwater near Stewart Lake
GR6		Green River backwater near Stewart Lake
J1B		Green River backwater near JI drain outfall
U.S. Geological Survey and Bureau of Reclamation sediment and suspended-sediment-sampling sites (figs. 6, 7, and 8)		
J1 0		Sediment-sampling site, drain J1 area
J1 700		Sediment-sampling site, drain J1 area
J1 900		Sediment-sampling site, drain J1 area
J1 1200		Sediment-sampling site, drain J1 area
J1 1700		Sediment-sampling site, drain J1 area
J1 2000		Sediment-sampling site, drain J1 area
J1 2200		Sediment-sampling site, drain J1 area
J2 Pond		Sediment-sampling site, drain J2 area
J2 100		Sediment-sampling site, drain J2 area
J3-30		Sediment-sampling site, drain J3 area
J3-60		Sediment-sampling site, drain J3 area
J3-90		Sediment-sampling site, drain J3 area

Table 2. Site number and site ID for bottom-sediment and suspended-sediment-samplng sites sampled by the Bureau of Reclamation, the U.S. Fish and Wildlife Service, and the U.S. Geological Survey at and near Stewart Lake Waterfowl Management Area, middle Green River basin, eastern Utah—Continued

Site ID number	Permanent site ID	Comments
U.S. Geological Survey and Bureau of Reclamation sediment and suspended-sediment-sampling sites (figs. 6, 7, and 8)—Continued		
J3-150		Sediment-sampling site, drain J3 area
J3-210		Sediment-sampling site, drain J3 area
J3-270		Sediment-sampling site, drain J3 area
J3-330		Sediment-sampling site, drain J3 area
J3-390		Sediment-sampling site, drain J3 area
J4-10		Sediment-sampling site, drain J4 area
J4-20		Sediment-sampling site, drain J4 area
J4-30		Sediment-sampling site, drain J4 area
J4-60		Sediment-sampling site, drain J4 area
J4-75		Sediment-sampling site, drain J4 area
J4-90		Sediment-sampling site, drain J4 area
J4 Pond 0		Sediment-sampling site, drain J4 area
J4-100 Right		Sediment-sampling site, drain J4 area
J4-100 Left		Sediment-sampling site, drain J4 area
J4-150		Sediment-sampling site, drain J4 area
J4-Pond 200		Sediment-sampling site, drain J4 area
J4-200		Sediment-sampling site, drain J4 area
J4-210		Sediment-sampling site, drain J4 area
J4-270		Sediment-sampling site, drain J4 area
J4-330		Sediment-sampling site, drain J4 area
J4-400W		Sediment-sampling site, drain J4 area
J4-400E		Sediment-sampling site, drain J4 area
J4-600W		Sediment-sampling site, drain J4 area
J4-600E		Sediment-sampling site, drain J4 area
J4-800E		Sediment-sampling site, drain J4 area
J4-1600		Sediment-sampling site, drain J4 area
J4-1830-A		Sediment-sampling site, drain J4 area
J4-1830-B		Sediment-sampling site, drain J4 area
J4-1830-C		Sediment-sampling site, drain J4 area
J4-2150-A		Sediment-sampling site, drain J4 area
J4-2150-B		Sediment-sampling site, drain J4 area
J4-2150-C		Sediment-sampling site, drain J4 area
J4-2230-A		Sediment-sampling site, drain J4 area
J4-2230-B		Sediment-sampling site, drain J4 area
J4-2230-C		Sediment-sampling site, drain J4 area
J4 2600		Sediment-sampling site, drain J4 area
J4 3000		Sediment-sampling site, drain J4 area
J4 3200 Seep		Sediment-sampling site, drain J4 area
J4 3200		Sediment-sampling site, drain J4 area
J4 3500		Sediment-sampling site, drain J4 area
J4-3800		Sediment-sampling site, drain J4 area
J4 4600		Sediment-sampling site, drain J4 area
SS1		Suspended-sediment sampling site
SS2		Suspended-sediment sampling site

Table 2. Site number and site ID for bottom-sediment and suspended-sediment-samplng sites sampled by the Bureau of Reclamation, the U.S. Fish and Wildlife Service, and the U.S. Geological Survey at and near Stewart Lake Waterfowl Management Area, middle Green River basin, eastern Utah—Continued

Site ID number	Permanent site ID	Comments
U.S. Geological Survey and Bureau of Reclamation sediment and suspended-sediment-sampling sites (figs. 6, 7, and 8)—Continued		
SS3		Suspended-sediment sampling site
SS4		Suspended-sediment sampling site
SS5		Suspended-sediment sampling site
SS6		Suspended-sediment sampling site
SS7		Suspended-sediment sampling site

Table 3. Site name and abbreviated site name for biological-sampling sites sampled by the U.S. Fish and Wildlife Service, middle Green River basin, eastern Utah

Site name	Abbreviated site name
Ashley Creek Area (fig. 9)	
Ashley Creek at Bridge in Jensen	ACBJ
Ashley Creek at Burns Bench Return Channel	ACBR
Ashley Creek at Confluence with Green River	ACGR
Ashley Creek at HWY40	AC40
Ashley Creek at HWY40	AC40
Ashley Creek at Road to Vernal Sewer Lagoons	ACV
Ashley Creek at Winter Storage Pond	WSP
Ashley Creek near Naples	ACN
Ashley Creek near Stewart Lake	ACS
Ashley Valley Central Pond	AVCP
Ashley Creek	SA
Keith Squires Pond	KSP
Lane Jackson Pond	LJP
Mantle Gulch	MG
Marsh on Murray Property at Ashley Creek at HWY40	MMM
Melvin Smith Residence	MSR
Pond 30A	30A
Winter Storage Pond	WSP
Brush Creek area (fig. 9)	
Brush Creek	BC
Brush Creek at Two Bridge	BCD
Brush Creek at HWY 149	BC149
Escalante Bar	EB
Escalante Marsh above Jensen	EM
Green River area near Dinosaur National Monument (fig. 9)	
Boneyard	BY
Split Mountain	SM
Razorback Bar	RZB
Green River area near Stewart Lake Waterfowl Management Area (fig. 9)	
Backwater above Bonanza Pump Station	GR6
Backwater above Red Wash Boat Launch	GR5
Backwater above Stewart Lake Outlet	GR3
Backwater at Stewart Lake Inlet	GR2
Backwater below Ashley Creek	GR4
Green River area near Stewart Lake Waterfowl Management Area (fig. 9)—Continued	
Backwater below Jensen Bridge	GR1
Backwater formed by the J1/J1A Outfall	J1B
Bonanza	BO
Bonanza Bridge	BB
Collier Draw	CD
Hamacker Bottom	HA
Horseshoe Bend	HB
Oxbow south of Stewart Lake	SLOX
Stewart Lake Outlet Channel	SLOC
Ouray area (fig. 10)	
Leota Bottom	LB
Leota 6, Ouray NWR	L6
North Roadside	NR
Old Charlie Wash	OCW
Ouray National Fish Hatchery	Ouray NFH
Sheppard Bottom	SB
Sheppard 3, Ouray NWR	S3
Sheppard 5, Ouray NWR	S5
South Roadside, Ouray NWR	SR
Woods Bottom	WB
Pariette Wetlands area (fig. 10)	
Big Island Pond	BIP
Desiltation Pond	DP
Gadwall Pond	GWP
Stewart Lake area (fig. 9)	
Gravel Pit near Jensen	GPJ
Stewart Lake Drains J2-J4	SLJ2-4
Stewart Lake Inlet	SLI
Stewart Lake J1 Drain	SLJ1
Stewart Lake J2 Drain	SLJ2
Stewart Lake J4 Drain	SLJ4
Stewart Lake Middle	SLM
Stewart Lake North Overlook	SLN
Stewart Lake Outlet	SLO
Stewart Lake Southwest Dike	SSD
Stewart Lake Frog Pond	SFP

Table 4. Physical properties and chemical analyses for quality-control samples collected during 1993-96 from the middle Green River basin, Utah and Colorado

[µS/cm, microsiemens per centimeter at 25 degrees Celsius; °C, degrees Celsius; mg/L, milligrams per liter; µg/L, micrograms per liter; —, no data; <, less than]

Date	Time	Equipment blank, type of solution	Specific conductance, laboratory (µS/cm)	Solids, residue at 180 °C, dissolved (mg/L)	Boron, dissolved (µg/L as B)	Selenium, dissolved (µg/L as Se)	Zinc, dissolved (µg/L as Zn)
03-26-93	1045	Deionized water	—	—	—	32	—
06-23-93	1700	Deionized water	—	—	—	<1	—
07-27-93	1205	Deionized water	—	—	—	<1	—
08-24-93	1900	Deionized water	—	—	—	<1	—
08-25-93	1545	Deionized water	—	—	—	<1	—
10-13-93	1530	Deionized water	2	1	<10	<1	<10
04-14-94	1200	Deionized water	—	—	—	<1	—
05-19-94	1025	Deionized water	—	—	—	<1	—
07-14-94	1615	Deionized water	—	—	—	<1	—
08-17-94	1400	Deionized water	—	—	—	<1	—
09-21-94	1720	Deionized water	—	—	—	<1	—
03-21-95	1700	Deionized water	—	—	40	<1	<10
04-19-95	1800	Deionized water	—	—	30	<1	<10
05-18-95	1730	Deionized water	—	—	<10	<1	<10
06-22-95	1900	Deionized water	—	—	—	<1	<10
07-18-95	1900	Deionized water	—	—	30	<1	<10
08-17-95	1930	Deionized Water	—	—	—	<1	<10
09-23-95	1100	Deionized Water	—	—	—	<1	—
10-25-95	1800	Deionized Water	—	—	30	2	<10
03-27-96	1030	Deionized Water	—	—	—	<1	<10
04-17-96	1800	Deionized Water	—	—	—	<1	<10
05-16-96	1630	Deionized Water	—	—	—	<1	—
06-14-96	0900	Deionized Water	—	—	—	<1	—
07-17-96	1730	Deionized Water	—	—	—	<1	—
08-21-96	1245	Deionized Water	—	—	—	<1	—
09-20-96	0930	Deionized Water	—	—	—	<1	—
10-25-96	1820	Deionized Water	—	—	—	<1	—

Table 5. Discharge, physical properties, and selenium concentration of water from the Green River and selected tributaries, Utah and Colorado, water years 1991-2000

[Data from U.S. Geological Survey; ft^3/s, cubic feet per second; ^oC, degrees Celsius; µS/cm, microsiemens per centimeter at 25^o C; µg/L, micrograms per liter; Number in parentheses is the U.S. Geological Survey Site ID number in table 1; <, less than; —, no data; E, estimated]

Date	Time	Discharge, instant-aneous (ft^3/s)	Temper-ature (^oC)	Specific conduc-tance (µS/cm)	pH, water, whole, field (standard units)	Selenium, dissolved (µg/L as Se)	Selenium, total (µg/L as Se)
Green River near Greendale, Utah (09234500)							
11-08-90	1430	913	8.5	780	8.2	<1	—
12-13-90	1230	884	5.5	810	7.6	<1	—
02-27-91	1230	868	4.0	830	8.2	1.0	—
04-24-91	1230	883	7.0	790	8.3	—	—
06-19-91	1330	2,870	11.0	720	8.4	—	—
08-29-91	1000	1,760	11.5	760	8.2	<1	—
10-02-91	1430	1,710	12.5	740	8.2	—	—
12-04-91	1240	860	6.0	790	7.8	<1	—
02-04-92	1200	2,180	3.0	816	8.1	<1	—
04-09-92	1200	1,460	6.5	750	8.2	2.0	—
06-02-92	1230	861	11.5	710	8.5	<1	—
08-04-92	1300	1,300	12.5	710	8.3	<1	—
10-06-92	1330	902	11.5	730	8.3	<1	—
12-08-92	1530	881	4.5	750	8.4	1.0	—
03-09-93	1500	910	3.0	770	8.3	<1	—
05-12-93	1330	2,800	13.0	740	8.4	1.0	—
07-13-93	1530	897	12.5	710	8.3	<1	—
09-14-93	1400	1,490	13.0	750	8.5	1.0	—
11-04-93	1300	2,980	10.0	770	8.3	<1	—
01-12-94	1430	1,760	4.0	810	8.1	<1	—
03-17-94	1100	864	4.0	780	8.5	<1	—
05-20-94	1000	4,700	9.0	740	8.5	<1	—
07-29-94	1515	1,670	13.0	742	8.5	<1	—
10-18-94	1330	1,410	10.0	730	8.3	<1	—
11-29-94	1055	1,170	7.0	750	8.3	—	—
03-02-95	1110	847	4.0	750	8.5	<1	—
04-05-95	1120	872	5.5	740	8.3	1.0	—
05-16-95	0950	1,920	7.0	750	8.3	<1	—
07-13-95	0955	3,160	12.5	630	8.3	<1	—
08-29-95	0945	1,380	12.0	680	8.3	<1	—
10-04-95	0905	1,390	13.0	690	8.3	<1	—
12-12-95	1000	3,110	7.0	750	8.4	—	—
04-03-96	0945	2,770	4.0	730	8.4	<1	—
05-16-96	0945	4,610	7.5	700	8.4	<1	—
07-10-96	0920	1,370	12.0	680	8.5	<1	—
08-21-96	0930	1,640	12.0	700	8.3	<1	—
10-15-96	1130	1,710	12.0	690	8.4	<1	—
12-04-96	1200	2,040	7.0	740	8.2	<1	—
01-29-97	0930	2,720	4.0	720	8.3	<1	—
03-06-97	1200	3,120	4.0	680	8.4	<1	—
04-17-97	0930	4,500	4.5	680	8.4	<1	—
05-21-97	0830	4,720	8.0	640	8.2	<1	—

Table 5. Discharge, physical properties, and selenium concentration of water from the Green River and selected tributaries, Utah and Colorado, water years 1991-2000—Continued

Date	Time	Discharge, instant-aneous (ft^3/s)	Temper-ature (°C)	Specific conduc-tance (µS/cm)	pH, water, whole, field (standard units)	Selenium, dissolved (µg/L as Se)	Selenium, total (µg/L as Se)
Green River near Greendale, Utah (09234500)—Continued							
06-26-97	1115	4,010	13.0	640	8.2	<1	—
08-06-97	1030	1,510	12.0	650	8.3	<1	—
10-09-97	1145	2,890	12.0	640	8.4	<1	—
11-25-97	1530	3,430	6.5	640	8.5	<1	—
01-07-98	1215	3,110	3.0	660	8.4	<1	—
02-24-98	1430	2,260	3.5	630	8.3	<1	—
04-14-98	1345	3,630	2.5	600	8.4	<1	—
05-19-98	1245	3,530	6.0	570	8.4	<1	—
07-07-98	1645	2,010	10.0	530	8.1	<1	—
08-18-98	1630	2,380	11.0	550	7.9	<1	—
10-13-98	1710	2,310	11.5	610	6.6	<1	—
11-30-98	1500	2,280	7.0	620	7.3	<1	—
01-05-99	1245	2,390	6.0	630	8.3	<1	—
02-16-99	1415	2,790	4.0	640	8.4	<1	—
03-23-99	1610	3,430	4.0	340	8.2	<1	—
05-12-99	1220	4,450	6.0	620	8.6	<1	—
06-10-99	1340	8,400	9.7	600	8.5	<1	—
07-22-99	1220	2,070	12.5	610	8.5	<1	—
08-25-99	1610	2,080	14.5 E	620	8.2	<1	—
10-12-99	1530	2,130	11.0	630	8.6	<2.4	—
12-02-99	1410	2,180	8.0	630	8.7	<2.4	—
01-12-00	1240	2,330	5.0	640	8.2	<2.4	—
03-01-00	1320	1,870	4.0	640	8.5	<2.4	—
04-13-00	1240	1,690	5.5	640	8.6	<2.4	—
05-25-00	1220	4,770	9.5	600	8.7	1.6 E	—
07-13-00	1310	1,360	14.0	600	8.5	1.6 E	—
08-30-00	1310	1,140	10.0	620	8.5	<2.4	—
Yampa River near Maybell, Colorado (09251000)							
02-06-91	1230	175 E	0	568	8.0	<1	—
04-10-91	1210	1,390	4.5	492	8.3	3.0	—
05-15-91	1355	5,270	10.5	205	8.0	<1	—
09-03-91	1325	105	25.0	512	8.4	<1	—
12-04-91	1700	226	0	633	8.3	<1	—
03-17-92	1200	681	6.0	694	9.1	5.0	—
06-12-92	1305	2,060	19.0	200	8.3	<1	—
09-01-92	1400	146	20.0	439	8.7	<1	—
12-22-92	1430	302	0	478	8.4	<1	—
03-22-93	1100	800	0	730	8.5	3.0	—
05-17-93	1400	10,700	10.0	212	8.0	<1	—
08-25-93	1000	291	18.5	404	8.4	<1	—
10-03-94	1530	60	13.5	712	—	<1	—
03-20-95	1500	1,220	9.0	615	8.7	6.9	—

Table 5. Discharge, physical properties, and selenium concentration of water from the Green River and selected tributaries, Utah and Colorado, water years 1991-2000—Continued

Date	Time	Discharge, instant-aneous (ft^3/s)	Temper-ature (°C)	Specific conduc-tance (µS/cm)	pH, water, whole, field (standard units)	Selenium, dissolved (µg/L as Se)	Selenium, total (µg/L as Se)
Yampa River near Maybell, Colorado (09251000)—Continued							
08-30-95	1630	341	23.0	362	8.2	2.0	—
10-03-95	1630	497	14.0	414	8.2	<1	—
03-14-96	1615	1,550	1.5	667	7.7	3.0	—
05-28-96	1400	7,650	9.5	199	7.7	<1	—
06-25-96	1630	4,860	16.0	133	7.7	<1	—
07-18-96	1217	817	22.0	292	8.3	—	—
08-20-96	1110	211	19.5	541	8.5	<1	—
09-09-96	1130	117	18.0	610	8.0	—	—
11-08-96	1600	373	2.0	536	8.4	<1	—
01-17-97	1330	360	0	770	8.2	2.0	—
03-24-97	1400	2,680	6.0	705	8.0	7.4	—
06-03-97	1400	14,400	15.0	173	8.0	<1	—
09-10-97	1100	380	19.0	484	8.7	<1	—
01-08-98	1620	426	0	712	8.3	2.3	2.8
02-25-98	1300	648	0	900	8.4	3.8	3.6
03-12-98	1040	649	.5	928	8.6	4.9	3.7
03-18-98	1030	797	1.0	861	8.2	3.5	<3.6
03-26-98	1235	7,200 E	5.0	625	8.1	4.3	5.7
04-01-98	1215	2,490	5.0	742	8.4	3.2	3.5
04-21-98	1910	3,030	10.5	659	8.3	2.7	2.7
05-20-98	1520	8,630	12.0	223	8.2	<1	<1
07-22-98	1015	860	22.0	354	8.4	<1	<1
09-08-98	1445	150	23.5	605	8.5	<1	<1
10-20-98	1330	339	9.0	621	8.6	<1	—
11-12-98	1030	423	1.0	587	8.5	1.4	—
01-28-99	1230	363	0	827	8.3	1.9	—
03-05-99	1325	492	1.0	962	8.5	4.3	—
03-25-99	1810	1,290	9.0	762	8.5	7.9	—
05-14-99	1250	3,370	8.0	361	8.3	<1	—
06-09-99	1000	5,550	13.0	139	8.1	<1	—
07-14-99	1040	865	21.0	294	8.4	<1	—
08-16-99	1615	294	22.0	440	8.7	<1	—
10-22-99	1310	316	8.0	587	8.7	<2.4	—
02-21-00	1302	342	0	957	8.6	5.6	—
06-27-00	1400	1,150	19.0	236	8.2	.7 E	—
09-05-00	1244	147	20.0	588	8.5	.7	—
Green River near Jensen, Utah (09261000)							
11-06-90	1200	1,470	4.5	710	8.3	<1	—
03-19-91	1230	1,820	7.0	740	8.2	1.0	—
04-23-91	1230	3,450	10.5	620	8.3	<1	—
05-30-91	1130	9,910	13.5	240	8.1	<1	—
06-18-91	1200	7,420	18.0	260	8.2	<1	—

Table 5. Discharge, physical properties, and selenium concentration of water from the Green River and selected tributaries, Utah and Colorado, water years 1991-2000—Continued

Date	Time	Discharge, instant-aneous (ft^3/s)	Temper-ature (°C)	Specific conduc-tance (µS/cm)	pH, water, whole, field (standard units)	Selenium, dissolved (µg/L as Se)	Selenium, total (µg/L as Se)
Green River near Jensen, Utah (09261000)—Continued							
07-16-91	1230	2,480	22.0	690	8.4	<1	—
09-11-91	1130	1,870	16.5	780	8.3	<1	—
10-01-91	1130	1,930	14.0	760	8.4	—	—
11-05-91	1200	1,870	3.0	790	8.2	<1	—
12-03-91	1200	1,770	0	730	8.1	<1	—
01-08-92	1230	2,350	.5	810	8.3	<1	—
02-06-92	1230	1,690	0	830	8.2	<1	—
03-03-92	1130	2,230	4.0	760	8.3	<1	—
04-07-92	1100	2,170	11.5	690	8.4	1.0	—
05-06-92	1145	6,790	16.0	370	8.4	<1	—
06-04-92	1145	5,120	18.0	400	8.3	<1	—
07-08-92	1130	1,640	21.5	780	8.5	<1	—
08-05-92	1145	1,440	20.5	670	8.4	<1	—
09-03-92	1230	1,720	16.0	720	8.4	<1	—
10-08-92	1130	1,180	9.5	730	8.6	<1	—
11-04-92	1030	1,610	7.0	720	8.4	<1	—
12-10-92	1500	1,470	1.0	750	8.6	<1	—
03-25-93	1300	3,130	8.0	685	8.4	2.0	—
04-15-93	1200	3,130	10.0	685	8.6	2.0	—
05-11-93	1900	6,090	17.0	445	8.4	1.0	—
07-14-93	1200	3,650	21.0	350	8.3	<1	—
08-19-93	1230	1,700	25.0	660	—	<1	—
09-16-93	1230	1,550	14.0	740	8.7	1.0	—
10-07-93	1215	1,500	14.0	730	8.6	<1	—
03-18-94	0930	2,560	9.0	750	8.6	2.0	—
05-19-94	1440	11,700	14.5	395	8.3	<1	—
07-28-94	1200	1,590	22.5	740	8.5	<1	—
09-21-94	0945	1,740	15.0	770	8.5	<1	—
10-18-94	0900	1,980	9.0	—	8.7	—	—
02-28-95	1645	2,070	—	670	—	—	1.0
03-02-95	1615	1,840	—	700	—	—	1.0
03-05-95	1355	1,690	—	—	—	—	<1
03-12-95	1150	1,540	—	—	—	—	1.0
03-16-95	1600	1,920	—	720	—	—	1.0
03-20-95	1600	2,280	—	670	—	—	2.0
04-02-95	1131	1,780	—	720	—	—	2.0
04-09-95	1655	2,860	—	660	—	—	1.0
04-10-95	1815	3,360	—	610	—	—	1.0
04-12-95	1730	3,130	—	520	—	—	1.0
04-15-95	1800	2,650	—	580	—	—	1.0
04-28-95	1800	4,180	—	630	—	—	1.0
05-03-95	2025	6,500	—	660	—	—	4.0

Table 5. Discharge, physical properties, and selenium concentration of water from the Green River and selected tributaries, Utah and Colorado, water years 1991-2000—Continued

Date	Time	Discharge, instant-aneous (ft^3/s)	Temper-ature (°C)	Specific conduc-tance (µS/cm)	pH, water, whole, field (standard units)	Selenium, dissolved (µg/L as Se)	Selenium, total (µg/L as Se)
Green River near Jensen, Utah (09261000)—Continued							
05-16-95	1530	8,580	14.5	465	8.3	1.0	—
07-13-95	1530	10,100	19.5	290	8.2	<1	—
08-29-95	1630	1,730	22.0	640	8.5	<1	—
10-04-95	1530	2,020	11.0	650	8.5	<1	—
04-03-96	1600	5,680	10.0	740	8.4	4.0	—
05-16-96	1510	18,800	15.0	320	8.1	<1	—
07-10-96	1600	3,600	22.0	400	8.4	<1	—
08-21-96	1700	1,780	22.0	670	8.5	<1	—
10-15-96	1650	1,920	13.0	680	8.5	<1	—
12-05-96	1030	2,040	2.0	770	8.3	<1	—
01-29-97	1745	2,560	3.0	730	8.3	<1	—
03-06-97	1545	3,570	4.5	710	8.5	<1	—
04-16-97	1500	5,440	12.0	700	8.4	1.2	—
08-06-97	0700	2,910	19.0	550	8.4	<1	—
10-10-97	0815	4,450	10.5	590	8.5	<1	—
11-20-97	1440	4,360	6.0	650	8.5	<1	—
04-16-98	1755	8,320	8.0	560	8.4	1.2	1.2
05-21-98	1400	14,700	5.0	300	8.1	<1	—
07-08-98	1700	5,500	23.0	320	8.3	<1	<1
10-16-98	0830	3,070	10.0	620	8.1	<1	<1
03-26-99	0810	5,520	7.5	690	8.3	3.5	—
03-31-99	1020	5,520	7.4	622	—	—	—
05-13-99	1340	11,100	10.0	410	8.3	<1	—
05-20-99	0915	10,800	13.6	479	—	—	—
05-28-99	0845	19,700	14.7	345	—	—	—
06-11-99	0830	17,900	13.0	380	8.3	<1	—
06-24-99	1030	13,800	16.8	405	—	—	—
07-22-99	1750	3,180	23.0	540	8.5	<1	—
08-26-99	1730	2,490	21.5	620	8.7	<1	—
03-02-00	1310	2,400	6.5	670	8.6	1.4E	—
03-08-00	1120	—	—	685	—	1.4	—
04-12-00	1300	5,100	12.5	550	8.5	1.6E	—
07-12-00	1510	1,750	22.0	580	8.6	1.2E	—
08-31-00	1630	1,340	8.5	650	8.5	<2.4	—
09-13-00	1100	—	17.0	640	8.4	<2.4	—
Ashley Creek near Jensen, Utah (09271500)							
08-14-91	0930	6.8	20.5	2,330	7.7	57	—
10-23-91	0915	—	10.5	2,100	—	44	55
Ashley Creek Below Union Canal Diversion near Jensen, Utah (09271550)							
07-16-91	1530	.70	29.5	3,930	7.9	19	—
11-05-91	1400	—	5.0	2,310	8.2	39	—
02-05-92	1515	14	-.5	2,490	7.8	74	—

Table 5. Discharge, physical properties, and selenium concentration of water from the Green River and selected tributaries, Utah and Colorado, water years 1991-2000—Continued

Date	Time	Discharge, instant-aneous (ft^3/s)	Temper-ature (ºC)	Specific conduc-tance (µS/cm)	pH, water, whole, field (standard units)	Selenium, dissolved (µg/L as Se)	Selenium, total (µg/L as Se)
Ashley Creek Below Union Canal Diversion near Jensen, Utah (09271550)—Continued							
05-06-92	1645	3.3	23.0	2,860	8.1	160	—
06-03-92	1710	4.7	27.0	2,630	8.2	41	—
08-07-92	1000	1.0	21.0	3,550	7.8	29	—
12-10-92	1700	—	—	—	—	61	—
03-25-93	1130	46	11.0	2,260	8.3	<65	—
04-21-93	1030	26	8.0	2,420	8.2	80	—
05-26-93	0850	1,200	6.5	96	8.3	4.0	—
06-23-93	1905	179	18.0	560	8.5	9.0	—
07-28-93	0730	71	17.0	1,390	8.2	23	—
08-25-93	0700	20	17.0	1,800	8.1	27	—
10-13-93	0830	40	10.5	2,100	8.1	22	—
03-17-94	0915	23	7.0	2,350	8.2	56	—
04-13-94	0905	5.0	9.0	3,080	8.1	100	—
05-18-94	0900	21	13.0	1,130	8.2	25	—
06-16-94	0855	.90	15.0	3,020	7.8	54	—
07-14-94	0710	.75	18.0	3,080	7.8	27	—
08-16-94	1450	.40	27.0	3,980	8.1	82	—
09-20-94	1455	—	19.0	4,400	8.3	55	—
10-19-94	1120	58	9.5	1,630	8.3	48	—
03-21-95	0820	7.7	9.0	2,630	8.2	99	—
04-19-95	0845	1.0	9.0	3,440	8.1	110	—
05-18-95	0745	10	12.0	2,560	8.1	88	—
06-22-95	0830	1,200 E	9.0	330	8.1	4.0	—
07-18-95	0730	146	17.5	850	8.0	16	—
08-17-95	0740	53	18.5	1,680	8.1	20	—
09-23-95	0605	153	—	1,640	8.2	33	—
10-25-95	0710	37	4.0	1,900	8.2	2.0	—
03-26-96	0835	12	—	2,430	8.2	68	—
05-16-96	0745	3.4	18.0	2,650	8.0	69	—
06-13-96	0750	19	16.0	1,710	8.0	27	—
07-16-96	0940	3.8	21.0	2,020	8.1	25	—
08-20-96	0655	1.0	18.5	2,240	8.0	43	—
09-19-96	0945	17	12.0	2,090	8.4	35	—
03-20-97	0805	52	6.0	2,120	8.2	39	—
04-16-97	1200	20	12.0	2,220	8.5	51	—
04-17-97	1100	—	—	—	—	—	54
05-14-97	0810	—	9.5	402	8.1	5.4	—
06-10-97	0720	500	12.0	330	8.3	4.0	—
07-17-97	0830	4.6	19.0	2,900	7.4	23	—
09-16-97	0740	21	14.5	2,070	8.2	48	—
10-07-97	1050	12	14.0	1,780	8.5	36	—
03-25-98	0735	52	8.0	1,110	8.3	26	—

Table 5. Discharge, physical properties, and selenium concentration of water from the Green River and selected tributaries, Utah and Colorado, water years 1991-2000—Continued

Date	Time	Discharge, instant-aneous (ft^3/s)	Temper-ature (°C)	Specific conduc-tance (µS/cm)	pH, water, whole, field (standard units)	Selenium, dissolved (µg/L as Se)	Selenium, total (µg/L as Se)
Ashley Creek Below Union Canal Diversion near Jensen, Utah (09271550)—Continued							
05-20-98	0735	1,050	8.3	223	8.2	2.6	—
06-16-98	0830	435	11.0	300	8.1	3.4	—
07-22-98	1830	1.5	24.5	1,360	8.5	—	—
09-17-98	1710	18	24.0	1,720	8.4	29	—
10-20-98	1100	6.3	8.5	1,620	8.0	28	—
03-16-99	1600	25	12.0	2,080	8.6	54	—
05-19-99	0745	82	13.5	1,200	8.3	22	—
06-16-99	1600	575	16.5	220	8.2	3.1	—
07-13-99	0745	4.9	20.0	2,000	8.0	21	—
09-16-99	1310	19	19.0	1,950	8.3	31	—
10-14-99	1645	13	16.5	2,020	8.4	43	—
03-14-00	0745	13	4.0	2,320	8.2	60	—
05-23-00	1650	127	20.0	440	8.3	7.2	—
06-28-00	1100	—	21.0	2,150	8.3	42	—
07-26-00	1300	6.3	25.0	2,450	8.2	51	—
08-30-00	1615	—	26.0	2,790	—	62	—
Irrigation drains J1 and J1A combined at the Green River above Stewart Lake WMA (402136109204102)							
11-20-97	900	—	—	3,180	—	—	28
07-06-98	1650	—	12.7	2,380	—	—	31
07-23-98	945	1.7	12	2,170	7.1	26	—
08-21-98	1035	—	13.5	2,120	7.2	24	—
07-14-98	930	—	—	—	—	—	27
09-17-98	1630	.07	14	2,130	7.2	20	—
10-20-98	1315	2	15	2,020	7.2	17	—
03-17-99	720	.37	7.5	1,500	7.8	13	—
04-20-99	1610	.89	8.5	2,310	7.3	23	—
05-19-99	815	—	—	2,280	7.3	25	—
06-16-99	1800	1.6	13	2,110	7.2	19	—
07-13-99	815	—	12	1,960	7.2	17	—
08-18-99	805	3.7	14	2,070	7.1	19	—
09-16-99	1230	2.6	14.5	1,880	7.2	16	—
10-14-99	1705	—	13.5	2,010	7.3	18	—
03-14-00	900	.13	4	2,320	8.2	12	—
04-26-00	810	—	9	2,390	7.2	30	—
05-24-00	730	4.8	10.5	1,980	7.2	30	—
06-28-00	825	—	11.5	2,110	7.3	26	—
07-26-00	1205	5.2	13.5	1,950	7.3	19	—
08-30-00	1455	—	14	1,940	7.3	21	—
10-11-00	800	2.1	14	2,030	7.4	26	—
Stewart Lake Outflow near Jensen, Utah (09271600)							
06-20-91	0815	4.2	16.0	2,830	7.6	8.0	—
08-28-91	1700	3.5	29.0	2,350	8.0	12	—

Table 5. Discharge, physical properties, and selenium concentration of water from the Green River and selected tributaries, Utah and Colorado, water years 1991-2000—Continued

Date	Time	Discharge, instant-aneous (ft^3/s)	Temper-ature (ºC)	Specific conduc-tance (µS/cm)	pH, water, whole, field (standard units)	Selenium, dissolved (µg/L as Se)	Selenium, total (µg/L as Se)
Stewart Lake Outflow near Jensen, Utah (09271600)—Continued							
10-23-91	1300	—	11.0	2,550	—	10	6.0
04-07-92	1500	.70	20.5	2,350	8.4	9.0	—
06-04-92	1630	3.8	21.0	2,780	7.7	2.0	—
08-17-92	1430	3.6	28.0	2,450	7.9	6.0	—
03-25-93	1150	10	7.0	1,670	8.2	11	—
04-21-93	1130	1.2	11.5	2,760	7.8	8.0	—
06-24-93	1200	2.1	17.5	1,630	7.4	1.0	—
07-28-93	1205	3.1	20.0	2,600	7.5	2.0	—
08-25-93	0930	.09	19.0	2,700	7.5	1.0	—
10-13-93	0920	9.2	15.5	2,280	7.5	3.0	—
03-17-94	1125	.24	7.0	1,510	—	2.0	—
04-13-94	1115	.10	12.0	1,570	7.7	2.0	—
05-18-94	1050	.96	16.0	2,110	7.0	<2	—
06-16-94	1045	.96	19.0	2,840	7.4	1.0	—
07-14-94	0840	1.9	21.0	2,780	7.4	1.0	—
08-17-94	0810	2.1	21.0	2,550	7.5	1.0	—
09-21-94	0930	.22	14.0	2,380	7.6	<1	—
10-19-94	0835	.20	9.5	1,970	7.6	<1	—
02-15-95	1440	.06	3.0	2,700	7.3	3.0	—
03-21-95	0855	.24	9.0	1,390	7.6	1.0	—
04-19-95	0950	—	10.5	2,090	7.6	1.0	1.0
05-04-95	1245	—	—	2,100	—	1.0	—
05-18-95	0920	.01	15.0	2,240	7.6	1.0	1.0
06-22-95	1000	—	16.5	570	7.5	2.0	—
07-18-95	0915	7.6	21.0	1,090	7.3	<2	—
08-17-95	0900	4.6	21.5	1,950	7.5	—	—
09-23-95	0640	7.5	12.0	1,780	7.7	3.0	—
10-25-95	0815	4.0	4.5	2,000	7.2	3.0	—
03-26-96	1045	.09	5.0	1,810	8.1	1.0	—
04-16-96	0910	.32	10.0	2,290	7.9	1.0	—
06-13-96	0930	—	20.0	1,770	7.4	2.0	—
07-16-96	1200	—	25.0	2,110	7.9	—	—
08-20-96	1250	—	26.5	1,730	8.3	11	—
09-19-96	1300	—	17.0	1,500	8.3	10	—
10-24-96	1000	5.4	4.0	1960	8.0	12	—
03-20-97	0945	3.0	6.5	770	7.8	2.0	—
04-16-97	0905	.53	6.0	2,110	7.8	2.4	—
05-27-97	0815	—	—	—	—	—	<1
06-10-97	1630	100 E	—	307	7.8	<1	<1
07-17-97	1120	30 E	25.0	2,100	8.0	9.9	10
08-19-97	1025	8.0	21.0	1,960	8.2	11	—
09-16-97	0905	21	14.5	1,810	8.0	15	—

Table 5. Discharge, physical properties, and selenium concentration of water from the Green River and selected tributaries, Utah and Colorado, water years 1991-2000—Continued

Date	Time	Discharge, instant-aneous (ft^3/s)	Temper-ature (°C)	Specific conduc-tance (µS/cm)	pH, water, whole, field (standard units)	Selenium, dissolved (µg/L as Se)	Selenium, total (µg/L as Se)
Stewart Lake Outflow near Jensen, Utah (09271600)—Continued							
10-07-97	1215	9.8	15.0	2,290	8.4	14	17
10-09-97	0740	—	—	—	—	—	10
10-10-97	0750	—	—	—	—	—	7.5
10-11-97	0730	—	—	—	—	—	10
10-13-97	1015	—	—	—	—	—	10
10-14-97	0750	—	—	—	—	—	8.3
10-15-97	0810	—	—	—	—	—	10
10-16-97	0820	—	—	—	—	—	12
10-18-97	0745	—	—	—	—	—	11
10-21-97	0805	—	—	—	—	—	17
10-22-97	0750	—	—	—	—	—	22
10-23-97	0720	—	—	—	—	—	19
10-24-97	0745	—	—	—	—	—	19
03-25-98	0900	.02	8.0	2,800	7.7	15	—
04-03-98	0930	—	—	3,180	—	9.7	11
04-29-98	0900	67	12.5	650	8.3	3.5	—
05-08-98	1240	—	—	—	—	—	1.8
05-11-98	1400	115	14.0	480	7.9	2.2	—
05-13-98	1210	—	—	—	—	—	2.2
05-20-98	1010	27	17.0	560	8.0	2.5	2.7
06-16-98	1100	27	17.0	600	8.2	3.1	—
07-06-98	1607	—	29.4	2,480	—	—	10
07-22-98	1950	5.5	26.5	185	7.9	5.7	—
08-21-98	0922	—	17.0	1,330	7.8	8.6	—
08-27-98	1410	—	—	—	—	—	9.3
09-17-98	1525	5.2	28.5	1,210	8.3	8.9	—
10-20-98	1330	5.0	15.0	1,880	8.1	16	—
11-17-98	2250	—	—	—	—	—	33
03-17-99	0825	1.0	1.5	3,000	7.9	29	—
04-06-99	1705	—	—	2,520	—	—	14
05-24-99	1410	—	—	—	—	—	7.1
05-25-99	0930	—	—	—	—	—	7.3
05-26-99	1405	—	—	—	—	—	3.9
05-27-99	0900	—	—	—	—	—	3.1
05-27-99	1030	—	—	—	—	—	2.6
05-27-99	1700	—	—	—	—	—	3.8
05-28-99	0920	—	—	—	—	—	4.2
06-01-99	1715	—	—	—	—	—	3.9
06-02-99	1000	—	—	—	—	—	3.4
06-03-99	0930	—	—	—	—	—	3.9
06-05-99	0830	—	—	—	—	—	2.8
06-16-99	1705	40	23.5	730	8.0	1.7	—

Table 5. Discharge, physical properties, and selenium concentration of water from the Green River and selected tributaries, Utah and Colorado, water years 1991-2000—Continued

Date	Time	Discharge, instant-aneous (ft^3/s)	Temper-ature (ºC)	Specific conduc-tance (µS/cm)	pH, water, whole, field (standard units)	Selenium, dissolved (µg/L as Se)	Selenium, total (µg/L as Se)
Stewart Lake Outflow near Jensen, Utah (09271600)—Continued							
07-13-99	1400	.00	28.0	1,160	7.5	<1	—
08-18-99	0900	1.9	15.0	1,340	7.9	3.8	—
09-16-99	0810	.70	9.0	1,890	7.6	6.9	—
10-15-99	0950	1.4	16.5	1,790	7.9	6.2	—
03-14-00	0925	.37	7.0	2,660	7.8	12	—
05-10-00	0910	—	—	—	—	—	<2.6
05-19-00	1600	—	—	—	—	—	4.6
05-24-00	1330	32	21.0	530	8.2	4.1	—
05-24-00	1730	—	—	—	—	—	5.4
06-13-00	—	—	—	—	—	3.7	—
06-27-00	—	—	—	—	—	3.7	—
07-26-00	1010	1.3	24.5	2,210	8.1	7.5	—
08-30-00	1420	—	27.5	1,470	8.3	8.6	—
Irrigation drains J2, J3, and J4 combined at the Green River below Stewart Lake WMA (402037109215003)							
07-06-98	1620	—	—	—	—	—	49
07-14-98	1030	—	—	—	—	—	38
07-23-98	1240	2.4	12.5	3,100	7	—	—
08-21-98	910	—	13.5	3,110	7.1	36	—
09-17-98	1500	.07	14	2,800	7.2	32	—
10-20-98	1350	3	14	2,840	7.1	29	—
03-17-99	745	.24	7.5	3,230	7.4	37	—
04-20-99	1645	.32	9	3,250	7.4	36	—
05-20-99	845	—	10	3,670	7.2	35	—
06-16-99	1725	1.7	11	3,120	7.1	30	—
07-13-99	855	4	12.5	3,060	7.1	32	—
08-18-99	915	1.5	13.5	2,860	7.1	34	—
09-16-99	820	2	14	2,800	7.1	34	—
10-15-99	1005	—	14	2,940	7.2	30	—
03-14-00	1000	.17	7.5	3,080	7.6	38	—
04-26-00	1010	—	9.5	2,910	7.2	44	—
05-24-00	900	4	10	3,440	7.1	42	—
06-28-00	940	—	12	2,460	7.2	30	—
07-26-00	1110	4.5	14	2,690	7.1	34	—
08-30-00	1330	—	14	2,660	7.2	36	—
10-11-00	930	2.1	14	3,400	7.1	36	—
Duchesne River near Randlett, Utah (09302000)							
11-05-90	1515	74	6.0	2,300	8.2	—	—
12-10-90	1545	150	0	2,020	8.1	—	—
02-26-91	1200	212	0	1,480	8.0	—	—
03-20-91	1550	113	9.0	1,970	8.5	—	—
04-22-91	1330	43	15.0	2,510	8.3	—	—
05-28-91	1330	69	16.5	2,080	8.3	<1	—

Table 5. Discharge, physical properties, and selenium concentration of water from the Green River and selected tributaries, Utah and Colorado, water years 1991-2000—Continued

Date	Time	Discharge, instant-aneous (ft^3/s)	Temper-ature (°C)	Specific conduc-tance (µS/cm)	pH, water, whole, field (standard units)	Selenium, dissolved (µg/L as Se)	Selenium, total (µg/L as Se)
Duchesne River near Randlett, Utah (09302000)—Continued							
06-17-91	1430	132	21.0	860	8.2	<1	—
07-19-91	1015	68	21.0	1,920	8.3	—	—
08-26-91	1745	108	23.5	1,560	8.3	<1	—
09-30-91	1520	98	18.5	1,800	8.3	<1	—
11-04-91	1400	90	2.5	2,420	8.4	1.0	—
12-02-91	1400	101	0	2,310	8.2	<2	—
01-06-92	1400	208	0	1,270	8.1	1.0	—
02-03-92	1630	192	0	1,070	7.8	<1	—
03-06-92	1030	178	4.0	1,760	8.4	<1	—
04-06-92	1600	64	16.0	2,020	8.3	<1	—
05-04-92	1510	61	22.0	2,230	8.3	1.0	—
06-01-92	1415	115	22.0	1,800	8.4	<1	—
07-06-92	1415	64	23.5	1,930	8.4	<1	—
08-03-92	1400	65	25.5	1,890	8.4	<1	—
08-31-92	1410	74	19.5	1,960	8.3	<1	—
10-05-92	1300	63	14.0	2,060	8.3	<1	—
11-02-92	1430	92	10.0	2,840	8.5	1.0	—
12-07-92	1645	81	-.5	2,110	8.5	1.0	—
01-04-93	1600	88	-.5	—	8.2	—	—
03-08-93	1330	146	0	1,000	8.3	<1	—
04-12-93	1630	126	7.0	1,980	8.5	<1	—
05-14-93	1100	41	16.0	2,400	8.3	<1	—
06-15-93	1730	384	23.0	980	8.2	<1	—
07-16-93	1100	100	19.0	1,520	8.3	<1	—
08-16-93	1500	94	21.0	1,790	8.5	<1	—
09-13-93	1630	67	17.0	1,890	8.6	1.0	—
10-04-93	1715	53	16.0	2,030	8.4	<1	—
11-01-93	1430	275	6.5	1,250	8.6	<1	—
12-06-93	1650	315	0	1,020	8.4	<1	—
01-10-94	1215	200	0	1,200	8.7	<1	—
02-14-94	1540	215	0	1,080	8.5	<1	—
03-14-94	1400	154	11.0	1,260	8.5	<1	<1
04-25-94	1300	66	15.0	2,130	8.4	<1	—
05-17-94	0915	43	15.0	2,090	8.4	<1	<1
06-22-94	1145	58	25.0	1,960	8.4	<1	<1
07-27-94	0920	13	24.0	2,290	8.5	<1	—
07-12-95	1400	4,760	18.5	240	8.2	<1	—
08-28-95	1355	203	24.5	1,350	8.4	<2	—
10-03-95	1300	233	12.0	1,380	8.4	<1	—
12-11-95	1400	390	3.0	890	8.4	—	—
04-02-96	1400	388	10.0	900	8.4	<1	—
05-15-96	1315	544	19.0	870	8.3	<1	—

Table 5. Discharge, physical properties, and selenium concentration of water from the Green River and selected tributaries, Utah and Colorado, water years 1991-2000—Continued

Date	Time	Discharge, instant-aneous (ft^3/s)	Temper-ature (°C)	Specific conduc-tance (µS/cm)	pH, water, whole, field (standard units)	Selenium, dissolved (µg/L as Se)	Selenium, total (µg/L as Se)
Duchesne River near Randlett, Utah (09302000)—Continued							
07-09-96	1315	121	24.0	1,390	8.4	<1	—
08-20-96	1330	89	23.0	1,410	8.4	<1	—
10-16-96	1245	61	12.0	1,870	8.4	<1	—
12-06-96	1245	283	0	1,340	8.5	<1	—
03-07-97	1430	515	1.0	830	8.2	<1	—
04-16-97	1200	606	10.0	930	8.4	<1	—
05-20-97	1200	2,490	15.0	330	8.8	<1	—
06-25-97	1330	800	17.5	470	8.2	<1	—
08-05-97	1600	1,100	22.0	1,190	8.0	1.6	—
10-10-97	1300	1,420	11.5	530	8.5	<1	—
11-21-97	1245	1,000	3.0	650	8.5	<1	—
01-08-98	1400	650	0	680	8.5	<1	—
02-25-98	1415	851	4.0	880	8.6	<1	—
04-15-98	1315	616	7.0	750	8.6	<1	—
05-20-98	1100	497	18.0	810	8.3	<1	—
07-09-98	1345	1,200	18.0	420	8.2	<1	—
08-19-98	1645	517	18.0	890	8.4	<1	—
10-14-98	1645	718	10.0	800	8.0	<1	—
12-01-98	1520	892	5.5	630	7.5	1 .0	—
01-14-99	1030	—	0	670	8.0	<1	—
02-17-99	1400	860	3.5	690	8.5	<1	—
03-24-99	1400	605	11.0	630	8.6	<1	—
05-11-99	1610	238	14.0	1,240	8.6	<1	—
06-11-99	1140	2,970	13.0	325	8.3	<1	—
07-21-99	1700	425	24.0	860	8.6	<1	—
08-27-99	1440	411	22.0	810	8.4	<1	—
10-13-99	1400	427	14.0	870	8.7	<2.4	—
11-30-99	1500	490	2.0	810	8.8	<2.4	—
01-11-00	1540	507	0	670	8.4	<2.4	—
02-29-00	1530	301	7.5	970	8.8	<2.4	—
04-11-00	1540	300	15.5	820	8.8	1.3 E	—
05-24-00	1600	102	21.5	1,430	8.5	4.0	—
07-11-00	1110	—	23.0	1,560	8.3	<2.4	—
09-01-00	1230	—	21.0	1,750	8.3	<2.4	—
White River near Watson, Utah (09306500)							
11-07-90	1120	430	3.5	770	8.2	—	—
12-11-90	1130	249	0	870	7.7	—	—
03-21-91	1130	388	2.5	880	8.3	—	—
04-25-91	1030	370	10.5	860	8.5	—	—
05-30-91	1700	1,930	12.5	355	8.2	<1	—
06-20-91	1200	1,690	16.5	340	8.3	—	—
07-17-91	1100	431	23.5	640	8.5	1.0	—

Table 5. Discharge, physical properties, and selenium concentration of water from the Green River and selected tributaries, Utah and Colorado, water years 1991-2000—Continued

Date	Time	Discharge, instant-aneous (ft^3/s)	Temper-ature (°C)	Specific conduc-tance (µS/cm)	pH, water, whole, field (standard units)	Selenium, dissolved (µg/L as Se)	Selenium, total (µg/L as Se)
White River near Watson, Utah (09306500)—Continued							
09-10-91	1145	333	19.0	720	8.3	2.0	—
10-03-91	1100	329	13.5	730	8.4	—	—
11-06-91	1200	325	4.5	760	8.3	<1	—
12-05-91	1130	211	0	890	8.3	<1	—
01-07-92	1130	300	0	850	8.2	2.0	—
02-05-92	1145	400	0	380	8.0	<1	—
03-04-92	1300	178	2.0	810	8.2	1.0	—
04-08-92	1245	436	12.5	880	8.3	<1	—
05-05-92	1145	1,260	16.5	485	8.2	1.0	—
06-03-92	1230	961	19.0	455	8.5	<1	—
07-07-92	1115	394	19.5	670	8.4	<1	—
08-05-92	1620	307	25.5	700	8.4	<1	—
09-01-92	1130	246	—	760	8.4	<1	—
10-07-92	1130	272	10.5	810	8.5	1.0	—
11-05-92	1230	429	7.5	776	8.5	1.0	—
12-09-92	1315	308	.5	820	8.6	1.0	—
01-06-93	1100	253	0	810	8.4	<1	—
03-11-93	1030	600	1.0	800	8.3	1.0	—
04-12-93	1300	743	8.0	1,140	8.5	4.0	—
05-11-93	1330	1,120	16.0	740	8.6	2.0	—
06-02-93	1320	3,720	13.0	420	8.1	1.0	—
07-12-93	1830	982	22.0	470	8.4	<1	—
08-17-93	1100	558	19.0	750	8.6	1.0	—
09-15-93	1200	265	15.0	780	8.5	1.0	—
10-05-93	1130	265	13.0	760	8.5	1.0	—
11-03-93	1200	468	5.0	760	8.4	1.0	—
12-07-93	1330	506	0	820	8.7	1.0	—
01-11-94	0915	295	-.5	850	8.7	1.0	—
03-18-94	0930	502	6.0	870	8.6	1.0	—
04-26-94	0900	752	11.5	735	8.5	1.0	—
05-19-94	1045	1,230	15.5	470	8.4	<1	—
06-24-94	0915	397	21.5	580	8.5	<1	—
07-28-94	1730	209	27.0	765	8.5	<1	—
08-25-94	1015	145	23.0	860	8.6	<1	—
10-17-94	1600	399	9.5	780	8.6	<1	—
11-30-94	0915	153	.5	820	8.4	—	—
04-06-95	0845	350	9.0	820	8.4	1.0	—
05-17-95	0935	1,780	13.0	720	8.4	3.0	—
07-14-95	0940	3,510	17.0	390	8.3	<1	—
08-30-95	0845	495	19.0	660	8.4	1.0	—
10-05-95	0815	632	9.5	690	8.4	<1	—
12-13-95	1030	465	3.5	750	8.4	—	—

Table 5. Discharge, physical properties, and selenium concentration of water from the Green River and selected tributaries, Utah and Colorado, water years 1991-2000—Continued

Date	Time	Discharge, instant-aneous (ft^3/s)	Temper-ature (ºC)	Specific conduc-tance (µS/cm)	pH, water, whole, field (standard units)	Selenium, dissolved (µg/L as Se)	Selenium, total (µg/L as Se)
White River near Watson, Utah (09306500)—Continued							
04-04-96	0930	622	8.5	870	8.6	2.0	—
05-17-96	0935	2,830	13.5	350	8.3	<1	—
06-06-96	0900	747	21.0	520	8.5	<1	—
08-22-96	0900	359	20.5	690	8.5	<1	—
10-16-96	0930	410	10.5	680	8.5	<1	—
12-05-96	1530	364	.5	730	8.6	1.0	—
11-19-97	1315	717	3.5	700	8.5	1.3	—
04-16-98	1200	1,160	7.2	940	8.7	3.2	—
07-08-98	1145	1,340	20.5	490	8.3	—	—
10-15-98	1130	607	12.0	750	7.8	<1	—
03-25-99	1210	549	12.0	850	8.6	1.5	—
08-26-99	1210	438	23.5	700	8.4	1.3	—
10-14-99	0920	387	10.0	750	8.6	1.3 E	—
07-12-00	1850	322	25.0	700	8.3	<2.4	—
08-31-00	1130	349	21.0	840	8.5	<2.4	—
Pariette Draw at mouth near Ouray, Utah (09307300)							
06-21-91	1345	20	23.0	2,450	8.8	5.0	—
08-26-91	1430	1.3	21.5	3,860	7.8	2.0	—
Price River at Woodside, Utah (09314500)							
10-10-90	0750	22	5.5	3,700	—	—	—
11-26-90	1000	12	.5	4,380	—	—	—
12-20-90	0940	22	0	4,080	—	—	—
01-25-91	0940	9.1	0	2,850	—	—	—
02-22-91	1000	24	0	1,550	—	—	—
03-29-91	0950	21	6.0	3,980	—	—	—
04-25-91	1215	14	12.5	4,450	—	—	—
05-23-91	0930	17	15.5	4,320	—	—	—
06-24-91	1040	16	18.0	2,200	8.3	—	—
07-26-91	1000	23	18.0	2,320	8.0	3.0	—
08-29-91	1000	25	23.0	850	7.8	1.0	—
11-25-91	1030	43	0	4,200	8.3	<1	—
03-10-92	1000	64	6.0	2,340	8.4	2.0	—
04-22-92	0930	21	14.0	3,120	8.3	2.0	—
05-29-92	0945	85	17.0	1,780	8.0	3.0	—
06-19-92	0945	6.7	18.5	3,750	8.2	2.0	—
07-20-92	0945	4.8	22.0	3,250	8.3	3.0	—
11-16-92	0940	11	2.0	4,750	8.4	3.0	—
02-25-93	0940	44	2.0	1,810	8.5	3.0	—
03-26-93	1300	107	13.0	2,440	8.3	7.0	—
05-21-93	1030	800	17.0	900	8.4	2.0	—
06-23-93	1040	40	20.0	2,600	8.4	2.0	—
11-16-93	1345	51	3.5	4,000	8.5	3.0	—

Table 5. Discharge, physical properties, and selenium concentration of water from the Green River and selected tributaries, Utah and Colorado, water years 1991-2000—Continued

Date	Time	Discharge, instant-aneous (ft^3/s)	Temper-ature (°C)	Specific conduc-tance (µS/cm)	pH, water, whole, field (standard units)	Selenium, dissolved (µg/L as Se)	Selenium, total (µg/L as Se)
Price River at Woodside, Utah (09314500)—Continued							
04-19-94	0945	23	14.5	4,530	8.2	2.0	—
05-25-94	1200	17	23.0	3,420	8.4	2.0	—
06-23-94	1200	9.2	32.0	3,100	8.3	<1	—
07-19-94	1315	5.1	25.0	2,980	8.3	1.0	—
03-27-95	0955	74	4.5	2,050	8.4	3.0	—
05-31-95	0910	350	14.0	1,300	8.2	2.0	—
06-30-95	1315	400	18.5	1,150	8.4	<1	—
07-24-95	1245	120	20.5	1,890	8.4	1.0	—
08-17-95	1330	170	21.5	1,490	8.3	<2	—
10-30-95	1000	93	9.5	2,590	8.4	2.0	—
03-20-96	0930	171	6.0	1,600	8.4	1.0	—
04-24-96	1000	400	10.5	1,250	8.4	1.0	—
06-06-96	0910	250	19.5	2,740	8.3	2	—
06-27-96	1300	54	19.5	3,520	8.4	<1	—
11-22-96	0930	67	7.0	3,100	8.2	2.0	—
04-08-97	0920	225	7.0	1,830	8.5	2.0	—
06-03-97	1200	600	19.0	1,530	8.4	1.9	—
08-14-97	1130	350	19.5	1,650	8.3	2.0	—
09-05-97	1215	400	20.0	2,040	8.2	2.3	—
Green River at Green River, Utah (09315000)							
10-17-90	1230	2,240	11.0	960	8.4	—	—
11-19-90	1200	2,060	6.0	910	8.3	<3	—
03-25-91	0930	2,390	8.0	980	8.4	2.0	—
04-22-91	1030	2,610	13.0	840	8.4	2.0	—
05-22-91	1030	8,660	16.0	390	8.1	—	—
06-25-91	1100	6,510	20.5	425	8.2	<1	—
07-24-91	1045	2,600	23.0	760	8.4	<1	—
08-26-91	1100	2,170	23.5	790	8.3	<1	—
10-01-91	1030	2,160	17.0	870	8.4	—	—
11-21-91	1100	3,020	4.0	940	8.4	2.0	—
03-25-92	1045	3,190	9.0	880	8.4	2.0	—
04-21-92	1030	4,850	12.5	530	8.4	<1	—
05-28-92	1115	7,490	20.0	430	8.2	<1	—
06-23-92	1030	2,720	23.0	520	8.3	<1	—
07-21-92	1000	2,590	19.0	790	8.4	1.0	—
08-25-92	1045	1,860	20.5	990	8.2	—	—
10-13-92	1100	1,550	13.5	860	8.2	—	—
11-24-92	1030	2,090	2.5	930	8.2	1.0	—
11-24-92	1035	2,090	2.5	930	8.2	2.0	—
02-23-93	1230	2,050	2.0	900	8.2	—	—
03-25-93	1000	4,910	9.5	900	8.3	3.0	—
03-25-93	1005	4,910	9.5	900	8.3	3.0	—

Table 5. Discharge, physical properties, and selenium concentration of water from the Green River and selected tributaries, Utah and Colorado, water years 1991-2000—Continued

Date	Time	Discharge, instant-aneous (ft^3/s)	Temper-ature (ºC)	Specific conduc-tance (µS/cm)	pH, water, whole, field (standard units)	Selenium, dissolved (µg/L as Se)	Selenium, total (µg/L as Se)
Green River at Green River, Utah (09315000)—Continued							
04-29-93	1100	5,100	15.0	870	8.5	4.0	—
05-20-93	1105	21,200	17.0	420	8.0	1.0	—
06-21-93	1100	17,500	19.5	360	8.0	<1	—
06-21-93	1105	17,500	19.5	360	8.0	<1	—
07-20-93	1230	3,910	24.0	475	8.2	—	—
08-26-93	1130	2,240	22.0	850	8.4	—	—
10-05-93	1130	1,950	16.0	880	8.5	—	—
03-29-94	1115	3,170	9.0	870	8.4	5.0	—
04-25-94	1110	5,620	14.0	750	8.3	1.0	—
05-20-94	1030	11,800	15.0	420	8.1	<1	—
06-27-94	1030	2,500	24.0	580	8.3	<1	—
07-25-94	1120	1,650	25.0	790	8.4	<1	—
08-23-94	1000	1,580	22.5	820	8.4	—	—
10-03-94	1015	2,220	15.0	870	8.4	—	—
11-14-94	1130	1,950	5.0	1,020	8.4	2.0	—
03-20-95	1315	2,480	11.5	930	8.4	3.0	—
05-22-95	1250	14,600	17.0	465	8.2	1.0	—
06-23-95	1130	24,600	17.5	310	8.3	<1	—
07-20-95	1135	12,300	21.0	380	8.2	<1	—
09-28-95	1130	2,900	15.0	900	8.5	1.0	—
10-24-95	1200	3,300	8.0	880	8.5	2.0	—
11-28-95	1200	4,390	4.0	850	8.3	1.0	—
03-15-96	1030	5,140	8.5	840	8.3	1.0	—
03-26-96	1200	4,910	6.0	820	8.3	2.0	—
04-25-96	1140	8,430	12.0	640	8.3	2.0	—
06-04-96	1055	14,800	18.5	470	8.3	<1	—
06-12-96	1030	15,900	19.5	375	8.2	<1	—
06-25-96	1125	14,600	19.5	450	8.3	<1	—
07-24-96	1115	3,100	25.0	670	8.4	1.0	—
08-29-96	1500	2,200	23.0	800	8.5	<1	—
09-24-96	1120	2,700	16.0	930	8.5	1.0	—
11-26-96	1145	4,050	7.0	850	8.5	1.0	—
02-21-97	1100	4,950	1.0	800	8.5	1.0	—
03-18-97	1115	9,000	6.5	740	8.3	1.0	—
04-29-97	1100	12,400	13.0	600	8.3	<1	—
05-19-97	1045	23,500	17.5	385	8.2	<1	—
05-27-97	1210	27,700	16.0	385	8.2	<1	—
06-09-97	1030	32,000	19.5	350	8.2	<1	—
06-24-97	1400	23,600	22.0	395	8.3	<1	—
07-08-97	1030	9,200	22.5	480	8.5	<1	—
07-21-97	1700	4,710	23.0	560	8.5	<1	—
08-20-97	1310	4,200	22.0	700	8.5	1.0	—

Table 5. Discharge, physical properties, and selenium concentration of water from the Green River and selected tributaries, Utah and Colorado, water years 1991-2000—Continued

Date	Time	Discharge, instant-aneous (ft^3/s)	Temper-ature (°C)	Specific conduc-tance (µS/cm)	pH, water, whole, field (standard units)	Selenium, dissolved (µg/L as Se)	Selenium, total (µg/L as Se)
Green River at Green River, Utah (09315000)—Continued							
08-20-97	1320	4,200	22.0	700	8.5	<1	—
09-22-97	1145	8,930	17.0	720	8.3	<1	—
11-24-97	1146	6,340	3.0	700	8.4	1.0	—
02-18-98	1450	4,920	4.0	760	8.4	2.0	—
03-19-98	1230	6,390	8.5	760	8.4	2.0	—
04-29-98	1300	14,300	14.0	620	8.3	2.0	—
05-20-98	1230	16,200	15.5	445	8.3	1.0	—
06-01-98	1230	20,300	17.0	410	8.3	<1	—
06-23-98	1200	18,200	17.5	450	8.3	<1	—
07-21-98	1205	6,090	26.0	600	8.3	<1	—
08-17-98	1240	4,120	23.5	660	8.6	<1	—
09-28-98	1230	4080	17.0	760	8.5	<1	—
10-27-98	1430	4780	12.0	780	8.4	<1	—
11-17-98	1145	5,020	6.0	750	8.3	2.1	—
12-07-98	1400	4,780	3.0	730	8.3	<1	—
03-24-99	1030	6,770	10.0	740	8.4	1.2	—
04-19-99	1415	7,100	12.5	720	8.5	<1	—
05-19-99	1230	14,000	13.0	540	8.2	<1	—
07-01-99	1100	13,400	21.5	405	8.2	<1	—
07-29-99	1100	4,200	24.5	730	8.3	1.6	—
08-25-99	1115	3,830	23.5	750	8.4	<1	—
09-22-99	1130	3,880	17.5	780	8.4	1.4	—
10-18-99	1130	3,460	9.5	780	8.4	<2	—
11-22-99	1230	3,750	4.0	800	8.4	2.2 E	—
12-14-99	1330	3,870	0	770	8.3	<2	—
03-22-00	1100	3,780	5.5	780	7.3	2.0 E	—
04-25-00	1200	6,410	13.5	550	8.2	1.4 E	—
05-25-00	1100	9,450	18.5	435	8.0	1.9 E	—
06-29-00	1100	3,690	22.0	500	8.4	<2 .4	—
07-24-00	1130	1,890	24.5	740	8.5	—	—
08-21-00	1100	1,720	23.0	760	8.4	<2.4	—
09-11-00	0930	1,930	18.5	800	8.5	<2.4	

Table 6. Discharge, physical properties, selenium concentration, and depth of water at selected sample locations in Brush Creek drainage near Jensen, Utah, water years 1991-2000

[Data from U.S. Geological Survey; ft^3/s, cubic feet per second; °C, degrees Celsius; µS/cm, microsiemens per centimeter at 25° C; µg/L, micrograms per liter; , —, no data; <, less than; E, estimated]

Date	Time	Discharge, instantaneous (ft^3/s)	Temperature (°C)	Specific conductance (µS/cm)	pH, water, whole, field (standard units)	Selenium, dissolved (µg/L as Se)	Selenium, total (µg/L as Se)	Depth at sample location, total (feet)
Big Brush Creek above Red Fleet Reservoir near Vernal, Utah (09261700)								
05-14-91	1515	149	7.0	120	—	—	—	—
05-29-91	1630	215	8.0	86	—	—	—	—
06-19-91	1805	76	13.0	145	—	—	—	—
07-18-91	1610	43	14.0	205	—	—	—	—
10-26-94	1230	25	9.0	245	8.6	<1	—	—
10-15-99	1215	23	9.0	353	8.5	<2.4	—	—
03-14-00	1715	—	8.5	393	8.5	<2.4	—	—
05-23-00	1815	158	9.0	93	7.8	<.7	—	—
06-28-00	1415	—	12.5	190	8.4	<.7	—	—
07-26-00	1410	35	17.5	220	8.7	<.7	—	—
08-30-00	1450	—	14.5	330	8.5	.8	—	—
Red Fleet Reservoir near dam (RFR Dam)								
05-18-95	1005	—	12.5	336	8.4	1.0	—	0
05-18-95	1030	—	—	—	—	1.0	—	59.0
05-18-95	1015	—	7.0	353	7.8	1.0	—	85.0
Big Brush Creek below Red Fleet Reservoir (BC1)								
05-19-95	1115	—	7.0	370	8.5	1.0	<2	—
Big Brush Creek at county road near Donkey Flat (BC2)								
10-26-94	1130	—	8.5	490	8.3	2.0	—	—
05-19-95	1100	—	9.0	390	8.4	2.0	—	—
08-14-95	1720	90	14.0	185	—	<1	—	—
Brush Creek below Red Fleet at the corral (BC3)								
10-26-94	1050	4.1	—	980	8.4	2.0	—	—
05-19-95	1045	—	9.0	520	—	2.0	—	—
08-14-95	1700	—	15.0	205	—	<1	—	—
Brush Creek upstream of South Fork of Jensen Wash (BC4)								
10-26-94	1020	.95	—	1,100	8.2	2.0	—	—
05-19-95	1000	80	8.0	420	8.5	2.0	—	—
Brush Creek at Sunshine Pipeline Diversion (BC5)								
05-19-95	0950	—	8.0	440	8.4	2.0	—	—
08-14-95	1635	—	15.0	235	—	<1	—	—
03-26-96	1420	5.0	6.5	660	8.3	1.0	—	—
04-17-96	0810	5.0	9.0	440	8.1	<1	—	—
05-16-96	1345	102	12.5	348	8.2	<1	—	—
06-13-96	1400	60	14.5	349	8.2	<1	—	—
10-24-96	1505	10	5.0	530	8.2	1.0	—	—
Brush Creek at county road, east of Bullwinkle Reservoir (BC 6)								
10-26-94	0950	—	6.0	1,160	8.1	3.0	—	—
05-19-95	0940	—	8.5	445	8.1	2.0	—	—

Table 6. Discharge, physical properties, selenium concentration, and depth of water at selected sample locations in Brush Creek drainage near Jensen, Utah, water years 1991-2000—Continued

Date	Time	Discharge, instantaneous (ft^3/s)	Temperature (°C)	Specific conductance (µS/cm)	pH, water, whole, field (standard units)	Selenium, dissolved (µg/L as Se)	Selenium, total (µg/L as Se)	Depth at sample location, total (feet)
Brush Creek at old diversion for Sunshine Canal (BC 7)								
10-25-94	1545	5.5	11.5	1,150	8.4	3.0	—	—
05-19-95	0920	—	9.0	480	8.5	<1	—	—
08-14-95	1610	—	15.0	250	—	<1	—	—
03-26-96	1400	5.0	7.5	700	8.3	1.0	—	—
04-17-96	0825	5.0	9.5	480	8.2	<1	—	—
05-16-96	1325	102	12.5	355	8.2	<1	—	—
06-13-96	1340	60	16.5	371	8.2	<1	—	—
10-24-96	1445	10	5.0	610	8.0	<1	—	—
Burns Bench Canal below Sunshine Pipeline Crossing (BBC)								
03-15-95	1300	.01	7.5	4,050	—	150	—	—
Brush Creek at Burns Bench Canal diversion structure (BC BBC)								
10-25-94	1430	3.7	9.5	1,220	8.3	3.0	—	—
05-19-95	0840	—	9.5	490	—	2.0	4.0	—
08-14-95	1605	—	16.0	290	—	<1	—	—
03-26-96	1330	5.0	6.0	780	8.3	2.0	—	—
04-17-96	0840	5.0	9.0	520	8.2	1.0	—	—
05-16-96	1310	102	14.0	390	8.2	<1	—	—
06-13-96	1330	60	17.5	394	8.1	<1	—	—
10-24-96	1430	10	4.5	640	8.1	1.1	—	—
07-13-99	1300	—	17.0	297	8.2	<1	—	—
08-18-99	1245	—	17.0	290	8.2	<1	—	—
09-16-99	1200	—	13.5	436	8.2	<2.4	—	—
10-15-99	1100	—	8.5	456	8.2	<2.4	—	—
03-14-00	1400	—	7.0	540	8.4	2.1 E	—	—
04-26-00	1635	—	16.0	384	8.5	.7 E	—	—
06-28-00	1320	—	17.0	335	8.3	.7 E	—	—
07-26-00	1330	—	19.0	295	8.4	.4 E	—	—
08-30-00	1645	—	19.5	295	8.5	1.1	—	—
NW 1 Seep to Burns Bench Canal, north of U.S. 40 (NW1)								
03-15-95	0910	.04	7.0	10,000	—	230	—	—
NW 2 Seep to Burns Bench Canal, north of U.S. 40 (NW2)								
03-15-95	0930	.16	7.0	9,400	—	290	—	—
NW 3 Seep to Burns Bench Canal, north of U.S. 40 (NW3)								
03-15-95	0945	.01	8.5	7,900	—	220	—	—
Burns Bench Canal at U.S. 40 (BBC 40)								
03-15-95	1330	.17	11.0	5,600	—	110	—	—
SW 1 Seep to Burns Bench Canal, south of U.S. 40 (SW1)								
03-15-95	1020	.05	9.0	9,500	—	230	—	—

Table 6. Discharge, physical properties, selenium concentration, and depth of water at selected sample locations in Brush Creek drainage near Jensen, Utah, water years 1991-2000—Continued

Date	Time	Discharge, instantaneous (ft^3/s)	Temperature (^oC)	Specific conductance (µS/cm)	pH, water, whole, field (standard units)	Selenium, dissolved (µg/L as Se)	Selenium, total (µg/L as Se)	Depth at sample location, total (feet)
Burns Bench Canal at diversion dam south of U.S. 40 (BBC Dam)								
03-15-95	1130	.33	9.0	4,850	—	110	—	—
08-14-95	1600	5.4	19.5	580	—	5.0	5.0	—
10-24-96	1400	—	5.0	1,120	8.1	6.9	—	—
Pipeline from Burns Bench Canal to Stewart Lake (BBC Pipe)								
04-16-96	1400	.03 E	9.5	1,590	8.3	25	—	—
06-13-96	1100	1.0	16.0	620	8.0	4.0	—	—
07-16-96	1555	—	19.0	830	8.8	8.0	—	—
08-20-96	0750	—	15.5	570	8.0	5.0	—	—
05-14-97	0930	.50	9.0	660	8.2	4.0	—	—
06-10-97	0800	2.0 E	14.0	600	8.2	4.2	—	—
06-10-97	1500	—	—	585	8.1	—	4.3	—
07-17-97	0930	1.0 E	16.0	585	8.2	15	—	—
08-19-97	1100	—	18.0	660	8.3	4.8	—	—
09-16-97	1130	—	15.0	660	8.3	6.1	—	—
01-26-99	1300	—	—	—	—	—	22	—
Brush Creek near Jensen, Utah (BC)								
08-12-93	0940	—	—	390	—	—	—	—
10-25-94	1345	.29	12.0	2,200	7.9	23	—	—
09-16-99	1215	1.0	16.5	1,890	7.9	—	—	—
03-08-00	1300	—	—	600	—	2.1	—	—

Table 7. Discharge, physical properties, and selected chemical analyses of surface-water inflow to Stewart Lake near Jensen, Utah, water years 1991-2000

[Data from U.S. Geological Survey; ft^3/s, cubic feet per second; °C, degrees Celsius; µS/cm, microsiemens per centimeter at 25 °C; mg/L, milligrams per liter; µg/L, micrograms per liter; —, no data; <, less than; E, estimated]

Date	Time	Discharge, instantaneous (ft^3/s)	Temperature (°C)	pH, water, whole, field (standard units)	Specific conductance (µS/cm)	Solids, residue at 180 °C, dissolved (mg/L)	Boron, dissolved (µg/L as B)	Selenium, dissolved (µg/L as Se)	Selenium, total (µg/L as Se)	Uranium, natural, dissolved (µg/L as U)	Uranium, natural, 2 sigma water, dissolved (µg/L)	Zinc, dissolved (µg/L as Zn)
J1 drain, Stewart Lake inflow (J1)												
06-20-91	0920	—	11.0	7.1	1,950	—	—	26	—	—	—	—
08-28-91	1400	1.1	13.5	7.1	2,640	—	—	35	—	—	—	—
04-07-92	1530	—	8.5	7.6	1,460	—	—	20	—	—	—	—
06-04-92	1455	—	10.5	7.3	2,500	—	—	34	—	—	—	—
08-17-92	1845	—	13.5	7.2	2,400	—	—	35	—	—	—	—
03-25-93	1340	.55	—	7.6	2,660	2,190	160	35	—	42	6.3	<10
04-21-93	1040	.18	8.5	7.4	2,500	2,140	600	38	—	36	5.4	<10
05-25-93	1100	1.5	9.5	7.2	2,430	2,030	590	87	—	35	5.3	10
06-24-93	0815	2.5	10.5	7.1	2,770	2,410	770	48	—	42	6.3	<10
07-28-93	0935	.96	12.5	7.2	2,350	2,070	670	37	—	40	5.9	<10
08-25-93	0830	1.6	13.0	7.1	2,700	2,280	770	38	—	44	6.6	<10
10-13-93	0840	1.0	13.0	7.2	2,530	2,280	760	37	—	39	5.8	20
03-17-94	1110	.16	8.0	7.4	1,310	970	180	14	—	13	1.9	<10
04-13-94	1020	.04	9.0	7.2	1,530	1,190	190	10	—	15	2.2	<10
05-18-94	0935	.67	9.5	7.2	2,640	2,300	690	46	—	45	6.8	<10
06-16-94	0925	2.0	11.0	7.2	2,290	1,990	580	33	—	37	5.5	<10
07-14-94	0820	2.0	12.0	7.2	2,230	2,130	680	32	—	35	5.2	<10
08-17-94	0710	1.7	13.5	7.2	2,440	1,970	660	37	—	37	5.5	<10
09-21-94	0800	.88	14.0	7.2	2,380	2,050	650	30	—	36	5.5	<10
10-19-94	0910	.82	13.5	7.2	2,420	2,080	690	31	—	41	2.5	<10
02-15-95	1405	.15	9.0	7.8	2,230	1,870	520	22	—	—	—	<10
03-21-95	0935	.11	9.0	7.5	2,050	1,720	460	20	—	32	2.0	40
04-19-95	0930	.05	9.0	7.9	1,600	1,200	270	22	—	18	.4	<10
05-18-95	0905	.06	10.5	7.5	1,600	1,210	220	22	—	16	1.0	10
06-22-95	0910	.44	11.0	7.3	2,540	2,160	640	39	—	39	2.4	<10
07-18-95	0850	1.2	12.0	7.1	2,760	2,470	740	46	—	49	3.0	<10
08-17-95	0800	1.1	13.0	7.2	2,550	2,210	710	31	—	46	2.9	<10
09-23-95	0730	.40	13.5	7.2	2,500	2,190	710	32	—	45	2.8	<10
10-25-95	0835	.59	13.0	7.2	2,430	2,170	750	32	—	42	2.6	<10
03-26-96	0945	.05	7.5	8.0	1,410	1,010	250	16	—	—	—	<10
04-16-96	0825	.04	9.0	8.0	1,450	984	30	15	—	—	—	<10
05-16-96	0820	1.6	9.5	7.2	2,660	2,240	—	36	—	—	—	—
06-13-96	0910	.49	10.0	7.1	2,310	1,960	—	30	—	—	—	—
07-16-96	1040	1.0	12.0	7.2	2,340	2,020	—	26	—	—	—	—
08-20-96	0810	2.4	13.5	7.2	2,580	2,020	—	31	—	—	—	—
09-19-96	1045	1.2	13.5	7.3	2,450	2,110	—	34	—	—	—	—
10-24-96	0845	.55	13.5	7.2	2,440	2,070	—	37	—	—	—	—
03-20-97	0905	.18	—	7.4	2,240	1,940	—	17	—	—	—	—
04-16-97	0800	.04	—	7.8	1,960	1,550	—	22	—	—	—	—
05-14-97	0845	.40	8.5	7.4	2,820	2,470	—	36	—	—	—	—
06-10-97	0830	1.2	10.0	7.4	2,430	2,020	—	34	—	—	—	—
07-17-97	0945	3.1	12.0	7.2	2,400	2,110	—	33	—	—	—	—
08-19-97	0705	2.0	12.5	7.2	2,660	2,330	—	26	—	—	—	—
09-16-97	0755	.44	13.0	7.2	2,370	—	—	30	—	—	—	—

Table 7. Discharge, physical properties, and selected chemical analyses of surface-water inflow to Stewart Lake near Jensen, Utah, water years 1991-2000—Continued

Date	Time	Discharge, instantaneous (ft^3/s)	Temperature (°C)	pH, water, whole, field (standard units)	Specific conductance (µS/cm)	Solids, residue at 180 °C, dissolved (mg/L)	Boron, dissolved (µg/L as B)	Selenium, dissolved (µg/L as Se)	Selenium, total (µg/L as Se)	Uranium, natural, dissolved (µg/L as U)	Uranium, natural, 2 sigma water, dissolved (µg/L)	Zinc, dissolved (µg/L as Zn)
J1 drain, Stewart Lake inflow (J1)—Continued												
10-07-97	1130	1.3	13.5	7.5	2,500	—	—	30	—	—	—	—
03-25-98	0810	.05	7.5	7.6	1,740	—	—	18	—	—	—	—
04-29-98	0735	.06	9.0	7.7	1,630	—	—	18	—	—	—	—
05-20-98	0755	.63	10.0	7.4	2,560	—	—	23	—	—	—	—
06-16-98	0945	2.5	11.0	7.3	2,000	—	—	26	—	—	—	—
J1A drain, Stewart Lake inflow (J1A)												
06-20-91	0925	—	11.0	7.2	1,220	—	—	13	—	—	—	—
10-23-91	0850	.38	14.0	—	1,180	—	—	7.0	—	—	—	—
04-07-92	1545	—	8.5	7.3	1,500	—	—	<1	—	—	—	—
06-04-92	1450	—	11.0	7.2	1,320	—	—	12	—	—	—	—
08-17-92	1850	—	14.5	7.3	1,230	—	—	12	—	—	—	—
03-25-93	1345	.25	—	7.4	1,410	988	190	10	—	14	2.0	<10
04-21-93	1045	.10	8.5	7.2	1,410	1,060	190	11	—	12	1.7	<10
05-25-93	1105	.62	10.0	7.2	1,350	934	170	12	—	12	1.8	<10
06-24-93	0835	.28	13.0	7.1	1,250	928	180	11	—	10	1.5	<10
07-28-93	0935	.46	13.0	7.2	1,180	892	180	10	—	11	1.7	<10
08-25-93	0830	.86	13.0	7.1	1,350	910	20	10	—	12	1.7	<10
10-13-93	0845	.24	13.5	7.2	1,170	828	190	7.0	—	9.4	1.4	<10
03-17-94	1100	.05	8.0	7.2	1,520	1,130	180	10	—	14	2.1	<10
04-13-94	1015	.01	8.5	7.7	1,320	986	190	16	—	12	1.8	<10
05-18-94	1015	.32	9.5	7.2	1,220	892	160	8.0	—	11	1.7	<10
06-16-94	0925	.51	11.0	7.2	1,190	834	150	7.0	—	10	1.6	—
07-14-94	0825	.31	13.0	7.2	1,110	746	170	8.0	—	10	1.5	<10
08-17-94	0720	.65	15.0	7.2	1,110	704	170	7.0	—	8.6	1.3	<10
09-21-94	0805	.46	15.0	7.2	1,150	772	160	6.0	—	9.8	1.5	<10
10-19-94	1000	.16	14.0	7.2	1,230	860	190	4.0	—	11	.7	<10
02-15-95	1355	.07	8.0	7.3	1,470	1,120	190	8.0	—	—	—	<10
03-21-95	0945	.06	9.0	7.2	1,500	1,150	200	11	—	16	1	<10
04-19-95	0935	.03	8.5	7.4	1,630	1,220	220	13	—	16	.9	<10
05-18-95	0910	.41	9.5	7.1	1,440	1,030	170	9.0	—	14	.9	<10
06-22-95	0905	.40	11.0	7.1	1,460	1,080	200	12	—	14	.9	<10
07-18-95	0855	.67	12.0	7.0	1,320	964	190	9.0	—	12	.3	<10
08-17-95	0810	.97	15.0	7.2	1,330	968	200	10	—	13	.8	<10
09-23-95	0730	.39	15.0	7.2	1,250	914	190	8.0	—	12	.7	<10
10-25-95	0900	.31	13.5	7.2	1,310	966	190	9.0	—	12	.8	<10
03-26-96	0950	.06	7.5	7.4	1,690	1,290	220	10	—	—	—	<10
04-16-96	0830	.05	8.0	7.4	1,730	1,250	240	11	—	—	—	<10
05-16-96	0840	.70	9.5	7.1	1,530	1,120	—	12	—	—	—	—
06-13-96	0900	.44	10.5	7.0	1,460	864	—	8.0	—	—	—	—
07-16-96	1050	1.0	13.0	7.2	1,310	954	—	10	—	—	—	—
08-20-96	0900	.44	14.5	7.2	1,500	1,030	—	10	—	—	—	—
09-19-96	1115	.69	15.0	7.3	1,270	930	—	8.0	—	—	—	—
10-24-96	0850	.36	14.5	7.2	1,260	—	—	5.8	—	—	—	—
03-20-97	0905	.06	6.0	7.2	1,600	—	—	11	—	—	—	—
4-16-97	0925	.01	6.5	7.3	1,670	—	—	9.8	—	—	—	—

Table 7. Discharge, physical properties, and selected chemical analyses of surface-water inflow to Stewart Lake near Jensen, Utah, water years 1991-2000—Continued

Date	Time	Discharge, instantaneous (ft^3/s)	Temperature (°C)	pH, water, whole, field (standard units)	Specific conductance (µS/cm)	Solids, residue at 180 °C, dissolved (mg/L)	Boron, dissolved (µg/L as B)	Selenium, dissolved (µg/L as Se)	Selenium, total (µg/L as Se)	Uranium, natural, dissolved (µg/L as U)	Uranium, natural, 2 sigma water, dissolved (µg/L)	Zinc, dissolved (µg/L as Zn)
J1A drain, Stewart Lake inflow (J1A)—Continued												
5-14-97	0905	.10	9.0	7.3	1,680	—	—	11	—	—	—	—
6-10-97	0840	.16	10.0	7.2	1,480	—	—	15	—	—	—	—
7-17-97	1010	.34	12.0	7.2	1,400	—	—	11	—	—	—	—
8-19-97	0710	.40	13.0	7.1	1,720	—	—	12	—	—	—	—
09-16-97	0800	.42	14.0	7.2	1,360	—	—	10	—	—	—	—
10-07-97	1145	.36	14.0	7.2	1,510	—	—	11	—	—	—	—
03-25-98	0815	.04	8.0	7.4	1,750	—	—	16	—	—	—	—
04-29-98	0740	.06	9.0	7.3	1,790	—	—	14	—	—	—	—
05-20-98	0800	.10	10.0	7.3	1,540	—	—	11	—	—	—	—
06-16-98	0955	.29	11.0	7.2	1,740	—	—	19	—	—	—	—
J2 drain, Stewart Lake inflow (J2)												
06-20-91	0940	1.7	11.0	7.1	2,200	—	—	31	—	—	—	—
08-21-91	1430	—	14.0	—	—	1,670	—	27	—	—	—	—
08-27-91	1640	.06	19.0	7.4	1,220	—	—	6.0	—	—	—	—
04-07-92	1610	.10	9.0	7.2	2,220	—	—	12	—	—	—	—
06-03-92	1730	1.1	11.0	7.0	2,280	—	—	28	—	—	—	—
08-17-92	1800	—	14.5	7.2	1,950	—	—	23	—	—	—	—
03-25-93	1415	.44	8.5	7.5	2,270	1,800	560	25	—	32	4.8	<10
04-21-93	1240	.17	8.5	7.1	2,180	1,880	540	32	—	31	4.7	<10
05-26-93	1135	.94	10.0	7.1	2,120	1,680	500	29	—	31	4.7	<10
06-24-93	0955	1.2	10.5	7.0	2,050	1,610	470	19	—	26	3.9	<10
07-28-93	1040	1.2	12.5	7.1	2,010	1,660	490	20	—	29	4.3	<10
08-25-93	1010	1.7	12.5	7.1	1,940	1,520	490	17	—	29	4.3	<10
10-13-93	1045	1.5	12.5	7.2	1,800	1,450	460	17	—	26	4.0	10
03-17-94	1220	.05	7.5	7.5	2,250	1,810	510	24	—	33	5.0	<10
04-13-94	1145	.02	8.0	7.6	2,090	1,790	530	24	—	33	5.0	<10
05-18-94	1100	.73	10.0	7.2	2,000	1,680	510	24	—	31	4.6	<10
06-16-94	1155	1.1	11.0	7.1	1,900	1,560	450	22	—	27	4.1	<10
07-14-94	0930	1.3	12.0	7.1	1,760	1,420	460	18	—	26	3.8	<10
08-17-94	0840	1.3	14.0	7.1	1,920	1,470	470	19	—	25	3.8	<10
09-21-94	1030	.22	14.0	7.6	2,380	1,500	460	18	—	26	3.8	<10
10-19-94	1015	.54	13.5	7.2	1,950	1,570	520	17	—	31	1.9	<10
02-15-95	1520	.07	8.5	7.6	2,080	1,730	480	21	—	—	—	<10
03-21-95	1010	.03	9.0	7.4	2,070	1,750	480	21	—	33	2.1	<10
04-19-95	1025	.02	8.5	7.7	2,130	1,730	490	20	—	31	1.9	<10
05-18-95	0930	.20	10.0	7.2	2,230	1,860	470	33	—	36	2.3	<10
06-22-95	1050	.40	11.5	7.2	2,110	1,760	510	22	—	33	2.1	<10
07-18-95	1015	.57	12.0	7.0	2,000	1,640	500	20	—	30	1.8	<10
08-17-95	0955	—	14.0	7.1	1,800	1,430	430	16	—	27	1.7	<10
09-23-95	0740	.62	19.5	7.2	1,870	1,530	460	19	—	29	1.8	<10
10-25-95	0910	.46	13.0	7.2	2,010	1,670	540	18	—	30	1.9	<10
03-26-96	1130	.05	7.5	7.6	2,050	1,650	430	23	—	—	—	<10
04-16-96	1410	5.0 E	9.5	7.7	2,070	1,590	470	17	—	—	—	<10
05-16-96	1140	.76	9.0	7.1	2,110	1,690	—	28	—	—	—	—
06-13-96	1120	1.6	10.5	6.9	1,940	1,560	—	23	—	—	—	—

Table 7. Discharge, physical properties, and selected chemical analyses of surface-water inflow to Stewart Lake near Jensen, Utah, water years 1991-2000—Continued

Date	Time	Discharge, instantaneous (ft^3/s)	Temperature (^oC)	pH, water, whole, field (standard units)	Specific conductance (µS/cm)	Solids, residue at 180 ^oC, dissolved (mg/L)	Boron, dissolved (µg/L as B)	Selenium, dissolved (µg/L as Se)	Selenium, total (µg/L as Se)	Uranium, natural, dissolved (µg/L as U)	Uranium, natural, 2 sigma water, dissolved (µg/L)	Zinc, dissolved (µg/L as Zn)
J2 drain, Stewart Lake inflow (J2)—Continued												
07-16-96	1010	1.3	13.0	7.1	1,860	1,510	—	21	—	—	—	—
08-20-96	0740	.94	13.0	7.2	1,810	1,270	—	16		—	—	—
09-19-96	1020	.97	13.5	7.2	1,860	1,530	—	13	—	—	—	—
10-24-96	1305	.90	13.5	7.1	1,800	—	—	14	—	—	—	—
03-20-97	1010	.05	7.5	7.4	2,000	—	—	22	—	—	—	—
04-16-97	1050	.07	8.0	7.6	2,000	—	—	22	—	—	—	—
05-14-97	0945	.01	10.5	7.6	1,850	—	—	18	—	—	—	—
06-10-97	0745	.90	11.0	7.3	1,640	—	—	21	—	—	—	—
07-17-97	0910	1.1	12.0	7.2	1,880	—	—	21	—	—	—	—
08-19-97	1110	.62	13.0	7.2	1,920	—	—	19	—	—	—	—
09-16-97	1140	.60	13.5	7.2	1,860	—	—	19	—	—	—	—
10-07-97	1110	.39	13.5	7.4	2,010	—	—	22	—	—	—	—
03-25-98	1025	.02	8.5	7.5	2,130	—	—	21	—	—	—	—
04-29-98	1015	0	10.0	7.6	1,890	—	—	20	—	—	—	—
05-20-98	1100	.06	10.0	7.4	2,170	—	—	22	—	—	—	—
06-16-98	1145	.39	10.5	7.2	2,290	—	—	22	—	—	—	—
07-23-98	1100	.69	12.0	7.0	2,220	—	—	29	—	—	—	—
J3 drain, Stewart Lake inflow (J3)												
06-20-91	1200	1.2	11.0	7.1	3,400	—	—	60	—	—	—	—
08-21-91	1240	.36	13.5	7.6	3,320	2,850	—	58	—	—	—	—
08-21-91	1440	—	—	7.7	3,350	2,860	—	55	—	—	—	—
08-21-91	1640	—	—	7.6	3,360	2,960	—	65		—	—	—
08-21-91	1840	—	—	7.6	3,360	2,840	—	59	—	—	—	—
08-21-91	2040	—	13.0	7.5	3,360	2,880	—	50	—	—	—	—
08-21-91	2240	—	—	7.5	3,360	2,860	—	55		—	—	—
08-22-91	0040	—	—	7.5	3,350	2,860	—	35	—	—	—	—
08-22-91	0240	—	—	7.4	3,330	2,840	—	52	—	—	—	—
08-22-91	0440	—	—	7.4	3,340	2,880	—	62	—	—	—	—
08-22-91	0640	—	—	7.5	3,350	2,940	—	35	—	—	—	—
08-22-91	0840	—	—	7.4	3,350	2,850	—	34	—	—	—	—
08-22-91	1040	—	—	7.5	3,350	2,900	—	56	—	—	—	—
08-28-91	1530	.32	12.5	7.0	3,470	—	—	60	—	—	—	—
04-08-92	0830	—	8.5	7.1	2,880	—	—	43	—	—	—	—
06-04-92	1400	—	10.5	7.0	3,520	—	—	64	—	—	—	—
07-15-92	1010	—	14.0	7.1	3,700	—	—	—	—	—	—	—
08-17-92	1730	.41	14.5	7.1	4,500	—	—	120	—	—	—	—
03-25-93	1510	.30	9.0	7.2	3,400	2,760	950	53	—	43	6.5	<10
04-21-93	1330	.22	16.0	7.1	3,360	2,920	990	56	—	42	6.3	<10
05-26-93	1320	.37	10.0	7.0	3,670	3,120	1,000	68	—	46	6.9	<10
06-24-93	1025	.46	10.5	7.0	3,670	3,550	1,200	69	—	44	6.6	<10
07-28-93	1110	.39	12.0	7.1	3,360	2,980	980	60	—	46	6.8	<10
08-25-93	1040	.44	12.5	7.0	3,520	3,010	1,000	63	—	49	7.4	<10
10-13-93	1115	.37	12.5	7.1	3,260	2,900	1,000	54	—	40	6.1	10
03-17-94	1240	.15	8.5	7.1	2,250	2,410	750	40	—	40	6.0	<10
04-13-94	1245	.15	8.5	7.1	2,830	2,360	770	39	—	39	5.8	10

Table 7. Discharge, physical properties, and selected chemical analyses of surface-water inflow to Stewart Lake near Jensen, Utah, water years 1991-2000—Continued

Date	Time	Discharge, instantaneous (ft^3/s)	Temperature (°C)	pH, water, whole, field (standard units)	Specific conductance (µS/cm)	Solids, residue at 180 °C, dissolved (mg/L)	Boron, dissolved (µg/L as B)	Selenium, dissolved (µg/L as Se)	Selenium, total (µg/L as Se)	Uranium, natural, dissolved (µg/L as U)	Uranium, natural, 2 sigma water, dissolved (µg/L)	Zinc, dissolved (µg/L as Zn)
J3 drain, Stewart Lake inflow (J3)—Continued												
05-18-94	1240	.30	9.5	7.2	3,280	2,890	1,000	52	—	45	6.8	10
06-16-94	1225	.64	10.0	7.0	3,130	2,740	880	52	—	43	6.5	<10
07-14-94	1030	.56	12.0	7.1	2,930	2,860	960	51	—	45	6.7	20
08-17-94	0855	.54	13.0	7.0	3,300	2,830	950	54	—	41	6.1	<10
09-21-94	1045	.41	14.0	7.1	2,990	2,540	890	59	—	42	6.3	<10
10-19-94	1035	.39	13.5	7.1	2,890	2,500	910	15	—	42	2.6	<10
02-15-95	1635	.04	8.5	7.6	2,080	2,190	80	34	—	—	—	<10
03-21-95	1025	.25	10.0	7.2	2,450	2,120	720	21	—	38	2.3	<10
04-19-95	1055	.10	9.0	7.2	2,540	2,130	670	35	—	35	2.2	<10
05-18-95	1020	.18	10.0	7.1	2,740	2,340	750	31	—	39	2.5	<10
06-22-95	1120	.38	11.5	6.9	3,100	2,760	890	56	—	47	3.0	<10
07-18-95	1145	.57	12.0	7.0	3,060	2,700	810	46	—	44	2.8	<10
08-17-95	1025	.54	12.5	7.1	3,240	2,900	950	59	—	50	3.2	<10
09-23-95	0745	.43	14.0	7.1	2,760	2,430	810	9.0		43	2.7	<10
10-25-95	0920	.26	12.5	7.1	2,710	2,310	830	38	—	41	2.5	<10
03-26-96	1220	.11	8.0	7.1	2,360	1,930	600	21	—	—	—	<10
04-16-96	1440	.09	9.0	7.2	2,380	1,840	670	19	—	—	—	<10
05-16-96	1145	.32	9.5	7.0	3,110	2,640	—	37	—	—	—	—
06-13-96	1130	.30	11.0	6.9	2,980	—	—	36	—	—	—	—
07-16-96	1620	.28	12.0	7.0	3,020	2,560	—	43	—	—	—	—
08-20-96	1325	.73	13.0	7.1	2,850	2,290	—	36	—	—	—	—
09-19-96	1520	.59	13.0	7.2	2,670	2,180	—	35	—	—	—	—
10-24-96	1320	.26	13.5	7.0	2,530	—	—	25	—	—	—	—
03-20-97	1040	.16	8.5	7.1	2,340	—	—	23	—	—	—	—
04-16-97	1125	.15	8.5	7.2	2,300	—	—	21	—	—	—	—
05-14-97	1015	.21	9.0	7.1	2,930	—	—	25	—	—	—	—
06-10-97	0930	.50	10.5	7.2	2,920	—	—	39	—	—	—	—
08-19-97	1125	.53	13.0	7.0	3,050	—	—	44	—	—	—	—
09-16-97	1230	.80	13.0	7.1	2,440	—	—	31	—	—	—	—
03-25-98	1100	.20	9.0	7.2	2,290	—	—	21	—	—	—	—
04-29-98	1025	.10	9.0	7.2	2,470	—	—	27	—	—	—	—
04-30-98	1040	—	—	—	—	—	—	—	14	—	—	—
05-20-98	1130	.17	10.0	7.1	2,870	—	—	38	—	—	—	—
06-16-98	1210	.30	10.5	7.1	2,970			46				
J4 drain, Stewart Lake inflow (J4)												
06-20-91	1225	.86	11.0	7.1	3,800	—	—	54	—	—	—	—
08-21-91	1139	.53	14.0	7.7	3,540	3,140	—	48	—	—	—	—
08-21-91	1339	—	—	7.8	3,540	3,160	—	48	—	—	—	—
08-21-91	1539	—	—	7.8	3,530	3,250	—	66	—	—	—	—
08-21-91	1739	—	—	7.7	3,540	3,160	—	44	—	—	—	—
08-21-91	1939	—	14.0	7.6	3,540	3,150	—	62	—	—	—	—
08-21-91	2139	—	—	7.6	3,550	3,160	—	54	—	—	—	—
08-21-91	2339	—	—	7.6	3,520	3,200	—	54	—	—	—	—
08-22-91	0139	—	—	7.6	3,530	3,180	—	53	—	—	—	—
08-22-91	0339	—	—	7.5	3,520	3,180	—	55	—	—	—	—

Table 7. Discharge, physical properties, and selected chemical analyses of surface-water inflow to Stewart Lake near Jensen, Utah, water years 1991-2000—Continued

Date	Time	Discharge, instantaneous (ft^3/s)	Temperature (°C)	pH, water, whole, field (standard units)	Specific conductance (µS/cm)	Solids, residue at 180 °C, dissolved (mg/L)	Boron, dissolved (µg/L as B)	Selenium, dissolved (µg/L as Se)	Selenium, total (µg/L as Se)	Uranium, natural, dissolved (µg/L as U)	Uranium, natural, 2 sigma water, dissolved (µg/L)	Zinc, dissolved (µg/L as Zn)
J4 drain, Stewart Lake inflow (J4)—Continued												
08-22-91	0539	—	—	7.5	3,510	3,180	—	49	—	—	—	—
08-22-91	0739	—	—	7.5	3,500	3,180	—	54	—	—	—	—
08-22-91	0939	—	—	7.5	3,480	3,200	—	57	—	—	—	—
08-28-91	1600	.61	29.0	7.0	3,570	—	—	74	—	—	—	—
04-08-92	0850	—	7.5	7.0	4,250	—	—	70	—	—	—	—
06-04-92	1415	—	11.0	7.2	2,590	—	—	26	—	—	—	—
07-15-92	0940	.81	14.0	7.2	2,850	—	—	—	—	—	—	—
08-17-92	1700	1.1	14.5	7.1	3,500	—	—	52	—	—	—	—
03-25-93	1725	.18	7.5	7.3	4,450	3,670	1,100	74	—	48	7.1	<10
04-21-93	1355	.12	8.0	7.2	4,370	4,020	1,300	74	—	47	7.1	<10
05-26-93	1350	.81	9.5	7.1	3,280	2,940	830	50	—	41	6.2	<10
06-24-93	1050	1.1	10.5	7.1	3,950	3,660	1,100	60	—	41	6.0	<10
07-28-93	1140	.67	12.0	7.1	3,290	2,920	930	52	—	41	6.1	<10
08-25-93	1100	.05	13.0	7.1	3,530	3,030	1,000	57	—	42	6.3	<10
10-13-93	1145	.34	13.0	7.2	3,390	3,030	1,000	48	—	37	5.6	10
03-17-94	1400	.07	7.0	7.2	4,450	4,020	1,100	56	—	50	7.5	<10
04-13-94	1300	.10	8.0	7.0	4,250	3,980	1,100	62	—	49	7.4	<10
05-18-94	1300	.76	11.0	7.4	2,330	1,990	590	26	—	27	4.0	<10
06-16-94	1245	.76	10.5	7.1	3,480	3,080	870	52	—	42	6.2	<10
07-14-94	0945	.81	12.0	7.1	3,300	2,900	960	41	—	38	5.7	<10
08-17-94	0910	1.3	13.0	7.1	2,950	2,470	760	43	—	35	5.2	<10
09-21-94	1100	.31	14.0	7.1	3,670	3,240	1,000	51	—	40	6.1	<10
10-19-94	1100	.38	13.5	7.2	3,260	2,870	890	35	—	38	2.4	<10
02-15-95	1600	.12	8.0	7.3	4,280	4,020	1,200	50	—	—	—	<10
03-21-95	1040	.10	8.0	—	4,320	4,090	1,200	50	—	47	3.3	<10
04-19-95	1110	.07	8.5	7.2	4,330	4,040	1,200	49	—	45	3.0	<10
05-18-95	1030	.38	9.5	7.2	2,770	2,400	640	29	—	35	2.2	<10
06-22-95	1140	1.6	12.5	7.2	2,210	1,830	540	30	—	26	1.6	<10
07-18-95	1205	.86	13.0	7.1	2,980	2,620	870	33	—	36	2.2	<10
08-17-95	1050	1.3	14.5	7.1	2,380	2,010	590	31	—	30	1.9	<10
09-23-95	0800	.38	14.0	7.1	3,370	3,040	950	48	—	43	.9	<10
10-25-95	0950	.15	13.0	7.2	4,220	3,870	1,200	37	—	50	3.1	<10
03-26-96	1210	.07	7.0	7.2	4,520	4,130	1,100	57	—	—	—	<10
04-16-96	1500	.07	9.0	7.2	4,480	3,920	1,300	56	—	—	—	<10
05-16-96	1215	.58	10.0	7.1	3,750	3,320	—	41	—	—	—	—
06-13-96	1230	.96	10.5	6.9	3,480	3,120	—	49	—	—	—	—
07-16-96	1645	.96	12.0	7.0	3,670	3,210	—	60	—	—	—	—
08-20-96	1350	.86	13.5	7.1	3,040	—	—	37	—	—	—	—
09-19-96	1500	.42	14.0	7.2	3,440	2,800	—	42	—	—	—	—
10-24-96	1345	.21	13.5	7.0	3,620	—	—	40	—	—	—	—
03-20-97	1105	.06	7.0	7.2	4,420	—	—	51	—	—	—	—
04-17-97	1110	.05	7.5	7.2	4,630	—	—	70	—	—	—	—
05-14-97	1045	.27	9.5	7.2	4,370	—	—	68	—	—	—	—
06-10-97	0955	.14	10.5	7.2	3,630	—	—	50	—	—	—	—
08-10-97	1150	.96	13.0	7.1	3,500	—	—	45	—	—	—	—

Table 7. Discharge, physical properties, and selected chemical analyses of surface-water inflow to Stewart Lake near Jensen, Utah, water years 1991-2000—Continued

Date	Time	Discharge, instantaneous (ft^3/s)	Temperature (°C)	pH, water, whole, field (standard units)	Specific conductance (µS/cm)	Solids, residue at 180 °C, dissolved (mg/L)	Boron, dissolved (µg/L as B)	Selenium, dissolved (µg/L as Se)	Selenium, total (µg/L as Se)	Uranium, natural, dissolved (µg/L as U)	Uranium, natural, 2 sigma water, dissolved (µg/L)	Zinc, dissolved (µg/L as Zn)
J4 drain, Stewart Lake inflow (J4)—Continued												
09-16-97	1200	1.3	14.0	7.2	3,210	—	—	42	—	—	—	—
10-07-97	1330	.50	13.5	7.5	3,770	—	—	45	—	—	—	—
03-25-98	1110	.10	7.5	7.2	4,540	—	—	55	—	—	—	—
04-29-98	1045	.15	9.0	7.2	4,600	—	—	60	—	—	—	—
05-20-98	1140	.76	10.0	7.1	3,930	—	—	59	—	—	—	—
06-02-98	1555	—	—	—	—	—	—	—	55	—	—	—
06-16-98	1225	.20	10.5	7.1	4,200	—	—	52	—	—	—	—
North Collector Ditch (NorthCD)												
09-22-98	1400	—	—	—	1,720	—	—	—	—	—	—	—
10-20-98	1200	4	9	7.2	2,020	—	—	17	—	—	—	—
03-16-99	1700	.58		8.2	3,470	—	—	48	—	—	—	—
04-21-99	1725		13	8.1	3,010	—	—	18	—	—	—	—
05-19-99	1150	—	16.5	8.0	1,560	—	—	7.1	—	—	—	—
07-13-99	1320	—	27	8.0	1,230	—	—	2.6	—	—	—	—
08-18-99	1315	—	29	8.0	3,080	—	—	14	—	—	—	—
09-16-99	1115	.43	17.5	8.0	2,800	—	—	11	—	—	—	—
10-15-99	1030	—	17	8.0	3,050	—	—	14	—	—	—	—
03-14-00	815	.26	2	7.8	3,190	—	—	25	—	—	—	—
04-26-00	1610	—	23.5	8.1	2,320	—	—	47	—	—	—	—
05-23-00	1720	—	25	8.1	2,550	—	—	21	—	—	—	—
07-26-00	1230	.67	27.5	8.2	1,920	—	—	12	—	—	—	—
08-30-00	1545	—	25	8.1	2,910	—	—	14	—	—	—	—
10-11-00	1640	.47		8.0	3,030	—	—	13	—	—	—	—
Seep 1 (S1)												
04-17-96	0915	—	9.0	7.7	2,140	—	—	8.0	—	—	—	—
04-16-97	1015	—	15.0	7.8	2,300	—	—	11		—	—	—
01-26-99	1350	—	—	—	—	—	—	—	76	—	—	—
08-31-00	0915	—	14	7.5	2,800	—	—	20	—	—	—	—
Seep 2 (S2)												
04-17-96	1000	—	4.0	7.9	2,760	—	—	8.0	—	—	—	—
09-22-98	1500	—			3,400	—	—		5.9	—	—	—
08-31-00	1000	—	16.0	7.8	2,800	—	—	3.4	—	—	—	—
Seep 3 (S3)												
04-17-96	1030	—	9.0	7.5	1,320	—	—	8.0	—	—	—	—
08-31-00	1155	—	15.5	7.6	1,240	—	—	8.4	—	—	—	—
Seep 5 (S5)												
08-31-00	1100	—	21.0	7.8	2,020	—	—	12	—	—	—	—
Seep 6 (S6)												
08-31-00	1115	—	22.5	8.1	1,390	—	—	9.5	—	—	—	—
Seep 7 (S7)												
08-31-00	1135	—	20	7.9	1,310	—	—	2.6	—	—	—	—
Seep 9 (S9)												
08-31-00	1230	—	25	8.2	1,050	—	—	5.4	—	—	—	—

Table 7. Discharge, physical properties, and selected chemical analyses of surface-water inflow to Stewart Lake near Jensen, Utah, water years 1991-2000—Continued

Date	Time	Discharge, instantaneous (ft^3/s)	Temperature (°C)	pH, water, whole, field (standard units)	Specific conductance (µS/cm)	Solids, residue at 180 °C, dissolved (mg/L)	Boron, dissolved (µg/L as B)	Selenium, dissolved (µg/L as Se)	Selenium, total (µg/L as Se)	Uranium, natural, dissolved (µg/L as U)	Uranium, natural, 2 sigma water, dissolved (µg/L)	Zinc, dissolved (µg/L as Zn)
Seep 10 (S10)												
08-31-00	1315	—	27.5	8.3	1,080	—	—	5.8	—	—	—	—
Stewart Lake Inlet (SLI)												
05-21-97	1430	—	—	—	—	—	—	<1	<1	—	—	—
05-28-97	1615	—	—	—	—	—	—	<1	<1	—	—	—
06-10-97	1005	483	14	8.2	393	—	—	<1	<1	—	—	—
04-22-98	1212	—	—	—	690	—	—	—	2.4	—	—	—
04-30-98	1010	—	—	—	—	—	—	—	<1	—	—	—
05-08-98	1230	—	—	—	—	—	—	—	1.1	—	—	—
05-11-98	1300	105	11.5	7.8	380	—	—	<1	—	—	—	—
05-13-98	1220	—	—	—	—	—	—	—	<1	—	—	—
05-20-98	835	103	13.5	8.3	355	—	—	1.7	<1	—	—	—
06-02-98	1630	—	—	—	—	—	—	—	<1	—	—	—
06-16-98	1015	21	14	8.2	415	—	—	<1	—	—	—	—
05-19-99	830	1.2	11	8.4	520	—	—	1.7	—	—	—	—
05-24-99	1540	—	—	—	—	—	—	—	<1	—	—	—
05-25-99	830	—	—	—	—	—	—	—	<1	—	—	—
06-01-99	1700	—	—	—	—	—	—	—	<1	—	—	—
06-03-99	845	—	—	—	—	—	—	—	<1	—	—	—
06-05-99	810	—	—	—	—	—	—	—	<1	—	—	—
06-16-99	1745	36	15.5	8.3	440	—	—	2.6	—	—	—	—
07-13-99	1335	—	28	8	1,230	—	—	2	—	—	—	—
05-10-00	1010	—	—	—	—	—	—	—	<2.6	—	—	—
05-24-00	1130	72	17	8.2	412	—	—	.9	—	—	—	—
05-24-00	1800	—	—	—	—	—	—	—	<2.6	—	—	—
06-13-00	—	—	—	—	—	—	—	2.9	—	—	—	—
06-27-00	—	—	—	—	—	—	—	2.9	—	—	—	—

Table 8. Nitrogen concentration of surface-water inflow to Stewart Lake near Jensen, Utah, 1991 and 1994

[Data from the U.S. Geological Survey; mg/L, milligrams per liter; —, no data]

Drain name	Date	Time	Nitrogen, ammonia, dissolved (mg/L as N)	Nitrogen, ammonia, dissolved (mg/L as NH_4)	Nitrogen, nitrate, dissolved (mg/L as N)	Nitrogen, nitrate, total (mg/L as N)	Nitrogen, nitrate, dissolved (mg/L as NO_3)	Nitrogen, nitrite, dissolved (mg/L as N)	Nitrogen, nitrite, dissolved (mg/L as NO_2)	Nitrogen, NO_2+NO_3, total (mg/L as N)	Nitrogen, NO_2+NO_3 dissolved (mg/L as N)
J1	08-28-91	1400	—	—	3.5	3.5	15	.01	.03	3.5	3.5
	03-17-94	1110	.02	.03	—	—	—	—	—	—	—
J1A	03-17-94	1100	.02	.03	—	—	—	—	—	—	—
J2	08-27-91	1640	—	—	.25	.25	1.1	.02	.07	.27	.27
	03-17-94	1220	.04	.05	—	—	—	—	—	—	—
J3	08-28-91	1530	—	—	3.9	3.9	17	.03	.10	3.9	3.9
	03-17-94	1240	.03	.04	—	—	—	—	—	—	—
J4	08-28-91	1600	—	—	4.2	4.2	19	.01	.03	4.2	4.2
	03-17-94	1400	.03	.04	—	—	—	—	—	—	—

Table 9. Concentration of selected radiochemicals in water from irrigation drains J3 and J4 near Jensen, Utah, 1992

[Data from the U.S. Geological Survey; pCi/L, picocuries per liter; µg/L, micrograms per liter]

Drain name	Date	Time	Alpha radio, dissolved as Th-230 (pCi/L)	Gross alpha, dissolved as Nat U (µg/L)	Alpha, count, 2 sigma dissolved as Nat U (µg/L)	Alpha count, 2 sigma dissolved as Th-230 (pCi/L)	Gross beta, dissolved (pCi/L as Sr/Y-90)	Beta, 2 sigma dissolved as Sr90/Y90 (pCi/L)	Gross beta, dissolved (pCi/L as Cs-137)	Beta, 2 sigma dissolved as Cs-137 (pCi/L)
J3	07-15-92	1010	36	49	6.0	4.4	26	6.5	35	8.8
J4	07-15-92	0940	26	38	5.0	3.3	25	6.2	32	8.2

Table 10. Physical properties and chemical analyses of water from wells in the Stewart Lake Waterfowl Management Area near Jensen, Utah, water years 1996-2000

[Data from the U.S. Geological Survey; ºC, degrees Celsius; µS/cm, microsiemens per centimeter at 25 ºC; ANC, acid neutralizing capacity; mg/L, milligrams per liter; µg/L, micrograms per liter; —, not determined; <, less than; E, estimated]

Station number	Well	Date	Temperature (ºC)	pH, water, whole, field (standard units)	Specific conductance (µS/cm)	Solids, residue at 180 ºC, dissolved (mg/L)	ANC, lab (mg/L as $CaCO_3$)	Alkalinity, field (mg/L as $CaCO_3$)	Calcium, dissolved (mg/L as Ca)	Chloride, dissolved (mg/L as Cl)	Fluoride, dissolved (mg/L as F)
402126109204901	E1	04-16-1996	7.5	7.7	3,580	—	—	—	—	—	—
		05-16-1996	9	7.1	3,700	—	—	—	—	—	—
		06-13-1996	10	6.9	3,490	—	—	—	—	—	—
		07-16-1996	10.5	7	3,040	—	—	—	—	—	—
		08-20-1996	10.5	7.1	2,650	—	—	—	—	—	—
		09-19-1996	10	7.2	2,390	—	—	—	—	—	—
		10-24-1996	10	7	2,440	—	—	—	—	—	—
		07-17-1997	11	7	2,650	—	457	—	259	20.9	.6
		08-19-1997	10	7	3,480	—	—	—	—	—	—
		03-17-1999	7.5	7.2	3,920	—	—	—	—	—	—
		04-22-1999	7	6.9	4,040	—	557	570	387	64.6	.6
		05-19-1999	8	7	4,620	—	—	—	—	—	—
		07-13-1999	13	7	4,500	—	—	—	—	—	—
		08-18-1999	11.5	6.9	6,630	—	—	—	—	—	—
		09-16-1999	11.5	7	4,420	—	—	—	—	—	—
		03-14-2000	6.5	7	4,550	4,480	—	—	1,140	70.8	.6
		04-26-2000	9.5	6.9	4,540	4,600	—	—	409	74.7	.6
		05-24-2000	9.5	7	4,860	4,720	—	—	422	76.9	.5
		07-26-2000	11	7	4,770	4,720	—	—	434	66.5	.4
		08-30-2000	12	6.9	4,720	4,660	—	—	443	64.3	.6
		10-11-2000	11	7	4,910	4,680	—	—	447	69.5	.6
		04-26-2001	9	6.9	4,540	4,840	—	—	453	82.4	.5
		06-06-2001	11	7	4,870	4,600	—	—	423	73.1	.6
		06-27-2001	11	7	4,900	4,830	—	—	468	79.2	.6
		08-29-2001	12	7	4,930	4,830	—	—	445	85.8	.6
		09-26-2001	12	6.9	5,020	—	—	—	—	—	—
402117109204901	E2	04-16-1996	9	7.1	3,850	—	—	—	—	—	—
		05-16-1996	9	7	4,000	—	—	—	—	—	—
		06-13-1996	10.5	6.8	4,720	—	—	—	—	—	—
		07-16-1996	11	7.1	4,240	—	—	—	—	—	—
		08-20-1996	11.5	7	4,360	—	—	—	—	—	—
		09-19-1996	11.5	7.1	3,970	—	—	—	—	—	—
		10-24-1996	11	6.9	4,070	—	—	—	—	—	—
		07-17-1997	13	7	4,420	—	672	—	370	64.1	.8
		08-19-1997	12	7	4,490	—	—	—	—	—	—
		03-17-1999	8.5	7	6,700	—	—	—	—	—	—
		04-22-1999	8.5	7.1	5,410	—	651	646	502	101	.7
		05-19-1999	10	7.1	5,500	—	—	—	—	—	—
		06-03-1999	—	—	—	—	—	—	—	—	—
		07-13-1999	14	7	5,200	—	—	—	—	—	—
		08-18-1999	13	6.9	4,280	—	—	—	—	—	—
		09-16-1999	12	7	6,900	—	—	—	—	—	—
		03-14-2000	9.5	7	6,130	6,050	—	—	402	103	.7
		04-26-2000	—	7	6,000	6,020	—	—	420	96.5	.8
		05-24-2000	10.5	7.1	5,680	5,200	—	—	336	90	.7
		07-26-2000	12.5	7	4,670	4,340	—	—	282	61.2	1
		08-30-2000	12.5	—	5,690	5,360	—	—	362	84.7	.8

Table 10. Physical properties and chemical analyses of water from wells in the Stewart Lake Waterfowl Management Area near Jensen, Utah, water years, 1996-2000—Continued

Station number	Iron, dissolved (µg/L as Fe)	Magnesium, dissolved (mg/L as Mg)	Manganese, dissolved (µg/L as Mn)	Potassium, dissolved (mg/L as K)	Silica, dissolved (mg/L as SiO_2)	Sodium, dissolved (mg/L as Na)	Sulfate, dissolved (mg/L as SO_4)	Arsenic, dissolved (µg/L as As)	Nitrogen NO_2+NO_3, dissolved (mg/L as N)	Selenium, dissolved (µg/L as Se)		Selenium, total (µg/L as Se)
402126109204901	—	—	—	—	—	—	—	—	—	<1		—
	—	—	—	—	—	—	—	—	—	<1		—
	—	—	—	—	—	—	—	—	—	<1		—
	—	—	—	—	—	—	—	—	—	<1		—
	—	—	—	—	—	—	—	—	—	<1		—
	—	—	—	—	—	—	—	—	—	<1		—
	—	—	—	—	—	—	—	—	—	<1		—
	—	150	—	4.52	15.8	216	1,090	—	—	<1		<1
	—	—	—	—	—	—	—	—	—	<1		—
	—	—	—	—	—	—	—	—	—	1.6		—
	2,090	239	3,310	5.81	17.1	443	2,120	—	—	—		—
	—	—	—	—	—	—	—	—	—	1.1		—
	—	—	—	—	—	—	—	—	—	<1		—
	—	—	—	—	—	—	—	—	—	2.4		—
	—	—	—	—	—	—	—	—	—	<2.4		—
	3,680	242	9,330	6.88	47.4	457	2,490	—	<.050	1.9	E	—
	<30	154	1,570	.58	19.9	1,600	2,500	—	<.050	10		—
	520	236	3,430	6.86	16.4	464	2,590	—	<.050	1.2	E	—
	90	259	3,860	8.35	18.3	511	2,560	—	<.050	1.5	E	—
	460	266	3,880	8.24	18.6	526	2,540	—	<.050	1.6	E	—
	730	249	3,730	8.12	18.3	486	2,590	—	<.047	2.2	E	—
	2,110	266	3,830	7.74	17.6	518	2,610	—	<.047	<2.4		—
	<30	258	3,290	7.37	17.8	503	2,610	—	<.050	1.3		—
	90	272	3,830	7.28	18.8	518	2,630	—	<.050	1.7		—
	730	255	3,710	6.82	17.8	511	2,660	—	.007 E	<2		—
	—	—	—	—	—	—	—	—	<.050	—		—
402117109204901	—	—	—	—	—	—	—	—	—	<1		—
	—	—	—	—	—	—	—	—	—	<1		—
	—	—	—	—	—	—	—	—	—	<1		—
	—	—	—	—	—	—	—	—	—	—		—
	—	—	—	—	—	—	—	—	—	<1		—
	—	—	—	—	—	—	—	—	—	<1		—
	—	—	—	—	—	—	—	—	—	<1		—
	—	252	—	6.65	19.8	520	2,310	—	—	<1		<1
	—	—	—	—	—	—	—	—	—	<1		—
	—	—	—	—	—	—	—	—	—	3.7		—
	830	358	2,900	8.56	14.3	767	3,080	—	—	—		—
	—	—	—	—	—	—	—	—	—	<1		—
	—	—	—	—	—	—	—	—	—	—		<1
	—	—	—	—	—	—	—	—	—	<1		—
	—	—	—	—	—	—	—	—	—	1.4		—
	—	—	—	—	—	—	—	—	—	<2.4		—
	2,540	321	3,680	8.78	19.4	814	3,450	—	<.050	2.3	E	—
	1,230	304	3,230	8.16	19.1	789	3,430	3	<.050	—		—
	740	249	2,490	8.67	18	752	2,900	—	<.050	1.6	E	—
	410	228	2,570	7.79	19.3	641	2,400	—	<.050	<2.4		—
	960	285	3,210	8.53	19.9	778	2,970	—	<.050	1.4	E	—

Table 10. Physical properties and chemical analyses of water from wells in the Stewart Lake Waterfowl Management Area near Jensen, Utah, water years, 1996-2000—Continued

Station number	Well	Date	Temperature (°C)	pH, water, whole, field (standard units)	Specific conductance (µS/cm)	Solids, residue at 180 °C, dissolved (mg/L)	ANC, lab (mg/L as $CaCO_3$)	Alkalinity, field (mg/L as $CaCO_3$)	Calcium, dissolved (mg/L as Ca)	Chloride, dissolved (mg/L as Cl)	Fluoride, dissolved (mg/L as F)
402117109204901 —Continued	E2	10-11-2000	12.5	7	5,500	5,130	—	—	350	85.7	.7
		04-26-2001	10	7.1	4,530	4,430	—	—	296	68.5	.8
		06-06-2001	11	7.1	4,830	4,380	—	—	279	66.2	.8
		06-27-2001	12	7.2	4,770	4,220	—	—	277	70.1	.8
		08-29-2001	12	7.2	4,190	3,560	—	—	218	59.4	.9
		09-26-2001	12.5	7.1	4,030	—	—	—	—	—	—
402111109210701	E3	04-16-1996	7.5	7.1	5,970	—	—	—	—	—	—
		05-16-1996	8.5	7	4,050	—	—	—	—	—	—
		06-13-1996	10.5	6.8	3,750	—	—	—	—	—	—
		07-16-1996	11	7.1	4,010	—	—	—	—	—	—
		08-20-1996	11.5	7.1	3,170	—	—	—	—	—	—
		09-19-1996	11.5	7.2	2,970	—	—	—	—	—	—
		10-24-1996	11	7	3,030	—	—	—	—	—	—
		07-17-1997	13	7.1	3,060	—	534	—	245	36.7	.9
		08-19-1997	12.5	7	3,260	—	—	—	—	—	—
		03-17-1999	8.5	7.1	3,520	—	—	—	—	—	—
		04-22-1999	8.5	7	3,240	—	582	654	288	43.9	.9
		05-19-1999	9	7.1	3650	—	—	—	—	—	—
		06-03-1999	—	—	—	—	—	—	—	—	—
		07-13-1999	20	7	4,900	—	—	—	—	—	—
		08-18-1999	16	7	3,920	—	—	—	—	—	—
		09-16-1999	14.5	7	4,790	—	—	—	—	—	—
		03-14-2000	9	7.1	4,110	3,860	—	—	291	50.5	1
		04-26-2000	10.5	7.1	4,090	3,980	—	—	269	48	1
		05-24-2000	10.5	7	4,150	4,730	—	—	309	47.8	1
		07-26-2000	15.5	7	4,680	4,340	—	—	340	52.4	1.1
		08-30-2000	15	7	4,980	4,820	—	—	366	60.1	1
		10-11-2000	—	7.1	4,370	3,990	—	—	330	56.5	1
		04-26-2001	10	7	4,050	4,230	—	—	348	52.5	.9
		06-06-2001	12	7.1	4,730	4,560	—	—	365	52.1	.9
		06-27-2001	13	7.1	4,510	—	—	—	—	—	—
		08-29-2001	13	7	4,390	4,040	—	—	331	56.2	1.1
		09-26-2001	13.5	7	4,230	—	—	—	—	—	—
402111109215901	W1	04-16-1996	7.5	7.1	7,780	—	—	—	—	—	—
		05-16-1996	8.5	7	7,940	—	—	—	—	—	—
		06-13-1996	—	6.8	7,920	—	—	—	—	—	—
		07-16-1996	9.5	7.1	7,910	—	—	—	—	—	—
		08-20-1996	11	7	8,080	—	—	—	—	—	—
		09-19-1996	10	7.1	7,700	—	—	—	—	—	—
		10-24-1996	10.5	7	8,110	—	—	—	—	—	—
		08-19-1997	—	7.1	8,860	—	—	—	—	—	—
		03-17-1999	7.5	7	6,540	—	—	—	—	—	—
		04-22-1999	8.5	7	4,060	—	678	788	292	72.8	.2
		05-20-1999	10	7	7,010	—	—	—	—	—	—
		07-13-1999	20	7	4,690	—	—	—	—	—	—
		08-18-1999	12.5	7	6,810	—	—	—	—	—	—

Table 10. Physical properties and chemical analyses of water from wells in the Stewart Lake Waterfowl Management Area near Jensen, Utah, water years, 1996-2000—Continued

Station number	Iron, dissolved (µg/L as Fe)	Magnesium, dissolved (mg/L as Mg)	Manganese, dissolved (µg/L as Mn)	Potassium, dissolved (mg/L as K)	Silica, dissolved (mg/L as SiO_2)	Sodium, dissolved (mg/L as Na)	Sulfate, dissolved (mg/L as SO_4)	Arsenic, dissolved (µg/L as As)	Nitrogen NO_2+NO_3, dissolved (mg/L as N)	Selenium, dissolved (µg/L as Se)		Selenium, total (µg/L as Se)
402117109204901 —Continued	1,920	255	2,970	8.15	20.5	764	2,860	—	<.047	1.4	E	—
	1,270	216	2,450	7.32	18.8	698	2,410	—	<.047	<2.4		—
	<30	213	1,840	6.78	17.5	659	2,430	—	<.050	1.4	E	—
	E30	206	2,190	6.95	19.6	660	2,300	—	<.050	1.3	E	—
	310	160	1,790	7.09	18.2	599	1,960	—	.006 E	<2.0		—
	—	—	—	—	—	—	—	—	.023 E	—		—
402111109210701	—	—	—	—	—	—	—	—	—	<1		—
	—	—	—	—	—	—	—	—	—	<1		—
	—	—	—	—	—	—	—	—	—	<1		—
	—	—	—	—	—	—	—	—	—	<1		—
	—	—	—	—	—	—	—	—	—	<1		—
	—	—	—	—	—	—	—	—	—	<1		—
	—	—	—	—	—	—	—	—	—	<1		—
	—	166	—	5.58	26.3	340	1,340	—	—	<1		<1
	—	—	—	—	—	—	—	—	—	<1		—
	—	—	—	—	—	—	—	—	—	1.7		—
	280	197	3,120	3.45	22.8	351	1,530	—	—	—		—
	—	—	—	—	—	—	—	—	—	1.1		—
	—	—	—	—	—	—	—	—	—	—		<1
	—	—	—	—	—	—	—	—	—	1.4		—
	—	—	—	—	—	—	—	—	—	<1		—
	—	—	—	—	—	—	—	—	—	<2.4		—
	3,340	231	2,730	7.44	22.9	417	2,050	—	<.050	1.7	E	
	910	197	2,560	6.05	20.6	362	2,100	—	<.050	<2.4		—
	1,570	219	2,960	9.29	24.7	408	1,970	—	<.050	<2.4		—
	1,660	254	3,370	9.8	22.7	497	2,310	—	<.050	<2.4		—
	1,300	298	3,560	10.8	24.1	585	2,640	—	<.050	1.9	E	—
	1,970	244	3,040	10.2	25.1	475	2,190	—	<.047	<2.4		—
	2,160	253	2,850	12.6	23	449	2,170	—	<.047	<2.4		—
	<30	278	1,650	13.7	17.4	496	2,490	—	<.050	2.1	E	—
	—	—	—	—	—	—	—	—	—	—		—
	1,790	239	2,670	11.3	25.4	461	2,120	—	.005 E	<2		—
	—	—	—	—	—	—	—	—	—	—		—
402111109215901	—	—	—	—	—	—	—	—	—	<1		—
	—	—	—	—	—	—	—	—	—	<1		—
	—	—	—	—	—	—	—	—	—	<1		—
	—	—	—	—	—	—	—	—	—	<1		—
	—	—	—	—	—	—	—	—	—	<1		—
	—	—	—	—	—	—	—	—	—	<1		—
	—	—	—	—	—	—	—	—	—	<1		—
	—	—	—	—	—	—	—	—	—	1.1		—
	—	—	—	—	—	—	—	—	—	12		—
	20,200	240	3,130	4.47	23.3	513	1,910	—	—	—		—
	—	—	—	—	—	—	—	—	—	4.8		—
	—	—	—	—	—	—	—	—	—	1.7		—
	—	—	—	—	—	—	—	—	—	2.3		—

Table 10. Physical properties and chemical analyses of water from wells in the Stewart Lake Waterfowl Management Area near Jensen, Utah, water years, 1996-2000—Continued

Station number	Well	Date	Temperature (°C)	pH, water, whole, field (standard units)	Specific conductance (µS/cm)	Solids, residue at 180 °C, dissolved (mg/L)	ANC, lab (mg/L as $CaCO_3$)	Alkalinity, field (mg/L as $CaCO_3$)	Calcium, dissolved (mg/L as Ca)	Chloride, dissolved (mg/L as Cl)	Fluoride, dissolved (mg/L as F)
402111109215901 —Continued	W1	09-16-1999	12	7	6,780	—	—	—	—	—	—
		03-14-2000	6	7.1	6,760	6,580	—	—	360	134	.7
		04-26-2000	8.5	7	6,660	6,520	—	—	302	130	.7
		05-24-2000	9.5	7	6,950	6,570	—	—	377	135	.7
		07-26-2000	—	7	6,840	6,550	—	—	423	138	.6
		08-30-2000	12	7	6,720	6,420	—	—	413	138	.7
		10-11-2000	11	7	6,990	6,510	—	—	428	148	.7
		04-26-2001	11	7	6,690	7,110	—	—	427	175	.7
		06-07-2001	10	7.1	7,480	7,300	—	—	416	194	.5
		06-28/2001	10	7.1	7,140	7,030	—	—	431	174	.4
		08-29-2001	10.5	6.9	7,390	7,050	—	—	439	191	.7
		09-26-2001	10.5	6.9	7,250	—	—	—	—	—	—
402106109220601	W2	04-16-1996	8	7	8,910	—	—	—	—	—	—
		05-16-1996	9	6.9	8,720	—	—	—	—	—	—
		06-13-1996	10	6.9	6,540	—	—	—	—	—	—
		07-16-1996	10	7.1	8,100	—	—	—	—	—	—
		08-20-1996	12	7	8,330	—	—	—	—	—	—
		09-19-1996	10.5	7.1	8,160	—	—	—	—	—	—
		10-24-1996	10	6.9	8,200	—	—	—	—	—	—
		08-19-1997	—	7.3	2,640	—	—	—	—	—	—
		03-17-1999	8.5	7.1	7,780	—	—	—	—	—	—
		04-22-1999	8	7	7,500	—	716	760	507	320	.4
		05-20-1999	9.5	7.1	5,400	—	—	—	—	—	—
		07-13-1999	12.5	7	7,500	—	—	—	—	—	—
		08-18-1999	11.5	7	6,820	—	—	—	—	—	—
		09-16-1999	11	7	7,380	—	—	—	—	—	—
		03-14-2000	7.5	7	7,560	7,370	—	—	380	257	.4
		04-26-2000	9	7.1	7,490	7,260	—	—	400	235	.5
		05-24-2000	10	7	7,830	7,410	—	—	403	243	.4
		07-26-2000	—	7	7,670	7,270	—	—	418	218	.4
		08-30-2000	10	7	7,530	7,240	—	—	425	220	.4
		10-11-2000	10	7	7,650	6,970	—	—	432	224	.2
		04-26-2001	10.5	7	7,020	7,320	—	—	419	212	.4
		06-07-2001	10	7	7,380	6,890	—	—	414	201	.4
		06-28-2001	10	7	7,240	6,660	—	—	415	197	.5
		08-29-2001	10	7	7,600	7,200	—	—	410	216	.5
		08-29-2001	10	7	7,600	—	—	—	—	—	—
		09-26-2001	10	7	7,570	—	—	—	—	—	—
402056109220301	W3	04-16-1996	5.5	7.4	8,110	—	—	—	—	—	—
		05-16-1996	8	7	7,420	—	—	—	—	—	—
		06-13-1996	9	6.8	7,530	—	—	—	—	—	—
		07-16-1996	10	6.9	8,070	—	—	—	—	—	—
		08-20-1996	11	7	7,560	—	—	—	—	—	—
		09-19-1996	12	7	7,180	—	—	—	—	—	—
		10-24-1996	10	7	6,950	—	—	—	—	—	—
		07-17-1997	11	7	6,000	—	722	—	387	178	.3
		03-17-1999	8	7.1	4,230	—	—	—	—	—	—

Table 10. Physical properties and chemical analyses of water from wells in the Stewart Lake Waterfowl Management Area near Jensen, Utah, water years, 1996-2000—Continued

Station number	Iron, dissolved (µg/L as Fe)	Magnesium, dissolved (mg/L as Mg)	Manganese, dissolved (µg/L as Mn)	Potassium, dissolved (mg/L as K)	Silica, dissolved (mg/L as SiO_2)	Sodium, dissolved (mg/L as Na)	Sulfate, dissolved (mg/L as SO_4)	Arsenic, dissolved (µg/L as As)	Nitrogen NO_2+NO_3, dissolved (mg/L as N)	Selenium, dissolved (µg/L as Se)	Selenium, total (µg/L as Se)
402111109215901	—	—	—	—	—	—	—	—	—	<2.4	—
—Continued	930	327	3,060	7.11	23.6	906	3,570	—	<.050	2.7	—
	140	258	2,480	5.11	21.4	721	3,520	—	<.050	2.4 E	—
	330	329	3,220	7.53	25.4	957	3,580	—	<.050	2.1 E	—
	1,790	346	3,570	10.7	24.3	935	3,490	—	<.050	2.0 E	—
	860	351	3,360	10.2	25.8	973	3,470	—	<.050	3.1	—
	1,990	363	3,410	8.77	27.8	973	3,550	—	<.047	3.0	—
	280	363	3,490	7.96	26.8	1,040	3,650	—	<.047	1.5 E	—
	<50	396	1,480	10.8	20.3	1,060	3,950	—	.084	34	—
	<10	376	3,040	8.41	24.9	1,030	3,700	—	<.050	4.7	—
	660	364	3,390	9.4	27.3	1,060	3,720	—	.007 E	2.6	—
	—	—	—	—	—	—	—	—	.027 E	—	—
402106109220601	—	—	—	—	—	—	—	—	—	<1	—
	—	—	—	—	—	—	—	—	—	<1	—
	—	—	—	—	—	—	—	—	—	2.0	—
	—	—	—	—	—	—	—	—	—	1.0	—
	—	—	—	—	—	—	—	—	—	<1	—
	—	—	—	—	—	—	—	—	—	<1	—
	—	—	—	—	—	—	—	—	—	<1	—
	—	—	—	—	—	—	—	—	—	1.3	—
	—	—	—	—	—	—	—	—	—	4.0	—
	16,100	406	2,410	9.17	17.7	1,300	4,110	—	—	—	—
	—	—	—	—	—	—	—	—	—	7.9	—
	—	—	—	—	—	—	—	—	—	2.3	—
	—	—	—	—	—	—	—	—	—	2.4	—
	—	—	—	—	—	—	—	—	—	<2.4	—
	8,930	333	1,910	8.72	18	1,120	4,080	—	<.050	2.7	—
	3,600	327	1,930	8.63	18.2	1,130	4,040	—	.052	6.5	—
	7,710	330	2,000	8.16	18.7	1,160	4,060	—	<.050	1.2 E	—
	8,750	348	2,110	10.3	20.3	1,240	3,990	—	<.050	1.6 E	—
	1,710	356	2,090	9.72	19.8	1,230	3,990	—	<.050	3.2	—
	11,800	352	2,060	10.1	21	1,140	3,910	—	<.047	3.6	—
	6,110	335	2,030	8.82	20.3	1,160	3,880	—	<.047	2.0 E	—
	<50	338	1,660	10.3	18.4	1,100	3,850	—	<.050	1.8 E	—
	950	340	1,830	8.62	20.4	1,150	3,850	—	<.050	4.0	—
	4,020	333	1,970	10.4	20	1,190	3,940	—	.018	4.1	—
	—	—	—	—	—	—	—	—	—	3.4	—
	—	—	—	—	—	—	—	—	.035	—	—
402056109220301	—	—	—	—	—	—	—	—	—	2.0	—
	—	—	—	—	—	—	—	—	—	1.0	—
	—	—	—	—	—	—	—	—	—	1.0	—
	—	—	—	—	—	—	—	—	—	1.0	—
	—	—	—	—	—	—	—	—	—	<1	—
	—	—	—	—	—	—	—	—	—	<1	—
	—	—	—	—	—	—	—	—	—	<1	—
	—	308	—	6.54	17.7	904	2,420	—	—	1.8	3.7
	—	—	—	—	—	—	—	—	—	2.6	—

Table 10. Physical properties and chemical analyses of water from wells in the Stewart Lake Waterfowl Management Area near Jensen, Utah, water years, 1996-2000—Continued

Station number	Well	Date	Temperature (°C)	pH, water, whole, field (standard units)	Specific conductance (µS/cm)	Solids, residue at 180 °C, dissolved (mg/L)	ANC, lab (mg/L as $CaCO_3$)	Alkalinity, field (mg/L as $CaCO_3$)	Calcium, dissolved (mg/L as Ca)	Chloride, dissolved (mg/L as Cl)	Fluoride, dissolved (mg/L as F)
402056109220301 —Continued	W3	04-22-1999	7.5	7.1	6,380	—	836	752	474	151	.6
		05-20-1999	—	7.1	4,160	—	—	—	—	—	—
		07-13-1999	19	7	5,320	—	—	—	—	—	—
		08-18-1999	14	6.9	5,680	—	—	—	—	—	—
		09-16-1999	11	7	4,400	—	—	—	—	—	—
		03-14-2000	9.5	7.2	3,830	3,440	—	—	226	60.2	.2
		04-26-2000	10.5	7.1	3,840	3,410	—	—	205	56.6	.3
		05-24-2000	11.5	7.1	4,020	3,520	—	—	230	57	.3
		07-26-2000	13	7	5,100	4,670	—	—	318	114	.3
		08-30-2000	12	7.1	3,850	3,260	—	—	243	59.7	.3
		10-11-2000	9	7.1	3,400	2,930	—	—	225	52.5	.3
		04-26-2001	10	7.5	3,600	3,240	—	—	234	55	.3
		06-07-2001	10	7.2	3,410	2,900	—	—	231	51.4	.4
		06-28/2001	12	7.1	4,160	3,820	—	—	284	78.7	.4
		08-29-2001	12.5	7	6,570	6,130	—	—	351	168	.3
		09-26-2001	10.5	7.1	3,760	—	—	—	—	—	—

Table 10. Physical properties and chemical analyses of water from wells in the Stewart Lake Waterfowl Management Area near Jensen, Utah, water years, 1996-2000—Continued

Station number	Iron, dissolved (µg/L as Fe)	Magnesium, dissolved (mg/L as Mg)	Manganese, dissolved (µg/L as Mn)	Potassium, dissolved (mg/L as K)	Silica, dissolved (mg/L as SiO_2)	Sodium, dissolved (mg/L as Na)	Sulfate, dissolved (mg/L as SO_4)	Arsenic, dissolved (µg/L as As)	Nitrogen NO_2+NO_3, dissolved (mg/L as N)	Selenium, dissolved (µg/L as Se)		Selenium, total (µg/L as Se)
402056109220301 —Continued	740	381	3,480	7.53	21.9	1,030	3,450	—	—	—		—
	—	—	—	—	—	—	—	—	—	1.8		—
	—	—	—	—	—	—	—	—	—	<1		—
	—	—	—	—	—	—	—	—	—	2.1		—
	—	—	—	—	—	—	—	—	—	<2.4		—
	13,800	197	2,650	4.06	24.5	441	1,730	—	<.050	1.7	E	—
	7,300	167	2,320	3.75	22.5	394	1,730	—	<.050	1.5	E	—
	13,400	193	2,670	4.19	24.5	451	1,800	—	<.050	1.3	E	—
	10,100	251	1,920	7.38	21.1	658	2,490	—	<.050	2.3	E	—
	10,900	199	2,400	5.37	24.6	458	1,680	—	<.050	<2.4		—
	15,400	180	2,740	3.96	26.7	388	1,420	—	<.047	<2.4		—
	5,790	200	2,380	4.32	24.6	435	1,580	—	<.047	<2.4		—
	<30	175	2,100	5.07	20.6	369	1,440	—	.023 E	2.3	E	—
	4,750	229	2,940	5.12	23.7	469	1,920	—	<.050	1.6	E	—
	18,500	360	2,680	6.21	23	913	3,280	—	.008 E	2.0	E	—
	—	—	—	—	—	—	—	—	.028 E	—		—

Table 11. Water levels for selected wells in the Stewart Lake Waterfowl Management Area near Jensen, Utah, water years 1996-2000

Station number	Well	Date	Land-surface altitude (feet)	Well depth below land surface (feet)	Water level below land surface (feet)	Water-level altitude (feet)
402126109204901	E1	02-26-1996	4,722.4	24.8	2.30	4,720.10
		04-16-1996	4,722.4	24.8	1.98	4,720.42
		05-16-1996	4,722.4	24.8	1.14	4,721.26
		06-13-1996	4,722.4	24.8	1.84	4,720.56
		07-16-1996	4,722.4	24.8	2.81	4,719.59
		08-20-1996	4,722.4	24.8	2.92	4,719.48
		09-19-1996	4,722.4	24.8	2.50	4,719.90
		10-24-1996	4,722.4	24.8	2.75	4,719.65
		07-17-1997	4,722.4	24.8	3.30	4,719.10
		08-19-1997	4,722.4	24.8	4.34	4,718.06
		09-16-1997	4,722.4	24.8	2.91	4,719.49
		03-17-1999	4,722.4	24.8	4.11	4,718.29
		04-21-1999	4,722.4	24.8	3.96	4,718.44
		05-19-1999	4,722.4	24.8	3.18	4,719.22
		07-13-1999	4,722.4	24.8	1.24	4,721.16
		08-18-1999	4,722.4	24.8	5.31	4,717.09
		09-15-1999	4,722.4	24.8	5.67	4,716.73
		03-14-2000	4,722.4	24.8	4.66	4,717.74
		04-26-2000	4,722.4	24.8	3.96	4,718.44
		05-24-2000	4,722.4	24.8	3.62	4,718.78
		07-26-2000	4,722.4	24.8	4.81	4,717.59
		08-30-2000	4,722.4	24.8	6.49	4,715.91
		10-11-2000	4,722.4	24.8	5.95	4,716.45
402117109204901	E2	03-13-1996	4,722.6	28.6	3.60	4,719.00
		04-16-1996	4,722.6	28.6	2.40	4,720.20
		05-16-1996	4,722.6	28.6	1.16	4,721.44
		06-13-1996	4,722.6	28.6	1.70	4,720.90
		07-15-1996	4,722.6	28.6	4.05	4,718.55
		08-20-1996	4,722.6	28.6	4.71	4,717.89
		09-19-1996	4,722.6	28.6	4.13	4,718.47
		10-24-1996	4,722.6	28.6	4.28	4,718.32
		07-17-1997	4,722.6	28.6	3.80	4,718.80
		08-19-1997	4,722.6	28.6	5.02	4,717.58
		09-16-1997	4,722.6	28.6	4.49	4,718.11
		03-17-1999	4,722.6	28.6	4.42	4,718.18
		04-21-1999	4,722.6	28.6	4.31	4,718.29
		05-19-1999	4,722.6	28.6	3.30	4,719.30
		07-13-1999	4,722.6	28.6	1.42	4,721.18
		08-18-1999	4,722.6	28.6	4.46	4,718.14
		09-15-1999	4,722.6	28.6	5.83	4,716.77
		03-14-2000	4,722.6	28.6	5.09	4,717.51
		04-26-2000	4,722.6	28.6	4.06	4,718.54
		05-24-2000	4,722.6	28.6	2.93	4,719.67
		07-26-2000	4,722.6	28.6	5.28	4,717.32

Table 11. Water levels for selected wells in the Stewart Lake Waterfowl Management Area near Jensen, Utah, water years 1996-2000—Continued

Station number	Well	Date	Land-surface altitude (feet)	Well depth below land surface (feet)	Water level below land surface (feet)	Water-level altitude (feet)
402117109204901—Continued	E2	08-30-2000	4,722.6	28.6	6.58	4,716.02
		10-11-2000	4,722.6	28.6	6.28	4,716.32
402111109210701	E3	03-13-1996	4,721.7	27.8	3.00	4,718.70
		04-16-1996	4,721.7	27.8	2.10	4,719.60
		05-17-1996	4,721.7	27.8	0.56	4,721.14
		06-13-1996	4,721.7	27.8	1.20	4,720.50
		07-16-1996	4,721.7	27.8	2.76	4,718.94
		08-20-1996	4,721.7	27.8	3.75	4,717.95
		09-19-1996	4,721.7	27.8	3.53	4,718.17
		10-24-1996	4,721.7	27.8	3.53	4,718.17
		07-17-1997	4,721.7	27.8	2.80	4,718.90
		08-19-1997	4,721.7	27.8	3.70	4,718.00
		09-16-1997	4,721.7	27.8	3.79	4,717.91
		03-25-1998	4,721.7	27.8	3.94	4,717.76
		03-17-1999	4,721.7	27.8	4.08	4,717.62
		04-21-1999	4,721.7	27.8	3.83	4,717.87
		05-19-1999	4,721.7	27.8	2.87	4,718.83
		07-13-1999	4,721.7	27.8	.24	4,721.46
		08-18-1999	4,721.7	27.8	3.85	4,717.85
		09-16-1999	4,721.7	27.8	5.17	4,716.53
		03-14-2000	4,721.7	27.8	4.65	4,717.05
		04-26-2000	4,721.7	27.8	4.08	4,717.62
		05-24-2000	4,721.7	27.8	3.27	4,718.43
		07-26-2000	4,721.7	27.8	3.68	4,718.02
		08-30-2000	4,721.7	27.8	5.97	4,715.73
		10-11-2000	4,721.7	27.8	6.20	4,715.50
402111109215901	W1	03-13-1996	4,721.2	27.7	1.30	4,719.90
		04-16-1996	4,721.2	27.7	1.52	4,719.68
		05-16-1996	4,721.2	27.7	.28	4,720.92
		06-13-1996	4,721.2	27.7	1.05	4,720.15
		07-16-1996	4,721.2	27.7	2.27	4,718.93
		08-20-1996	4,721.2	27.7	2.59	4,718.61
		09-19-1996	4,721.2	27.7	2.25	4,718.95
		10-24-1996	4,721.2	27.7	2.20	4,719.00
		08-19-1997	4,721.2	27.7	.99	4,720.21
		09-16-1997	4,721.2	27.7	.75	4,720.45
		03-17-1999	4,721.2	27.7	3.68	4,717.52
		05-20-1999	4,721.2	27.7	2.59	4,718.61
		08-18-1999	4,721.2	27.7	3.75	4,717.45
		09-15-1999	4,721.2	27.7	3.65	4,717.55
		03-14-2000	4,721.2	27.7	3.95	4,717.25
		04-27-2000	4,721.2	27.7	3.36	4,717.84
		05-24-2000	4,721.2	27.7	2.89	4,718.31
		07-26-2000	4,721.2	27.7	3.45	4,717.75
		08-30-2000	4,721.2	27.7	5.57	4,715.63
		10-11-2000	4,721.2	27.7	5.82	4,715.38

Table 11. Water levels for selected wells in the Stewart Lake Waterfowl Management Area near Jensen, Utah, water years 1996-2000—Continued

Station number	Well	Date	Land-surface altitude (feet)	Well depth below land surface (feet)	Water level below land surface (feet)	Water-level altitude (feet)
402106109220601	W2	02-26-1996	4,722.3	30	2.20	4,720.10
		04-16-1996	4,722.3	30	2.16	4,720.14
		05-16-1996	4,722.3	30	1.05	4,721.25
		06-13-1996	4,722.3	30	1.94	4,720.36
		07-16-1996	4,722.3	30	3.10	4,719.20
		08-20-1996	4,722.3	30	3.47	4,718.83
		09-19-1996	4,722.3	30	3.06	4,719.24
		10-24-1996	4,722.3	30	3.05	4,719.25
		08-19-1997	4,722.3	30	.61	4,721.69
		03-17-1999	4,722.3	30	4.11	4,718.19
		04-21-1999	4,722.3	30	4.15	4,718.15
		05-20-1999	4,722.3	30	3.02	4,719.28
		07-13-1999	4,722.3	30	.90	4,721.40
		08-18-1999	4,722.3	30	4.14	4,718.16
		09-15-1999	4,722.3	30	3.67	4,718.63
		03-14-2000	4,722.3	30	4.49	4,717.81
		04-26-2000	4,722.3	30	3.93	4,718.37
		05-24-2000	4,722.3	30	3.60	4,718.70
		07-26-2000	4,722.3	30	3.84	4,718.46
		08-30-2000	4,722.3	30	6.13	4,716.17
		10-11-2000	4,722.3	30	6.36	4,715.94
402056109220301	W3	02-26-1996	4,721.4	30	1.90	4,719.50
		04-16-1996	4,721.4	30	1.45	4,719.95
		06-13-1996	4,721.4	30	1.00	4,720.40
		07-16-1996	4,721.4	30	2.55	4,718.85
		08-20-1996	4,721.4	30	3.85	4,717.55
		09-19-1996	4,721.4	30	3.39	4,718.01
		10-24-1996	4,721.4	30	3.14	4,718.26
		07-17-1997	4,721.4	30	1.73	4,719.67
		09-16-1997	4,721.4	30	1.22	4,720.18
		03-17-1999	4,721.4	30	3.25	4,718.15
		04-21-1999	4,721.4	30	3.52	4,717.88
		05-20-1999	4,721.4	30	1.85	4,719.55
		07-13-1999	4,721.4	30	.21	4,721.19
		08-18-1999	4,721.4	30	3.40	4,718.00
		09-15-1999	4,721.4	30	3.61	4,717.79
		03-14-2000	4,721.4	30	3.67	4,717.73
		04-26-2000	4,721.4	30	3.28	4,718.12
		05-24-2000	4,721.4	30	2.98	4,718.42
		06-26-2000	4,721.4	30	1.36	4,720.04
		08-30-2000	4,721.4	30	5.47	4,715.93
		10-11-2000	4,721.4	30	5.43	4,715.97

Table 12. Pedologic descriptions of borehole samples collected during installation of six monitoring wells in the Stewart Lake Waterfowl Management Area near Jensen, Utah, February 1996

[Data from Bureau of Reclamation]

Well	Depth below land surface (inches)	Soil description
E1	0-10	sandy loam
	10-13	silty clay
	13-21	silty clay loam
	21-28	fine loamy sand
	28-35	silty clay loam
	35-60	fine sandy loam
	60-68	fine loamy sand
	68-73	fine sandy clay loam
	73-120	sandy loam
	120-360	sandy loam, sand, and gravel intermixed
E2	0-6	loamy sand
	6-24	loam
	24-32	loam
	32-38	loam
	38-43	fine sandy loam
	43-49	sandy loam
	49-58	silty clay loam
	58-66	sandy loam
	66-106	fine to medium sand
	106-112	sandy loam
	112-143	loamy sand
	143-150	fine to medium sand and gravel
	150-168	sand
	168-319	sandy loam, sand, gravel, and cobbles
	319-343	shale
E3	0-5	sandy loam
	5-8	silty clay loam
	8-13	silty clay
	13-18	silt loam
	18-33	fine to medium sand
	33-50	fine sandy loam
	50-55	silty clay loam
	55-60	intermixed lenses of fine sand and loamy sand
	60-240	sand
	240-360	sand, gravel, cobbles
W1	0-5	silty clay loam
	5-29	clay
	29-42	sandy loam
	42-60	silty clay loam
	60-65	fine sandy loam
	65-76	clay
	76-92	clay
	92-109	clay
	109-116	silty clay loam
	116-158	sand
	158-240	sand, gravel, cobbles
	240-360	sandy loam, sand, gravel, and large cobbles
W2	0-25	silty clay loam
	25-29	loamy sand
	29-43	silty clay
	43-53	silty clay
	53-58	silty clay
	58-72	clay
	72-81	silty clay
	81-163	clay
	163-166	silty clay
	166-176	clay
	176-180	sandy clay loam
	180-360	sand and gravel
W3	0-24	silty clay loam
	24-34	fine sandy loam
	34-120	loamy sand
	120-360	loamy sand, sand and gravel intermixed

Table 13. Summary of discharge, physical properties, selenium concentration, and dissolved-solids concentration of water in Ashley Creek and selected tributaries near Vernal and Naples, Utah, water years 1991-2000

[Data from U.S. Geological Survey; ft^3/s, cubic feet per second; °C, degrees Celsius; µS/cm, microsiemens per centimeter at 25 °C; µg/L, micrograms per liter; mg/L, milligrams per liter; refer to fig. 3 and table 1 for site designation, in parentheses; <, less than; —, no data; >, greater than; E, estimated]

Date	Time	Discharge, instantaneous (ft^3/s)	Temperature (°C)	Specific conductance (µS/cm)	pH, water, whole, field (standard units)	Selenium, dissolved (µg/L as Se)	Selenium, total (µg/L as Se)	Solids, residue at 180 °C, dissolved (mg/L)
Ashley Creek at 500 North, near Steinaker Draw (AC 500)								
08-12-91	1700	0.13	25.0	780	7.5	<1	—	525
04-23-92	1455	1.0	17.0	850	8.2	<1	—	—
08-03-92	2040	.03	22.0	870	8.0	5.0	—	—
03-25-93	1130	.10	3.5	886	8.2	<1	—	540
04-21-93	0900	.37	6.0	1,020	7.9	<1	—	—
05-26-93	0740	>200 E	6.5	96	8.3	<1	—	—
06-23-93	1835	135	15.5	220	8.3	<1	—	—
07-28-93	0715	11	17.0	312	8.1	<1	—	—
08-24-93	1800	5.1	26.5	375	8.5	<1	—	—
10-13-93	0800	2.0	10.5	610	8.1	<1	—	—
03-17-94	0830	1.5	5.0	700	8.1	<1	—	—
04-13-94	0800	.02	5.0	795	8.0	<1	—	—
05-18-94	0800	.51	11.0	430	8.0	<1	—	—
06-16-94	0740	.10	15.0	840	7.8	<1	—	—
07-14-94	0630	.05	15.5	860	7.5	<1	—	—
08-16-94	1420	.05	25.0	810	8.0	<1	—	—
Unnamed tributary (East Bank), below Sewer Lagoon Spring (AT SL)								
10-23-91	1015	—	12.0	3,400	—	240	240	—
Ashley Central Canal Return Flow, at Ashley Creek (ACC AC)								
08-13-91	0900	.09	16.5	1,730	7.7	—	—	—
4930 tributary (West Bank) above Sadlier Draw (AT4930)								
08-13-91	1400	.82	19.0	1,700	6.8	6.0	—	1,460
Sadlier Draw at mouth-Sunshine/Burns Bench runoff (SD mouth)								
08-13-91	1610	—	—	7,000	—	1,300	—	6,580
10-23-91	1120	—	10.5	7,000	—	1,100	1,300	—
06-22-95	1205	26	20.0	3,780	8.1	13	—	—
Ashley Creek at 6550 East, near Naples, Utah (AC 6550)								
08-13-91	1615	—	28.0	2,250	—	38	—	—
05-18-93	1600	—	—	108	—	6.0	—	752
06-17-93	1255	—	—	470	—	6.0	—	308
Unnamed tributary 14 (West Bank), north of Highway 40 (AT 14)								
08-13-91	1300	.09	21.5	5,250	7.4	22	—	5,250
Unnamed tributary 12 (East Bank), north of Highway 40 (AT 12)								
08-13-91	1205	.02	27.0	3,420	8.0	7.0	—	3,050
Unnamed tributary 4 (East Bank), north of Highway 40 (AT 4)								
08-14-91	1100	.01	15.5	4,500	7.5	57	—	4,360
Unnamed tributary 3 (East Bank), north of Highway 40 (AT 3)								
08-14-91	1030	.05	18.0	2,720	7.8	—	—	—

Table 13. Summary of discharge, physical properties, selenium concentration, and dissolved-solids concentration of water in Ashley Creek and selected tributaries near Vernal and Naples, Utah, water years 1991-2000—Continued

Date	Time	Discharge, instant-aneous (ft^3/s)	Temperature (°C)	Specific conductance (µS/cm)	pH, water, whole, field (standard units)	Selenium, dissolved (µg/L as Se)	Selenium, total (µg/L as Se)	Solids, residue at 180 °C, dissolved (mg/L)
Mantle Gulch at mouth, inflow to Ashley Creek (MG mouth)								
08-14-91	1000	.11	14.0	3,700	7.6	150	—	3,530
Ashley Creek near Jensen, Utah (AC 40)								
08-14-91	0930	6.8	20.5	2,330	7.7	57	—	1,890
10-23-91	0915	—	10.5	2,100	—	44	55	—
Ashley Creek below Union Canal Diversion near Jensen, Utah (AC 6750) (table 5)								
Ashley Creek at mouth at the Green River (AC mouth)								
07-30-91	1230	—	25.5	1,800	—	24	—	—

Table 14. Discharge, physical properties, and chemical analyses of water from ponds, canals, and drains in the Ashley Creek drainage near Vernal and Naples, Utah, 1991-93

[Data from U.S. Geological Survey; ft^3/s, cubic feet per second; °C, degrees Celsius; µS/cm, microsiemens per centimeter at 25 °C; mg/L, milligrams per liter; µg/g, micrograms per gram; —, no data; <, less than; E, estimated value]

Site designation	Date	Time	Discharge, instantaneous (ft^3/s)	Temperature (°C)	Specific conductance (µS/cm)	pH, water, whole, field (standard units)	Selenium, dissolved (mg/L as Se)	Selenium, total in bottom material (µg/g)
Rock Point Canal at 1500 West in Vernal	06-18-92	0820	—	10.0	350	8.1	<1	—
17A2 Drain near Vernal	07-24-91	1620	.09	12.0	920	—	—	—
17B1 Drain, Vernal	07-25-91	0915	.10	13.0	685	—	<1	—
17B2 Drain, Vernal	07-25-91	0920	.10	12.5	800	—	2.0	—
17A1 Drain, Vernal	07-25-91	0910	.20	11.0	780	—	3.0	—
16A1 Drain, Vernal	07-25-91	0845	.04	10.0	810	—	2.0	—
Steinaker Service Canal at 500 North in Vernal	06-18-92	0800	—	11.0	290	7.7	<1	—
20A2 Drain, Vernal	07-25-91	0950	.05	18.0	640	—	<1	—
Amos/Merkley Drain in Maeser	07-24-91	1610	2.2	13.0	920	—	3.0	—
22A1 Drain near Vernal	07-24-91	1555	2.4	14.0	860	—	2.0	—
27A2 Drain, Vernal	07-25-91	0815	2.1	13.0	1,440	—	2.0	—
27C2 Drain, Vernal	07-24-91	1530	.54	—	1,240	—	2.0	—
26A2 Drain, Vernal	07-24-91	1515	.64	12.0	1,550	—	3.0	—
26B2 Drain near Vernal	07-24-91	1445	.46	—	1,300	—	2.0	—
30B1 Drain near Naples	07-24-91	1015	.21	16.0	1,260	—	4.0	—
	06-18-92	1315	1.4	10.5	1,310	7.2	6.0	<1
26C1 Drain, Vernal	07-24-91	1430	.05	13.0	1,260	—	1.0	—
26C2 Drain near Vernal	07-24-91	1415	.05	13.0	1,160	—	3.0	—
25A2 Drain, Vernal	07-24-91	1345	.60	12.0	1,280	—	2.0	—
Pond 30A near Naples	08-10-93	1210	—	—	1,400	—	<1	5
29A1 Drain near Naples	07-24-91	1045	.10	14.5	1,900	—	3.0	—
Open Pilot Drain near Vernal	08-12-91	1500	.22	13.0	1,380	7.1	6.0	—
	06-18-92	0900	.01	11.5	1,400	7.5	5.0	3
Pilot Drain near Vernal	07-24-91	1200	.11	13.5	1,800	—	4.0	—
	06-18-92	1100	<.01	12.0	1,750	7.2	5.0	2
Pond 31A1 at 1830 E., 1700 South in Naples	08-10-93	1300	—	—	3,200	—	<1	1
31A1 Drain, Vernal	07-24-91	1150	.08	14.5	2,600	—	8.0	—
	06-18-92	1145	.09	12.0	2,800	7.1	9.0	1
32A1 Drain near Naples	07-24-91	1100	.09	14.0	1,650	—	3.0	—
	06-18-92	1250	<.01	12.0	1,600	7.3	4.0	2
Ashley Central Canal at flume 2500 South, Naples	06-18-92	1410	1.9	12.0	490	8.4	<1	—
Steinaker Service Canal at 2500 South near 500 West	06-18-92	1730	—	11.0	285	8.5	<1	—
5A1 Drain near Naples	07-24-91	1130	.07	13.5	2,600	—	4.0	—
	06-18-92	1355	<.01	11.0	3,500	7.4	10	2
	08-11-93	0950	—	—	1,060	—	3.0	—
Pond on Ashley Central Canal at 2500 South Street, Naples	08-10-93	1430	—	—	1,060	—	<1	<1
Ashley Central Canal return flow at Ashley Creek	08-13-91	0900	.09	16.5	1,730	7.7	—	—
Steinaker Service Canal at 4500 South in Vernal	06-18-92	1620	22	11.0	290	8.6	<1	—
River Irrigation Canal at diversion, 6800 South in Naples	06-18-92	1500	2.6	11.0	1,820	8.2	47	—
Jackson Farm Pond at 5000 South Street, near Naples	08-10-93	1715	—	—	1,300	—	<1	2
Mantle Gulch at mouth, inflow to Ashley Creek	08-14-91	1000	.11	14.0	3,700	7.6	150	—
Highline Canal near Asphalt Ridge near Vernal	08-13-91	1600	2.1	23.0	265	7.5	<1	—
	06-18-92	1655	7.9	11.0	280	8.6	<1	—
Squires Farm pond on Steinaker Service Canal	08-10-93	1100	—	—	—	—	—	2
	08-11-93	1100	—	—	1,550	—	6.0	—
Steinaker Service Canal at Mantle Gulch, near Vernal	08-13-91	1700	.09	20.0	2,350	7.1	12	—
Upper Mantle Gulch at US 45 road to Bonanza	05-19-93	1120	.01	—	3,350	—	<1	—
Mantle Gulch at Oilfield Road East, Naples	05-19-93	1330	.69	18.0	4,100	—	500	—

Table 14. Discharge, physical properties, and chemical analyses of water from ponds, canals, and drains in the Ashley Creek drainage near Vernal and Naples, Utah, 1991-93—Continued

Hardness, total (mg/L as $CaCO_3$)	Calcium, dissolved (mg/L as Ca)	Magnesium, dissolved (mg/L as Mg)	Sodium, dissolved (mg/L as Na)	Potassium, dissolved (mg/L as K)	Chloride, dissolved (mg/L as Cl)	Sulfate, dissolved (mg/L as SO_4)	Fluoride, dissolved (mg/L as F)	Silica, dissolved (mg/L as SiO_2)	Solids, residue at 180 °C, dissolved (mg/L)	Solids, sum of constituents, dissolved (mg/L)	Solids, dissolved (tons per day)	Solids, dissolved (tons per acre-foot)	Alkalinity, lab (mg/L as $CaCO_3$)
—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	381	—	—	—	—
410	88	45	15	1.1	8.3	110	.90	36	507	500	.14	.69	327
390	84	43	10	.70	7.0	89	.80	30	486	457	.26	.66	321
430	90	49	15	.50	7.3	110	1.3	33	516	506	.06	.70	334
—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	394	—	—	—	—
480	110	51	16	.80	6.6	180	.80	28	580	596	3.43	.79	339
460	110	45	15	2.2	7.5	170	.70	22	550	562	3.52	.75	316
800	220	61	15	1.1	7.0	580	.70	21	1,120	1,070	6.41	1.52	272
—	—	—	—	—	—	—	—	—	908	—	—	—	—
920	240	78	17	1.6	10	410	1.2	23	916	882	.52	1.25	326
700	170	66	18	1.1	—	—	—	—	902	—	—	—	—
660	150	69	21	2.4	8.0	440	.80	19	894	897	1.45	1.22	296
—	—	—	—	—	—	—	—	—	790	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—
690	160	71	19	1.4	11	830	1.5	30	1,610	1,490	.43	2.19	347
—	—	—	—	—	—	—	—	—	—	—	—	—	—
1,100	290	93	28	3.1	—	—	—	—	1,140	—	—	—	—
—	—	—	—	—	12	790	.90	18	1,420	1,390	.42	1.93	310
—	—	—	—	—	—	—	—	—	—	—	—	—	—
1,000	240	100	43	2.5	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—
1,500	340	150	84	4.9	—	—	—	—	—	—	—	—	—
—	—	—	—	—	22	1,500	.80	23	2,380	2,240	.51	3.24	200
950	230	90	25	3.7	—	—	—	—	—	—	—	—	—
—	—	—	—	—	9.5	610	1.2	31	1,270	1,240	.31 E	1.73 E	400
—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—
1,700	500	100	32	.80	—	—	—	—	—	—	—	—	—
—	—	—	—	—	5.7	1,700	2.0	58	2,620	2,590	.50 E	3.56 E	321
—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	3,530	—	—	—	—
—	—	—	—	—	—	—	—	—	158	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	2,240	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—

Table 15. Discharge, physical properties, and chemical and isotopic analyses of water from lagoons and seeps in the vicinity of the Vernal Sewage Lagoons and Winter Storage Pond near Naples, Utah, 1991-95

[Data from the U.S. Geological Survey; ft^3/s, cubic feet per second; ºC, degrees Celsius; µS/cm, microsiemens per centimeter at 25 ºC; µg/L, micrograms per liter; mg/L, milligrams per liter; permil, parts per thousand; —, no data; <, less than]

Site designation	Date	Time	Discharge, instant-aneous (ft^3/s)	Temper-ature (ºC)	Specific con-duc-tance (µS/cm)	pH, water, whole, field (standard units)	Selenium, dissolved, total (µg/L as Se)	Selenium, total (µg/L as Se)	Solids, residue at 180 ºC, dissolved (mg/L)
North Sewage Lagoon, Pond 1, at gate	08-13-91	1015	—	25.0	940	—	1.0	—	—
Seep W31 at Winter Storage Pond, near Vernal	06-23-93	1215	.01	17.0	5,500	7.7	130	—	5,290
	07-29-93	0800	<.01	15.5	5,800	7.7	110	—	5,190
	08-24-93	1345	<.01	17.0	5,400	7.9	120	—	5,030
Seep W21 at Winter Storage Pond, near Vernal	06-23-93	1145	.01	24.0	3,750	8.0	3.0	—	3,550
	07-29-93	0840	.07	17.5	3,750	7.8	2.0	—	3,470
	08-24-93	1410	.03	29.0	3,650	8.0	2.0	—	3,400
Seep W7 at Winter Storage Pond, near Vernal	08-24-93	1440	<.01	30.0	3,800	8.2	3.0	—	3,240
Seep W11 at Winter Storage Pond, near Vernal	06-23-93	1105	<.01	23.0	5,200	8.1	2.0	—	5,090
Seep E1, East Arm of Winter Storage Pond, near Vernal	06-24-93	1015	—	—	17,000	7.8	490	—	15,100
	07-28-93	1345	<.01	26.0	15,000	7.8	420	—	15,400
	08-24-93	1700	<.01	27.0	25,300	8.9	530	—	26,700
Wildlife Pond west of Ashley Sewage Lagoons, east inflow	08-13-91	1050	.33	16.0	2,850	—	<1	—	—
Wildlife Pond west of Ashley Sewage Lagoons, north inflow	08-13-91	1140	.01	18.0	2,500	—	210	—	—
Seep W5 at Winter Storage Pond, near Vernal	06-23-93	1315	.06	19.5	3,350	7.5	11	—	3,100
	07-29-93	0910	.05	18.0	3,400	7.4	18	—	3,130
	08-24-93	1450	<.01	22.0	3,700	7.8	37	—	3,280
Seep W1 at Winter Storage Pond, near Vernal	06-23-93	1045	1.1	21.5	2,780	8.2	6.0	—	2,400
	07-29-93	0940	.25	19.0	2,700	7.8	5.0	—	2,140
	08-24-93	1515	.34	30.0	2,630	8.2	6.0	—	2,060
Seep W0 at Winter Storage Pond, near Vernal	06-23-93	1450	.21	23.5	3,400	8.2	15	—	3,130
	07-28-93	1530	1.0	32.5	3,170	8.3	9.0	—	2,870
	08-24-93	1620	.19	32.5	2,900	8.5	6.0	—	2,530
New State Permit site for Ashley Sewage Lagoons	05-19-94	1300	—	—	2,150	7.9	—	32	—
	09-28-94	1400	—	—	2,610	—	—	25	—
	12-14-94	1525	.41	4.5	2,450	—	—	36	—
North Canal near Ashley Sewage Lagoons, near Vernal	05-19-94	1430	—	—	—	—	—	740	—
Abandoned Farm Drain, near Ashley Sewage Lagoons	05-19-94	1435	—	—	—	—	—	48	—
Winter Storage Pond	08-13-91	1515	—	25.0	8,000	—	—	—	—
	03-25-93	1015	1.5	5.0	306	9.0	<1	—	192
	05-18-93	1500	—	25.0	4,150	—	6.0	—	3,540
	08-25-93	1135	.03	22.5	6,200	8.0	53	—	5,570
	05-18-95	0905	—	—	—	—	—	7.0	—
Winter Storage Pond at outflow structure	05-18-93	1450	—	13.0	8,800	—	5.0	—	7,400
	06-17-93	1445	—	—	7,800	—	84	—	6,620
	05-18-95	0940	—	—	—	—	—	8.0	—

Table 15. Discharge, physical properties, and chemical and isotopic analyses of water from lagoons and seeps in the vicinity of the Vernal Sewage Lagoons and Winter Storage Pond near Naples, Utah, 1991-95—Continued

Solids, sum of constituents, dissolved (mg/L)	Solids, dissolved (tons per acre-foot)	Hardness, total (mg/L as $CaCO_3$)	Calcium (mg/L as Ca)	Magnesium (mg/L as Mg)	Sodium (mg/L as Na)	Potassium (mg/L as K)	Chloride (mg/L as Cl)	Sulfate (mg/L as SO_4)	Fluoride (mg/L as F)	Silica (mg/L as SiO_2)	Boron (µg/L as B)	H-2/H-1 stable isotope ratio of hydrogen (permil)	O-18/O-16 stable isotope ratio of oxygen (permil)	Alkalinity, laboratory (mg/L as $CaCO_3$)
631	0.86	430	110	37	44	6.1	34	230	0.50	17	—	-110.0	-14.05	255
—	—	—	—	—	—	—	—	—	—	—	2,200	—	—	—
—	—	—	—	—	—	—	—	—	—	—	2,400	—	—	—
—	—	—	—	—	—	—	—	—	—	—	2,300	—	—	—
—	—	—	—	—	—	—	—	—	—	—	2,000	—	—	—
—	—	—	—	—	—	—	—	—	—	—	1,900	—	—	—
—	—	—	—	—	—	—	—	—	—	—	2,000	—	—	—
—	—	—	—	—	—	—	—	—	—	—	2,600	—	—	—
—	—	—	—	—	—	—	—	—	—	—	3,200	—	—	—
—	—	—	—	—	—	—	—	—	—	—	2,600	—	—	—
—	—	—	—	—	—	—	—	—	—	—	2,700	—	—	—
—	—	—	—	—	—	—	—	—	—	—	2,800	—	—	—
2,480	3.37	1,800	520	110	120	4.0	54	1,500	1.1	21	—	-101.0	-12.40	248
1,930	2.63	1,300	350	93	150	4.6	64	1,100	1.0	22	—	—	—	250
—	—	—	—	—	—	—	—	—	—	—	2,000	—	—	—
—	—	—	—	—	—	—	—	—	—	—	2,000	—	—	—
—	—	—	—	—	—	—	—	—	—	—	2,300	—	—	—
—	—	—	—	—	—	—	—	—	—	—	1,500	—	—	—
—	—	—	—	—	—	—	—	—	—	—	1,400	—	—	—
—	—	—	—	—	—	—	—	—	—	—	1,500	—	—	—
—	—	—	—	—	—	—	—	—	—	—	2,100	—	—	—
—	—	—	—	—	—	—	—	—	—	—	2,100	—	—	—
—	—	—	—	—	—	—	—	—	—	—	1,900	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
7,410	10.1	3,000	550	390	1,100	11	350	4,900	1.2	2.3	—	-54.0	-2.20	171
—	—	—	—	—	—	—	—	—	—	—	60	—	—	—
—	—	—	—	—	—	—	—	—	—	—	2,300	—	—	—
—	—	—	—	—	—	—	—	—	—	—	3,100	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	4,900	—	—	—
—	—	—	—	—	—	—	—	—	—	—	2,900	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Table 16. Concentration of selected radiochemicals in bottom-sediment samples collected near irrigation drains J3 and J4 in the Stewart Lake Waterfowl Management Area near Jensen, Utah, 1992

[Data from the U.S. Geological Survey; pCi/g, picocuries per gram; µg/g, micrograms per gram; <, less than]

Drain name	Date	Time	Alpha as Th-230 (pCi/g)	Alpha, 2 sigma Th-230 (pCi/g)	Alpha, 2 sigma as U (ug/g)	Beta, Sr-90/Y90 (pCi/L)	Uranium -234 (pCi/g)	U-234 2 Sigma (pCi/g)	Uranium -235 (pCi/g)	U-235 2 Sigma (pCi/g)	Uranium -238 (pCi/g)	U-238 2 Sigma (pCi/g)
J3	07-15-92	1010	20	9.1	12	25	11	1.1	<0	0.07	8.1	0.8
J4	07-15-92	0940	11	6.6	9.2	18	2.8	.39	<0	.05	2.3	.3

Table 17. Concentration of selenium in bottom-sediment samples collected in and near Stewart Lake Waterfowl Management Area near Jensen, Utah, July 1994

[Data from the U.S. Geological Survey and Bureau of Reclamation; —, no data]

Site ID number	Depth below land surface (inches)		
	0-3	3-6	0-6
	Selenium, total (micrograms per gram, dry weight)		
J1-0	1	3	—
J1-700	11	11	—
J1-900	4	1	—
J1-1200	9	3	—
J1-1700	23	18	—
J1-2000	13	88	—
J1-2200	13	88	—
J2 Pond	3	8	—
J2-100	2	2	—
J4-10	—	—	480
J4-20	—	—	340
J4-60	19	720	—
J4-75	360	44	—
J4 Pond 0	—	—	320
J4-100 Right	—	—	160
J4-100 Left	—	—	200
J4 Pond 200	150	73	—
J4-200	99	470	—
J4-400W	360	20	—
J4-400E	160	28	—
J4-600W	230	84	—
J4-600E	60	22	—
J4-800E	140	5	—
J4-1600	120	71	—
J4-1830-A	130	28	—
J4-1830-B	44	6	—
J4-1830-C	55	3	—
J4-2150-A	77	160	—
J4-2150-B	85	23	—
J4-2150-C	20	3	—
J4-2230-A	59	6	—
J4-2230-B	120	22	—
J4-2230-C	22	3	—
J4-2600	160	27	—
J4-3000	49	2	—
J4-3200 Seep	35	27	—
J4-3200	36	24	—
J4-3500	10	36	—
J4-3800	14	1	—
J4-4600	18	5	—
J4-4200	3	2	—
N1 E23	4	1	—
N2 E24	10	1	—
N5 E24	3	7	—
N6 E22	1	6	—
N13 E3	7	3	—
N13 E14	4	10	—
N13 E24	7	5	—
N13 E32	9	7	—
N20 E26	7	5	—
N26 E22	5	22	—
N27 E3	12	12	—
N27 E14	11	15	—
N27 E20	17	4	—
N28 E22	7	5	—
N32 E0	14	12	—
N32 E7	15	9	—
N35 E2	8	22	—
N38 E22	7	25	—
N39 E2	19	7	—

Table 18. Concentration of selenium in soil and bottom-sediment samples collected from the east side of Stewart Lake Waterfowl Management Area near Jensen, Utah, June 1995

[Data from Bureau of Reclamation; µg/g, micrograms per gram, dry weight; —, not determined]

Site ID	Depth of sample below land surface (inches)	Total selenium (µg/g)
B2	0-12	0.4
	12-60	.3
B3	0-18	.4
	18-60	.3
B5	0-6	.3
	6-60	.3
B6	0-12	1.3
B7	0-12	.5
	12-60	.4
	60-102	.2
B8	0-24	—
	24-60	.2

Table 19. Concentration of selenium in bottom-sediment samples collected
near irrigation drains J3 and J4 in the Stewart Lake Waterfowl Management
Area near Jensen, Utah, June 1995

[Data from Bureau of Reclamation; —, no data]

Site ID number	Depth below land surface (inches)					
	0-6	6-12	12-18	18-24	24-30	30-36
	Selenium, total (micrograms per gram, dry weight)					
J3-30	30	16	4.1	2.7	2.9	2.9
J3-60	46	21	2.3	—	—	—
J3-90	14	2.2	2.4	2.4	2.4	—
J3-150	30	2.7	1.8	—	—	—
J3-210	68	10	1.7	—	—	—
J3-270	4.3	1.2	3.5	8.8	—	—
J3-330	23	7.1	4.8	9.3	—	—
J3-390	3.5	1.8		—	—	—
J4-30	12	65	7	1.8	—	—
J4-90	11	.4		—	—	—
J4-150	10	3.3	3.9	—	—	—
J4-210	9.4	2.9	1.8	2.2	—	—
J4-270	9.4	4	1.7	1.5	—	—
J4-330	1.9	6.4	2.4	—	—	—

Table 20. Concentration of selenium in bottom-sediment samples collected from Stewart Lake Waterfowl Management Area near Jensen, Utah, August 1995

[Data from Bureau of Reclamation; —, no data]

Site ID number	Permanent Site ID	Depth below land surface (inches)					
		0-6	6-12	12-18	18-24	24-30	30-36
		Selenium, total (micrograms per gram, dry weight)					
2048-2148	S1	14	8.2	10	12	—	—
2049-2157		11	10	1.2	7	—	—
2051-2131		6.4	2.3	.4	—	—	—
2053-2143	S2	8.8	22	3.2	—	—	—
2055-2118		1.4	.8	.3	—	—	—
2055-2154	S3	11	4	15	—	—	—
2056-2144	S4	13	12	2.4	—	—	—
2057-2201	S5	11	.9	—	—	—	—
2100-2127	S6	7.6	1.3	1.1	—	—	—
2101-2218		1.2	2.1	3.1	—	—	—
2102-2210		3.5	3.5	4	—	—	—
2105-2122	S7	10	1.3	.8	—	—	—
2105-2145	S8	24	16	5.1	—	—	—
2108-2225		2.7	2.5	4.4	—	—	—
2110-2105		1	.6	.2	.1	—	—
2110-2130	S9	19	2.4	.8	.7	—	—
2110-2202		3.1	2.4	—	—	—	—
2110-2202		3.3	5.1	2.8	—	—	—
2112-2100		1.2	.7	—	—	—	—
2112-2158		11	22	5.5	—	—	—
2112-2212		2.3	.2		—	—	—
2113-2120		11	11	13	3.9	—	—
2114-2211		3.5	2.6	.5	.4	—	—
2116-2150	S11	26	4.5	1.7	—	—	—
2117-2108		15	11	1	—	—	—
2117-2132	S12	11	1.3	.6	—	—	—
2119-2158		2.6	1.7	1.6	—	—	—
2120-2136		16	12	.9	—	—	—
2121-2120		27	11	—	—	—	—
2121-2136	S14	21	3.3	2.8	—	—	—
2123-2111		3.4	1.8	2.4	—	—	—
2123-2130		18	5.4	1.6	3.2	—	—
2124-2149		18	5.1	1.8	—	—	—
2124-2203		2.1	1.1	1.5	—	—	—
2125-2110		16	9.5	1.2	—	—	—
2125-2113		22	3.4	—	—	—	—
2126-2100	S17	11	1.7	.5	—	—	—
2126-2136	S18	18	12	4.7	19	—	—
2127-2159		5	2.1	—	—	—	—
2129-2059		3.2	1.3	.3	1.3	—	—
2130-2146		21	3.7	7	—	—	—
2131-2159		5.3	10	—	—	—	—
2134-2158		20	36	40	—	—	—
2135-2153		.4	.3	5.3	44	27	3.9
2138-2043		4	8	10	—	—	—

Table 21. Concentration of selenium species in bottom-sediment samples collected from Stewart Lake Waterfowl Management Area near Jensen, Utah, April 1996

[Data from Bureau of Reclamation; µg/g, micrograms per gram, dry weight]

Site designation	Depth of sample below land surface (inches)	Soluble selenium (VI) (µg/g)	Adsorbed selenium (IV) (µg/g)	Selenium (0) (µg/g)	Organic selenium (µg/g)	Selenium oxides (µg/g)	Selenium in organic material separated from sediment (µg/g)
Drain Channel at east end at lake	0-0.39	0.644	1.41	13.6	6.12	6.02	26.5
	.39-.79	.727	1.31	13.9	10.3	5.65	30.4
	.79-1.18	.647	1.24	14.0	12.2	5.50	31.2
	1.18-1.97	1.20	1.65	18.4	13.7	5.78	39.7
	1.97-2.76	1.40	2.05	18.2	11.0	6.60	40.4
	2.76-3.94	1.25	1.81	18.0	11.9	6.44	37.3
	3.94-5.12	1.06	1.61	13.3	15.8	5.66	37.2
	5.12-6.30	.870	1.21	13.6	10.5	4.02	28.8
	6.30-8.27	.207	.380	6.12	6.73	1.54	15.5
	8.27-10.2	.060	.136	.676	1.36	.106	2.62
Edge of lake at end of dike road	0-.39	.111	.260	.692	.836	.080	2.14
	.39-1.97	.081	.151	.771	.914	.069	2.13
	.97-3.54	.138	.251	.520	.683	.064	1.75
	3.54-4.72	.024	.044	.578	.461	.033	1.25
	4.72-7.48	.047	.108	.620	.544	.031	1.43
	7.48-10.2	.051	.359	.940	2.00	.081	3.65
	10.2-15.7	.062	.181	.163	.089	.017	.59
J3	0-3.94	1.15	1.65	36.8	23.0	8.78	70.4
J4	0-3.94	.101	.132	1.93	1.98	.125	3.8
S19	0-3.94	2.366	2.45	48.5	62.9	5.91	124.0
West end of drain channel	0-3.94	.540	1.15	12.2	10.3	5.13	27.9
Central reach of drain channel	0-3.94	1.47	1.91	12.9	14.5	3.95	34.5
West end of dike near end of road	0-3.94	.095	.221	4.41	3.68	.272	8.6
Stewart Lake outlet (SLO)	0-3.94	.172	.334	4.36	4.41	.440	9.6

Table 22. Concentration of total selenium in suspended-sediment samples collected from Stewart Lake Waterfowl Management Area near Jensen, Utah, May 1997

[Data from Bureau of Reclamation; µg/g, micrograms per gram, dry weight]

Site ID	Site description	Sample type	Date	Total selenium (µg/g)
SS1	Center of first breach west of outlet bridge	Depth integrated	05-20-97	1.30
SS1	Center of first breach west of outlet bridge	Grab sample	05-20-97	.87
SS2	Near west abutment south of outlet bridge	Depth integrated	05-20-97	1.10
SS2	Near west abutment south of outlet bridge	Grab sample	05-20-97	1.00
SS3	Center of second breach west of outlet bridge	Depth integrated	05-20-97	.78
SS3	Center of second breach west of outlet bridge	Grab sample	05-20-97	.94
SS4	Ashley Creek overflow at west boundary fence	Depth integrated	05-20-97	.52
SS4	Ashley Creek overflow at west boundary fence	Grab sample	05-20-97	.51
SS5	Center of inlet channel 100 feet downstream of Green River	Depth integrated	05-21-97	.90
SS5	Center of inlet channel 100 feet downstream of Green River	Grab sample	05-21-97	.80
SS6	Southwest of SS5	Hand scoop (bed material)	05-21-97	.14
SS6	Southwest of SS5	Hand scoop (bed material)	05-21-97	.15
SS7	Near west bank of Green River 120 feet upstream of inlet	Depth integrated	05-21-97	.78
SS7	Near west bank of Green River 120 feet upstream of inlet	Grab sample	05-21-97	.81

Table 23. Concentration of selenium in bottom-sediment samples collected from Green River backwaters near Stewart Lake Waterfowl Management Area near Jensen, Utah, July 1997 to July 1999

[Data from U.S. Fish and Wildlife Service; µg/g, micrograms per gram, dry weight; —, not determined]

Site ID	Date	Weight (grams)	Percent moisture	Selenium (µg/g)
GR1	07-29-1997	2,249	2.0	<0.40
	06-17-1998	774	36.0	<1.00
	07-14-1998	658	23.1	<1.00
	07-27-1999	574	31.6	<1.00
GR2	07-29-1997	1,654	—	<.40
	07-14-1998	684	30.6	<1.00
GR3	07-29-1997	1,594	—	<.40
	06-17-1998	769	37.3	<1.00
	07-14-1998	798	17.2	<1.00
	08-10-1998	844	36.2	<1.00
	07-21-1999	607	46.0	<1.00
GR4	07-29-1997	673	—	1.8
	06-17-1998	700	31.1	1.6
	07-14-1998	589	26.2	1.4
	07-27-1999	554	31.1	<1.00
	07-27-1999	407	31.0	<1.00
GR5	07-29-1997	1325	—	<.40
	07-27-1999	547	27.4	<1.00
GR6	06-17-1998	618	41.0	1.2
	08-11-1998	876	25.8	<1.00
	07-27-1999	581	35.5	<1.00
J1B	06-28-2000	257	41.2	<1.00

Table 24. Concentration of selenium in bottom-sediment samples collected from Stewart Lake Waterfowl Management Area near Jensen, Utah, July 1997-December 2000

[Data from Bureau of Reclamation; —, no data]

Site ID number	Permanent site ID	Date	Depth below land surface (inches)							
			0-3	3-6	6-12	12-18	18-24	24-30	30-36	8-24
			Selenium, total (micrograms per gram, dry weight)							
2048-2148	S1	July 1997	13	7.1	—	—	—	—	—	—
2048-2148	S1	September 1998	17	23	—	—	—	—	—	—
2048-2148	S1	November 1999	16	26	—	—	—	—	—	—
2048-2148	S1	April 2000	9.9	10	—	—	—	—	—	—
2048-2148	S1	December 2000	12	21	16	5.2	2.6	2.6	2.1	
2053-2143	S2	July 1997	9.6	4.8	—	—	—	—	—	—
2053-2143	S2	September 1998	8.7	12.0	—	—	—	—	—	—
2053-2143	S2	November 1999	18	7.6	—	—	—	—	—	—
2053-2143	S2	December 2000	7.8	6.2	—	—	—	—	—	—
2055-2154	S3	July 1997	13	13	—	—	—	—	—	—
2055-2154	S3	September 1998	13.0	14.0	—	—	—	—	—	—
2055-2154	S3	November 1999	13	13	—	—	—	—	—	—
2055-2154	S3	December 2000	9.1	10	—	—	—	—	—	—
2056-2144	S4	July 1997	6.5	9.4	—	—	—	—	—	—
2056-2144	S4	September 1998	14.0	14.0	—	—	—	—	—	—
2056-2144	S4	November 1999	10	9	—	—	—	—	—	—
2056-2144	S4	December 2000	7.5	11	—	—	—	—	—	—
2057-2201	S5	July 1997	5.1	5.4	—	—	—	—	—	—
2057-2201	S5	September 1998	6.9	7.1	—	—	—	—	—	—
2057-2201	S5	November 1999	12	8.6	—	—	—	—	—	—
2057-2201	S5	December 2000	7.2	8	6.7	2.8	1.7	.8	.6	
2100-2127	S6	July 1997	14	10	—	—	—	—	—	—
2100-2127	S6	September 1998	18.0	6.0	—	—	—	—	—	—
2100-2127	S6	November 1999	14	7.1	—	—	—	—	—	—
2100-2127	S6	December 2000	12	5.2	—	—	—	—	—	—
2105-2122	S7	July 1997	8.1	8.2	—	—	—	—	—	—
2105-2122	S7	September 1998	11.0	20.0	—	—	—	—	—	—
2105-2122	S7	November 1999	16	17	—	—	—	—	—	—
2105-2122	S7	December 2000	13	14	—	—	—	—	—	—
2105-2145	S8	July 1997	10	4.9	—	—	—	—	—	—
2105-2145	S8	September 1998	8.4	6.3	—	—	—	—	—	—
2105-2145	S8	November 1999	7.7	9.8	—	—	—	—	—	—
2105-2145	S8	December 2000	7	9.8	—	—	—	—	—	—
2110-2130	S9	July 1997	12	20	—	—	—	—	—	—
2110-2130	S9	September 1998	13.0	21.0	—	—	—	—	—	—
2110-2130	S9	November 1999	19	32	—	—	—	—	—	—
2110-2130	S9	November 1999	19		—	—	—	—	—	—
2113-2119	S10	September 1998	8.6	11.0	—	—	—	—	—	—
2113-2119	S10	November 1999	10	23	—	—	—	—	—	—
2113-2119	S10	December 2000	6.2	14	13	5.1	1.4	.64	.56	
2116-2150	S11	July 1997	14	5.1	—	—	—	—	—	—
2116-2150	S11	September 1998	8.0	12.0	—	—	—	—	—	—
2116-2150	S11	November 1999	6.8	16	—	—	—	—	—	—
2116-2150	S11	December 2000	8.6	11	—	—	—	—	—	—
2117-2132	S12	July 1997	7.1	27	—	—	—	—	—	—
2117-2132	S12	September 1998	11.0	20.0	—	—	—	—	—	—

Table 24. Concentration of selenium in bottom-sediment samples collected from Stewart Lake Waterfowl Management Area near Jensen, Utah, July 1997-December 2000—Continued

Site ID number	Permanent site ID	Date	Depth below land surface (inches)							
			0-3	3-6	6-12	12-18	18-24	24-30	30-36	8-24
			Selenium, total (micrograms per gram, dry weight)							
2117-2132	S12	November 1999	15	31	—	—	—	—	—	—
2117-2132	S12	December 2000	10	23	—	—	—	—	—	—
2118-2105	S13	September 1998	6.5	16.0	—	—	—	—	—	—
2118-2105	S13	November 1999	5.7	15	—	—	—	—	—	6.2
2118-2105	S13	December 2000	5.4	13	—	—	—	—	—	—
2121-2136	S14	July 1997	15	7.5	—	—	—	—	—	—
2121-2136	S14	September 1998	15.0	37.0	—	—	—	—	—	—
2121-2136	S14	November 1999	19	20	—	—	—	—	—	9.8
2121-2136	S14	December 2000	15	26	—	—	—	—	—	—
2123-2144	S15	September 1998	29.0	32.0	—	—	—	—	—	—
2123-2144	S15	November 1999	28	22	—	—	—	—	—	—
2123-2144	S15	December 2000	31	26	7.4	5.9	5.6	9	3.9	—
2125-2112	S16	September 1998	39.0	23.0	—	—	—	—	—	—
2125-2112	S16	November 1999	26	19	—	—	—	—	—	—
2125-2112	S16	December 2000	22	20	—	—	—	—	—	—
2126-2100	S17	July 1997	7.3	0.85	—	—	—	—	—	—
2126-2100	S17	September 1998	15.0	14.0	—	—	—	—	—	—
2126-2100	S17	November 1999	17	12	—	—	—	—	—	—
2126-2100	S17	November 1999	16		—	—	—	—	—	—
2126-2100	S17	December 2000	18	15	—	—	—	—	—	—
2126-2136	S18	July 1997	15	3.9	—	—	—	—	—	—
2126-2136	S18	September 1998	22.0	29.0	—	—	—	—	—	—
2126-2136	S18	November 1999	20	24	—	—	—	—	—	—
2126-2136	S18	December 2000	19	26	—	—	—	—	—	—
2129-2203	S19	September 1998	99.0	95.0	—	—	—	—	—	—
2129-2203	S19	November 1999	31	100	—	—	—	—	—	2.9
2129-2203	S19	December 2000	54	63	26	5	2.3	2	1.9	
2132-2144	S20	September 1998	13.0	21.0	—	—	—	—	—	—
2132-2144	S20	November 1999	11	21	—	—	—	—	—	—
2132-2144	S20	December 2000	12	11	—	—	—	—	—	—
2123-2130		July 1997	15	8.8	—	—	—	—	—	—
2051-2158		July 1997	9.3	8.4	—	—	—	—	—	—
2113-2120		July 1997	8.1	13	—	—	—	—	—	—
2117-2107		July 1997	12	14	—	—	—	—	—	—
2121-2120		July 1997	16	7.1	—	—	—	—	—	—
2123-2411		July 1997	50	13	—	—	—	—	—	—
2124-2211		July 1997	92	65	—	—	—	—	—	—
2125-2113		July 1997	7.8	4.1	—	—	—	—	—	—
2128-2145		July 1997	18	14	—	—	—	—	—	—
2131-2159		July 1997	4.5	2.5	—	—	—	—	—	—
J3-4097		July 1997	19	24	—	—	—	—	—	—
J3-8097		July 1997	18	8.8	—	—	—	—	—	—
J4-3097		July 1997	54	310	—	—	—	—	—	—
J4-6097		July 1997	67	54	—	—	—	—	—	—

Table 25. Concentration of selenium species in bottom-sediment samples collected from experimental test plots and selected sites at Stewart Lake near Jensen, Utah, April 2000-August 2000

[Data from Bureau of Reclamation; All selenium values in micrograms per gram, dry weight; — , no data]

Site ID number	Permanent site ID	Date	Depth below land surface (inches)	Selenite, soluble (Se(IV))	Selenate, soluble (Se(VI))	Selenium, soluble organic (Se)	Selenite, insoluble (Se(IV))
2048-2149	S-1 Till plot	April 2000	0-6	0.34	0.28	0.07	4.20
	S-1 Till plot	April 2000	4-14	.21	.57	.04	2.64
	S-1 Till plot	April 2000	18-24	.06	.15	.01	.41
	S-1 Till plot	August 2000	0-6	.39	.46	.02	4.40
	S-1 Till plot	August 2000	4-14	.14	.27	.02	1.80
	S-1 Till plot	August 2000	18-24	.10	.12	.01	.64
	S-1 Box Plot	August 2000	0-3	.31	.38	.03	5.24
	S-1 Box Plot	August 2000	3-6	.29	.35	.03	5.53
	S-1 Control	August 2000	0-6	.32	.36	.04	5.41
	S-1 Control	August 2000	6-14	.12	.24	.03	1.95
	S-1 Control	August 2000	18-24	.08	.11	.01	.80
2057-2201	S-5	April 2000	0-4	.18	2.07	.06	2.29
	S-5	April 2000	4-10	.06	.61	.05	1.10
	S-5	April 2000	4-10	.06	.62	.06	1.54
	S-5	April 2000	40	.02	.02	.01	.16
	S-5	August 2000	0-4	.07	.34	.02	1.59
	S-5	August 2000	4-10	.09	.38	.04	1.41
	S-5	August 2000	40	.03	.03	.00	.13
2113-2119	S-10 Till plot	April 2000	0-2	.28	.53	.04	1.80
	S-10 Till plot	April 2000	4-8	.28	.62	.03	2.50
	S-10 Till plot	April 2000	8-12	.48	.21	.02	3.52
	S-10 Till plot	August 2000	0-2	.29	.51	.03	1.66
	S-10 Till plot	August 2000	4-8	.34	.31	.02	4.53
	S-10 Till plot	August 2000	8-12	.07	.05	.01	.74
	S-10 Box plot	August 2000	0-3	.35	.69	.01	2.06
	S-10 Box plot	August 2000	3-6	.33	.42	.02	2.84
	S-10 Control	August 2000	0-3	.31	.58	.06	1.47
	S-10 Control	August 2000	12-15	.17	.24	.03	2.83
	S-10 Control	August 2000	18-21	.11	.12	.01	1.02
2133-2144	S-15 Till plot	April 2000	0-4	1.31	3.56	.25	5.90
	S-15 Till plot	April 2000	0-4	.83	4.38	.16	5.56
	S-15 Till plot	April 2000	4-12	.53	1.53	.07	4.44
	S-15 Till plot	April 2000	15-30	.22	.14	.04	1.73
	S-15 Till plot	April 2000	15-30	.59	1.25	.08	4.16
	S-15 Till plot	August 2000	0-4	1.04	1.46	.15	5.50
	S-15 Till plot	August 2000	4-12	.48	1.21	.06	4.39
	S-15 Till plot	August 2000	0-4	.89	1.68	.17	5.79
	S-15 Till plot	August 2000	15-30	.43	.23	.04	3.45
	S-15 Box plot	August 2000	0-3	.91	1.57	.1	6.20
	S-15 Box plot	August 2000	3-6	.82	1.45	.10	6.28
	S-15 Control	August 2000	0-4	.64	1.36	.08	5.05
	S-15 Control	August 2000	4-10	.53	.61	.04	5.03
	S-15 Control	August 2000	15-30	.42	.22	.04	3.04
2129-2203	S-19	April 2000	0-4	1.57	2.34	.26	11.78
	S-19	April 2000	6-18	.53	.16	.04	2.81
	S-19	April 2000	18-30	.07	.04	.03	.52
	S-19	August 2000	0-4	1.40	2.83	.33	6.81
	S-19	August 2000	6-18	.67	.5	.06	4.84
	S-19	August 2000	18-30	.41	.09	.03	2.31

Table 25. Concentration of selenium species in bottom-sediment samples collected from experimental test plots and selected sites at Stewart Lake near Jensen, Utah, April 2000-August 2000—Continued

Permanent site ID	Selenite, insoluble (Se(VI))	Selenium, insoluble organic (Se)	Selenide and Elemental Selenium (Se(-II)+ Se(0))	Selenium, related organic materials (Se)	Selenium, residue (Se)	Selenium, total soluble (Se)	Selenium, total insoluble (Se)	Selenium, total (Se)
S-1 Till plot	0.18	1.98	4.01		0.37	0.69	10.36	11.42
S-1 Till plot	.00	.71	3.11		.02	.82	6.46	7.30
S-1 Till plot	.03	.10	.49		0	.22	1.02	1.24
S-1 Till plot	.50	.59	5.16	5.80	.47	.87	11.56	12.62
S-1 Till plot	.06	.22	2.37	2.60	.01	.42	8.76	5.10
S-1 Till plot	.03	.07	1.15	1.23	.08	.23	7.55	2.27
S-1 Box Plot	.44	.72	4.54	5.29	.24	.71	10.94	12.63
S-1 Box Plot	.36	.81	4.51	5.36	.05	.67	10.91	12.77
S-1 Control	.37	1.58	4.50	6.12	.22	.72	10.90	14.42
S-1 Control	—	.15	2.61	2.79	.15	.39	9.01	5.42
S-1 Control	.18	.12	1.16	1.30	.01	.21	7.56	2.61
S-5	.00	.77	3.17		.01	2.31	6.23	8.55
S-5	.07	.18	2.49		.11	.71	3.85	4.67
S-5	.14	.30	3.01		.30	.74	4.98	6.02
S-5	.02	.00	.10		.05	.05	.28	.38
S-5	.09	.25	2.83	3.10	.18	.43	9.22	5.63
S-5	—	.46	3.05	3.55	.70	.52	9.45	6.6
S-5	.00	.01	.13	.15	.03	.07	6.53	.39
S-10 Till plot	.26	.04	2.87		.01	.86	4.96	5.83
S-10 Till plot	.14	.17	3.83		.02	.93	6.64	7.59
S-10 Till plot	.00	.44	9.92		.92	.71	13.88	15.51
S-10 Till plot	.07	.03	2.69	2.75	.38	.83	9.08	5.71
S-10 Till plot	.13	.29	12.05	12.36	.57	.67	18.44	18.55
S-10 Till plot	.06	.04	.81	.87	.34	.14	7.20	2.19
S-10 Box plot	.22	.05	3.64	3.70	.34	1.05	10.03	7.42
S-10 Box plot	.44	.08	6.02	6.12	.19	.76	12.41	10.43
S-10 Control	—	.05	2.86	2.97	.27	.94	9.26	5.70
S-10 Control	.00	.25	5.73	6.00	.39	.44	12.12	9.90
S-10 Control	.18	0	1.36	1.37	.03	.23	7.75	2.83
S-15 Till plot	.57	1.36	9.32		1.37	5.14	17.15	23.67
S-15 Till plot	.05	1.41	11.08		2.22	5.36	18.10	25.68
S-15 Till plot	.00	.69	8.42		1.63	2.13	13.55	17.31
S-15 Till plot	.20	.19	1.38		.25	.40	3.49	4.15
S-15 Till plot	.18	.50	8.94		1.03	1.91	13.78	16.72
S-15 Till plot	.39	.52	11.17	11.84	.59	2.65	17.56	21.49
S-15 Till plot	.16	.64	9.94	10.64	.28	1.76	16.33	17.86
S-15 Till plot	.31	.31	11.02	11.51	.01	2.74	17.42	20.66
S-15 Till plot	.28	.32	3.28	3.64	.03	.70	9.68	8.42
S-15 Box plot	.39	.31	11.33	11.74	.99	2.58	17.72	22.22
S-15 Box plot	.39	.64	11.36	12.09	1.23	2.37	17.75	22.99
S-15 Control	—	.48	11.44	12.01	.69	2.07	17.83	20.28
S-15 Control	.12	.62	11.58	12.25	.77	1.18	17.98	19.96
S-15 Control	.45	.48	2.60	3.12	.45	.67	8.99	8.21
S-19	.00	2.80	17.75		4.00	4.17	32.32	40.49
S-19	.01	.13	4.33		.22	.73	7.28	8.23
S-19	.07	.01	.42		.09	.13	1.02	1.24
S-19	.08	.98	17.22	18.53	.14	4.56	23.61	31.09
S-19	.12	.10	9.09	9.25	.57	1.23	15.48	16.12
S-19	.02	.05	2.81	2.89	.44	.53	9.2	

Table 26. Concentration of total selenium in bottom-sediment samples collected from experimental test plots and selected sites at Stewart Lake near Jensen, Utah, April 2000-December 2000

[Data from Bureau of Reclamation; —, no data]

Permanent site ID	Date	Depth below land surface (inches)						
		0-3	3-6	6-12	12-18	18-24	24-30	30-36
		Selenium, total (micrograms per gram, dry weight)						
S-1 Till plot	April 2000	11	7.6	5.9	6.1	2.7	1.8	2.9
	August 2000	14	12	7.6	6.6	2.5	1.9	1.7
	December 2000	12	14	9.6	5.1	1.9	2	2.2
S-1 Box plot	August 2000	15	15	—	—	—	—	—
	December 2000	16	16	—	—	—	—	—
S-1 Control	April 2000	9.9	10	4.6	4.6	2.7	2.5	1.7
	August 2000	14	18	12	6.2	2.6	2.2	1.7
	December 2000	12	21	16	5.2	2.6	2.6	2.1
S-5	April 2000	7.7	6.6	5.2	3.2	2.2	1.1	.68
	August 2000	7.8	8.1	5.5	2.6	1.8	1.1	.61
	December 2000	7.2	8	6.7	2.8	1.7	.8	.6
S-10 Till plot	April 2000	8.9	13	22	15	3.3	1.1	.68
	August 2000	8.3	15	24	19	4.2	1	.68
	December 2000	9.2	10	20	13	2.8	1.2	.58
S-10 Box plot	August 2000	9.7	10	—	—	—	—	—
	December 2000	8.7	11	—	—	—	—	—
S-10 Control	August 2000	8.9	16	18	9.8	3	1.4	.94
	December 2000	6.2	14	13	5.1	1.4	.64	.56
S-15 Till plot	April 2000	16	10	8.2	2.9	2.9	9.4	1.8
	August 2000	28	18	13	3.2	3.1	8.2	4.2
	December 2000	32	25	8.6	4.5	5.6	8.2	3.1
S-15 Box plot	August 2000	27	28	—	—	—	—	—
	December 2000	27	28	—	—	—	—	—
S-15 Control	August 2000	32	28	20	7.9	6.6	11	4.5
	December 2000	31	26	7.4	5.9	5.6	9	3.9
S-19	April 2000	19	59	11	1.7	1.7	1.5	1.9
	August 2000	32	53	53	13	3.3	2.3	2.1
	December 2000	54	63	26	5	2.3	2	1.9

Table 27. Trace-element concentration in whole body tissue composite samples of common carp collected from the Green River near Jensen, Utah, 1995

[Data from U.S. Fish and Wildlife Service; g, grams; µg/g, micrograms per gram, dry weight; <, less than; —, not reported]

Abbreviated site name	Date	Number of fish	Total weight (g)	Percent moisture	Aluminum (µg/g)	Arsenic (µg/g)	Boron (µg/g)	Barium (µg/g)	Beryllium (µg/g)	Cadmium (µg/g)	Chromium (µg/g)	Copper (µg/g)
SA	7-18-1995	3	3,944	74.8	67.3	<1.00	<4.02	7.06	<0.201	0.232	18.6	1.43
SA	7-18-1995	4	3,807	74.4								
SA	8-28-1995	3	5,401	74.4	81.6	<.988	<3.95	6.52	<.198	.363	3.58	3.49
SA	8-28-1995	3	3,811	72.8								
BB	8-29-1995	3	3,607	74.3	146	<.965	<3.86	1.36	<.193	.464	8.32	4.42
BB	8-29-1995	3	4,934	72.9	—	—	—	—	—	—	—	—
BB	8-29-1995	3	4,847	74.7	—	—	—	—	—	—	—	—
BC	7-18-1995	5	4,935	74.5	46.8	<.965	<3.86	1.24	<.193	.604	5.29	3.67
BC	7-18-1995	5	4,417	77.2								
BC	8-28-1995	3	2,670	75.1	127.8	<1.01	<4.05	9.64	<.202	.356	4.45	3.40
BC	8-28-1995	3	5,246	73.4								
BO	7-19-1995	3	2,428	74.2	—	—	—	—	—	—	—	—
BO	7-19-1995	3	2,077	74.8	8.1	<.962	<3.85	9.68	<.192	<.192	5.54	2.74
BO	8-28-1995	3	3,455	74.9	—	—	—	—	—	—	—	—
BO	8-28-1995	3	1,506	75.2	74.8	<.977	<3.91	2.34	<.195	<.195	9.19	1.24
BO	8-28-1995	4	4,094	73.2	93.7	<.992	<3.97	8.44	<.198	.327	4.54	3.31
CD	8-29-1995	3	4,457	72.2	89.1	<.965	<3.86	7.35	<.193	.449	19.2	3.43
CD	8-29-1995	3	5,401	74.4	—	—	—	—	—	—	—	—
CD	8-29-1995	3	6,230	72.0	—	—	—	—	—	—	—	—
EB	7-18-1995	5	4,702	76.4	58.0	<.988	<3.95	6.43	<.198	.566	67.8	3.66
EB	7-18-1995	5	5,834	74.7	—	—	—	—	—	—	—	—
EB	8-28-1995	3	5,247	72.8	72.2	<.969	<3.88	8.36	<.194	.362	4.13	2.56
EB	8-28-1995	3	4,637	73.0								—
HA	8-31-1995	3	3,713	72.9	120	<.984	<3.94	10.0	<.197	.695	9.54	4.74
HA	8-31-1995	3	5,047	70.8	—	—	—	—	—	—	—	—
HA	8-31-1995	3	5,458	71.4	—	—	—	—	—	—	—	—
HB	8-29-1995	3	4,865	73.1	123	<.977	<3.91	9.46	<.195	.432	18.1	4.09
HB	8-29-1995	3	6,326	72.1	—	—	—	—	—	—	—	—
LB	8-30-1995	3	1,513	77.6	386	<.973	<3.89	11.2	<.195	<.195	12.3	5.64
LB	8-30-1995	3	3,916	72.3	—	—	—	—	—	—	—	—
LB	8-30-1995	3	3,772	73.8	—	—	—	—	—	—	—	—
SB	7-18-1995	3	4,282	74.8	170	<.969	<3.88	11.3	<.194	.465	9.83	4.39
SB	7-18-1995	3	5,690	72.9	—	—	—	—	—	—	—	—
SB	7-18-1995	3	6,268	71.7	—	—	—	—	—	—	—	—

Table 27. Trace-element concentration in whole body tissue composite samples of common carp collected from the Green River near Jensen, Utah, 1995 —Continued

Abbreviated site name	Iron (µg/g)	Mercury (µg/g)	Magnesium (µg/g)	Manganese (µg/g)	Molybdenum (µg/g)	Nickel (µg/g)	Lead (µg/g)	Selenium (µg/g)	Strontium (µg/g)	Vanadium (µg/g)	Zinc (µg/g)
SA	298	<0.201	1,150	51.7	<1.00	3.00	<2.01	36.1	160	<1.00	284
SA								11.4			
SA	268	<.198	1,220	12.2	<.988	<.988	<1.98	18.0	128	<.988	215
SA								19.9			
BB	397	.384	1,380	15.4	<.965	1.44	<1.93	13.2	127	<.965	258
BB	—	—	—	—	—	—	—	9.45	—	—	—
BB	—	—	—	—	—	—	—	16.2	—	—	—
BC	213	.343	1,300	9.40	<.965	1.01	<1.93	6.24	136	<.965	231
BC								8.03			
BC	305	.252	1,490	15.7	<1.01	<1.01	<2.02	13.7	174	<1.01	236
BC								6.80			
BO	—	—	—	—	—	—	—	13.9	—	—	—
BO	168	<.192	1,730	11.9	<.962	<.962	<1.92	27.2	256	<.962	281
BO	—	—	—	—	—	—	—	14.0	—	—	—
BO	186	.484	1,070	8.71	<.977	<.977	<1.95	2.93	66.3	<.977	90.0
BO	245	.271	1,300	12.3	<.992	<.992	<1.98	13.8	132	<.992	242
CD	348	.334	1,080	10.9	<.965	2.06	<1.93	7.34	103	<.965	196
CD	—	—	—	—	—	—	—	12.5	—	—	—
CD	—	—	—	—	—	—	—	9.22	—	—	—
EB	800	.232	1,120	14.6	1.40	11.8	<1.98	27.7	116	<.988	380
EB	—	—	—	—	—	—	—	6.04	—	—	—
EB	196	.422	1,250	8.58	<.969	<.969	<1.94	7.93	126	<.969	264
EB	—	—	—	—	—	—	—	15.7	—	—	—
HA	302	.425	1,680	11.9	<.984	1.16	<1.97	5.47	144	<.984	265
HA	—	—	—	—	—	—	—	3.33	—	—	—
HA	—	—	—	—	—	—	—	5.26	—	—	—
HB	331	.358	1,260	10.9	<.977	2.02	<1.96	5.43	104	<.977	292
HB	—	—	—	—	—	—	—	3.82	—	—	—
LB	621	<.195	1,970	20.7	<.973	2.90	<1.96	20.9	190	1.18	334
LB	—	—	—	—	—	—	—	4.10	—	—	—
LB	—	—	—	—	—	—	—	3.95	—	—	—
SB	428	.349	1,530	15.4	<.969	1.83	<1.94	8.39	140	<.969	427
SB	—	—	—	—	—	—	—	8.68	—	—	—
SB	—	—	—	—	—	—	—	4.90	—	—	—

Table 28. Concentration of selenium in whole body tissue composite samples of common carp collected from the Green River near Jensen, Utah, 1996-2000

[Data from U.S. Fish and Wildlife Service; µg/g, micrograms per gram, dry weight]

Abbreviated site name	Date	Number of fish	Total weight (grams)	Percent moisture	Selenium (µg/g)
BB	08-06-1997	3	4,857	71.6	4.12
BB	08-06-1997	3	3,017	73.7	11.5
BB	08-06-1997	3	1,983	76.5	19.8
BB	08-12-1998	4	4,916	73.7	7.6
BB	08-12-1998	3	2,771	75.7	11.4
BB	08-12-1998	4	1,529	76.9	12.3
BB	03-17-1999	5	2,109	79.4	13.4
BB	03-17-1999	5	6,732	74.7	7.18
BB	03-17-1999	4	3,299	77.4	13.1
BB	08-04-1999	5	6,203	71.5	6.06
BB	08-04-1999	5	2,259	75.6	9.73
BB	08-04-1999	5	3,958	74.6	4.04
BB	03-08-2000	5	2,329	74.7	7.68
BB	03-08-2000	4	1,828	76.4	5.29
BB	03-08-2000	5	1,949	78.4	2.36
BB	08-08-2000	5	3,257	74.9	6.38
BB	08-08-2000	5	5,284	71.8	4.01
BB	08-08-2000	5	5,939	72.2	3.98
BC	07-30-1996	5	4,922	71.0	5.0
BC	07-30-1996	5	8,727	69.3	4.2
BC	07-30-1996	5	2,812	74.8	24.1
BC	08-05-1997	4	4,654	74.6	8.65
BC	08-05-1997	4	3,152	75.2	14.2
BC	08-05-1997	4	2,151	76.1	16.0
BC	08-13-1998	3	3,107	78.9	8.43
BC	08-13-1998	3	1,775	76.7	15.3
BC	08-13-1998	5	3,483	79.7	18.3
BC	03-17-1999	4	3,537	78.1	16.7
BC	03-17-1999	4	4,571	77.6	5.80
BC	03-17-1999	4	5,262	75.7	4.37
BC	08-03-1999	5	6,100	72.1	7.79
BC	08-03-1999	5	2,494	76.6	5.86
BC	08-03-1999	5	4,274	76.4	3.77
BC	03-07-2000	5	1,755	80.0	11.5
BC	03-07-2000	5	7,191	78.1	5.18
BC	03-07-2000	5	4,475	79.0	3.46
BC	08-08-2000	5	2,778	76.7	11.2
BC	08-08-2000	5	5,932	74.7	5.48
BC	08-08-2000	5	4,712	75.1	13.4
BO	08-05-1997	3	4,519	73.0	13.3
BO	08-05-1997	3	3,229	71.3	9.08
BO	08-05-1997	3	2,066	75.6	10.2
BO	08-11-1998	4	4,771	68.5	2.83
BO	08-11-1998	4	3,208	75.9	12.5
BO	08-11-1998	4	2,765	75.8	15.0
BO	03-17-1999	5	3,299	78.3	14.6

Table 28. Concentration of selenium in whole body tissue composite samples of common carp collected from the Green River near Jensen, Utah, 1996-2000—Continued

Abbreivated site name	Date	Number of fish	Total weight (grams)	Percent moisture	Selenium (µg/g)
BO	03-17-1999	5	3,859	81.8	14.0
BO	03-17-1999	5	5,896	77.0	9.74
BO	08-05-1999	4	3,323	75.3	8.87
BO	08-05-1999	4	4,566	75.3	5.47
BO	03-08-2000	5	2,527	78.1	10.3
BO	03-08-2000	5	2,149	75.8	12.6
BO	03-08-2000	5	2,075	76.9	13.6
BO	08-08-2000	5	3,042	75.9	13.1
BO	08-08-2000	5	4,317	76.4	20.9
BO	08-08-2000	5	5,654	74.1	21.1
BY	03-15-2000	4	3,956	76.7	8.52
BY	03-15-2000	4	5,603	76.4	7.65
BY	03-15-2000	2	1,324	79.1	1.39
BY	08-10-2000	5	3,144	76.0	6.22
BY	08-10-2000	5	4,653	72.5	8.86
BY	08-10-2000	5	5,889	71.4	6.05
CD	08-07-1997	5	5,242	72.8	5.51
CD	08-07-1997	5	6,429	73.6	8.06
CD	08-07-1997	5	3,755	75.7	12.1
CD	08-07-1997	4	1,193	77.7	6.46
CD	08-12-1998	3	2,908	74.0	2.75
CD	08-12-1998	3	2,039	76.5	6.87
CD	08-12-1998	3	882	77.7	2.28
CD	03-16-1999	5	5,947	75.5	6.89
CD	03-16-1999	5	3,059	78.1	9.52
CD	03-16-1999	5	1,713	78.8	11.6
CD	08-04-1999	3	3,522	73.8	2.81
CD	08-04-1999	5	4,252	75.4	2.25
CD	08-04-1999	4	1,999	76.5	5.34
CD	03-08-2000	5	1,405	80.2	5.38
CD	03-08-2000	4	3,008	77.9	8.85
CD	03-08-2000	5	6,358	73.0	2.37
CD	08-09-2000	5	2,728	74.4	9.05
CD	08-09-2000	5	6,673	71.8	3.76
CD	08-09-2000	5	4,732	69.8	6.63
EB	08-05-1997	4	4,073	73.0	6.59
EB	08-05-1997	3	4,053	69.1	2.71
EB	08-05-1997	4	2,141	76.4	15.4
EB	08-11-1998	3	2,813	75.5	8.30
EB	08-11-1998	3	2,462	74.7	7.27
EB	08-11-1998	3	1,788	76.1	10.2
EB	03-17-1999	5	7,541	74.5	6.20
EB	03-17-1999	5	3,933	78.0	18.8
EB	03-17-1999	5	5,790	76.5	9.24
EB	08-03-1999	5	6,127	73.2	9.73
EB	08-03-1999	3	1,040	78.2	10.5
EB	08-03-1999	5	3,469	74.9	7.50
EB	03-07-2000	4	2,407	77.6	3.90

Table 28. Concentration of selenium in whole body tissue composite samples of common carp collected from the Green River near Jensen, Utah, 1996-2000—Continued

Abbreivated site name	Date	Number of fish	Total weight (grams)	Percent moisture	Selenium (µg/g)
EB	03-07-2000	5	4,336	78.2	4.48
EB	03-07-2000	5	5,810	77.6	5.43
EB	08-08-2000	4	2,415	75.3	10.4
EB	08-08-2000	4	3,460	75.4	7.76
EB	08-08-2000	3	3,758	71.7	7.84
HA	08-07-1997	5	6,331	71.5	2.57
HA	08-07-1997	5	2,567	76.0	11.9
HA	08-07-1997	5	1,457	78.8	11.2
HA	08-12-1998	3	4,112	74.8	4.57
HA	08-12-1998	4	4,150	75.8	3.22
HA	08-12-1998	3	1,943	72.8	2.68
HA	08-12-1998	4	526	79.6	8.01
HA	03-16-1999	4	8,391	76.7	3.89
HA	03-16-1999	5	7,573	75.8	4.86
HA	03-16-1999	5	4,196	77.8	4.48
HA	08-04-1999	5	2,987	74.4	3.73
HA	08-04-1999	5	4,673	75.2	2.72
HA	08-04-1999	5	6,189	71.6	5.10
HA	03-14-2000	5	2,905	79.1	2.49
HA	03-14-2000	5	6,715	76.5	4.05
HA	03-14-2000	5	4,939	77.3	3.03
HA	08-09-2000	3	1,521	73.5	8.52
HA	08-09-2000	4	3,106	72.5	3.65
HA	08-09-2000	3	3,618	67.8	3.09
HB	08-07-1997	4	5,760	72.3	3.37
HB	08-07-1997	5	4,270	74.2	7.58
HB	08-07-1997	5	2,580	75.2	4.36
HB	08-07-1997	5	1,005	78.5	8.92
HB	08-12-1998	5	2,410	77.4	5.82
HB	08-12-1998	5	3,688	75.2	5.77
HB	08-12-1998	5	4,225	75.0	2.28
HB	03-16-1999	5	4,288	76.5	6.79
HB	03-16-1999	5	2,760	78.0	2.81
HB	03-16-1999	5	1,991	78.9	9.47
HB	08-04-1999	3	3,959	74.1	4.23
HB	08-04-1999	5	4,148	73.4	5.21
HB	08-04-1999	4	1,462	76.4	3.41
HB	03-08-2000	5	6,631	75.8	3.76
HB	03-08-2000	5	4,405	75.6	2.71
HB	03-08-2000	5	3,216	76.6	3.29
HB	08-09-2000	5	2,522	75.2	9.89
HB	08-09-2000	5	5,150	71.3	2.72
HB	08-09-2000	3	5,807	69.5	4.02
LB	08-06-1997	5	6,972	71.5	2.77
LB	080-6-1997	5	6,685	70.8	6.16
LB	08-06-1997	5	4,804	72.1	3.09
LB	08-13-1998	5	3,678	76.6	2.17

Table 28. Concentration of selenium in whole body tissue composite samples of common carp collected from the Green River near Jensen, Utah, 1996-2000—Continued

Abbreivated site name	Date	Number of fish	Total weight (grams)	Percent moisture	Selenium (µg/g)
LB	08-13-1998	5	3,219	77.8	1.69
LB	08-13-1998	5	2,248	76.5	6.81
LB	08-13-1998	3	493	80.2	3.70
LB	03-18-1999	5	10,197	73.9	5.64
LB	03-18-1999	5	3,489	78.7	5.72
LB	03-18-1999	5	6,071	77.3	4.50
LB	08-05-1999	5	2,995	75.8	1.52
LB	08-05-1999	5	4,851	74.9	1.52
LB	08-05-1999	5	6,114	73.4	1.62
LB	03-14-2000	5	3,836	76.9	2.11
LB	03-14-2000	5	6,633	75.4	2.84
LB	03-14-2000	5	4,738	74.9	1.49
LB	08-09-2000	5	3,540	77.9	1.80
LB	08-09-2000	4	6,165	71.1	4.51
LB	08-09-2000	5	5,389	70.2	4.30
SA	08-01-1996	5	3,541	74.1	34.6
SA	08-01-1996	5	3,892	72.9	11.6
SA	08-01-1996	5	6,060	71.1	12.1
SA	08-05-1997	5	6,635	74.8	17.8
SA	08-05-1997	5	2,857	77.5	13.3
SA	08-05-1997	5	4,290	74.1	24.3
SA	08-11-1998	3	909	77.4	4.76
SA	08-11-1998	3	3,195	77.0	12.2
SA	08-11-1998	4	2,451	77.6	15.0
SA	03-17-1999	5	2,830	78.1	20.4
SA	03-17-1999	5	3,853	76.5	20.6
SA	03-17-1999	5	6,041	76.7	12.4
SA	08-03-1999	3	3,593	74.4	5.69
SA	08-03-1999	4	3,551	72.5	2.64
SA	08-03-1999	3	2,107	75.6	9.87
SA	03-08-2000	5	6,789	78.1	18.8
SA	03-08-2000	5	2,665	80.2	9.26
SA	03-08-2000	5	4,402	77.2	15.3
SA	08-08-2000	5	3,164	74.9	12.1
SA	08-08-2000	5	6,954	75.5	17.8
SA	08-08-2000	5	4,475	73.7	14.9
SB	07-31-1996	5	4,429	73.1	3.4
SB	07-31-1996	5	4,678	70.1	4.8
SB	07-31-1996	5	5,734	71.2	2.7
SB	08-06-1997	5	5,168	73.9	2.97
SB	08-06-1997	5	9,249	70.1	3.43
SB	08-06-1997	5	6,640	71.9	4.43
SB	08-13-1998	5	6,721	73.1	3.57
SB	08-13-1998	5	5,286	74.7	3.08
SB	08-13-1998	5	3,139	77.3	6.02
SB	03-18-1999	5	8,394	77.2	4.73
SB	03-18-1999	4	3,154	76.6	3.64

Table 28. Concentration of selenium in whole body tissue composite samples of common carp collected from the Green River near Jensen, Utah, 1996-2000—Continued

Abbreivated site name	Date	Number of fish	Total weight (grams)	Percent moisture	Selenium (µg/g)
SB	03-18-1999	5	6,019	76.0	4.64
SB	08-05-1999	5	3,834	75.4	1.68
SB	08-05-1999	5	5,468	75.0	2.83
SB	08-05-1999	5	4,314	74.1	1.52
SB	03-14-2000	5	3,755	78.7	2.36
SB	03-14-2000	5	5,405	75.4	1.93
SB	03-14-2000	5	6,965	76.2	3.45
SB	08-09-2000	4	3,354	73.1	2.84
SB	08-09-2000	3	2,912	75.0	2.08
SB	08-09-2000	3	3,833	70.3	5.25
SLOC	03-17-1999	4	2,968	78.6	23.3
SM	03-15-2000	3	2,752	76.6	3.43
SM	03-15-2000	4	3,587	78.6	5.03
SM	03-15-2000	4	3,995	70.8	1.84
SM	08-10-2000	4	3,430	72.3	6.82
SM	08-10-2000	4	4,098	70.1	7.14
SM	08-10-2000	5	7,330	76.8	8.15
SM	08-10-2000	3	3,228	78.8	2.23

Table 29. Selenium concentration in crayfish and fish samples collected from Green River backwaters near Stewart Lake Waterfowl Management Area near Jensen, Utah, 1997-2000

[Data from U.S. Fish and Wildlife Service; µg/g, micrograms per gram, dry weight; —, not determined; <, less than]

Abbreviated site name	Date	Species	Number of fish	Total weight (grams)	Percent moisture	Selenium (µg/g)
GR1	07-29-1997	Common Carp	—	32	81.0	3.71
	08-26-1997	Mixed Fish	—	41	78.9	4.06
	07-14-1998	Green Sunfish	—	13	79.3	2.37
	06-17-1998	Shiners	—	19	75.0	3.97
	07-14-1998	Shiners	—	79	76.4	2.88
	07-27-1999	Common Carp	45	56	81.8	4.49
	07-27-1999	Shiners	16	23	77.5	4.67
	03-06-2000	Fathead Minnow	15	33	80.0	8.09
	03-06-2000	Shiners	20	29	74.7	5.10
	05-17-2000	Mixed Fish	26	47	84.2	7.16
GR2	07-29-1997	Black Bullhead	5	306	78.3	6.66
	07-29-1997	Common Carp	—	90	80.6	3.94
	08-26-1997	Crayfish	6	27	74.0	.90
	07-29-1997	Fathead Minnow	—	31	82.3	6.27
	08-26-1997	Mixed Fish	—	39	79.4	4.55
	07-14-1998	Black Bullhead	—	47	78.4	4.50
	07-14-1998	Black Bullhead	—	90	80.1	9.56
	07-14-1998	Crappie sp.	1	30	72.8	2.63
	07-14-1998	Crayfish	—	298	78.8	4.28
	07-14-1998	Northern Pike	—	229	78.1	7.82
	07-09-1999	Black Bullhead	3	112	79.5	5.14
	07-09-1999	Common Carp	21	40	77.6	5.21
	07-28-1999	Common Carp	25	73	80.4	6.36
	07-09-1999	Crayfish	1	12	78.4	2.64
	07-09-1999	Fathead Minnow	9	20	77.6	8.80
	04-11-2000	Shiners	13	31	77.7	12.5
	05-17-2000	Fathead Minnow	34	38	83.9	9.04
GR2 -SL2	07-28-1999	Common Carp	25	85	81.0	19.3
GR3	07-29-1997	Common Carp	—	62	77.8	4.69
	08-26-1997	Common Carp	—	49	79.5	3.74
	07-29-1997	Green Sunfish	—	63	78.4	4.18
	08-26-1997	Green Sunfish	—	45	77.4	3.27
	06-17-1998	Common Carp	—	10	87.3	12.1
	08-10-1998	Common Carp	—	53	78.7	2.73
	06-17-1998	Fathead Minnow	—	59	77.7	2.34
	08-10-1998	Fathead Minnow	—	43	77.5	3.04
	07-14-1998	Mixed Fish	—	61	79.2	3.08
	06-17-1998	Shiners	—	41	74.9	4.00
	08-10-1998	Shiners	—	10	72.5	2.26
	07-21-1999	Common Carp	50	70	79.6	7.12
	07-21-1999	Shiners	50	66	78.0	5.65
	03-06-2000	Fathead Minnow	10	20	78.3	16.0
	03-06-2000	Shiners	20	26	76.7	10.8
	05-16-2000	Fathead Minnow	20	32	79.2	12.5

Table 29. Selenium concentration in crayfish and fish samples collected from Green River backwaters near Stewart Lake Waterfowl Management Area near Jensen, Utah, 1997-2000—Continued

Abbreviated site name	Date	Species	Number of fish	Total weight (grams)	Percent moisture	Selenium (µg/g)
GR3—Continued	05-16-2000	Shiners	8	11	76.9	6.37
	08-10-2000	Common Carp	20	27	79.9	13.0
	08-10-2000	Fathead Minnow	25	41	75.0	12.2
GR4	07-29-1997	Common Carp	—	29	81.3	7.45
	07-29-1997	Shiners	—	66	80.8	2.98
	08-26-1997	Shiners	—	85	76.2	6.90
	06-17-1998	Fathead Minnow	—	34	81.1	3.81
	06-17-1998	Green Sunfish	—	23	78.7	14.0
	07-21-1999	Mixed Fish	11	4	80.9	10.9
	05-17-2000	Fathead Minnow	20	25	77.9	23.4
	05-17-2000	Green Sunfish	11	29	84.2	9.00
	05-17-2000	Shiners	20	33	79.9	10.9
GR5	07-29-1997	Common Carp	—	48	77.0	4.48
	07-29-1997	Green Sunfish	—	40	75.9	4.98
	07-27-1999	Common Carp	35	50	81.9	4.91
	07-27-1999	Shiners	9	16	75.1	4.23
	03-07-2000	Fathead Minnow	10	10	76.7	9.71
	03-07-2000	Shiners	20	12	77.4	5.95
	05-17-2000	Fathead Minnow	20	34	80.1	23.4
	05-17-2000	Green Sunfish	8	23	81.9	22.0
	08-10-2000	Common Carp	11	31	82.6	13.0
	08-10-2000	Green Sunfish	13	27	80.4	8.38
GR6	08-06-1997	Common Carp	—	57	79.4	6.32
	08-26-1997	Common Carp	—	64	78.9	4.31
	08-26-1997	Common Carp	1	308	78.0	13.7
	08-06-1997	Fathead Minnow	—	21	74.3	3.33
	08-26-1997	Green Sunfish	—	58	75.0	5.00
	08-26-1997	Green Sunfish	—	45	74.7	4.92
	08-11-1998	Common Carp	—	11	77.1	8.18
	06-17-1998	Mixed Fish	—	59	79.1	6.12
	08-11-1998	Shiners	—	47	75.9	3.92
	07-27-1999	Common Carp	33	43	83.0	7.28
	07-27-1999	Shiners	5	6	76.7	4.60
	03-07-2000	Fathead Minnow	20	25	79.6	20.8
	03-07-2000	Shiners	20	32	82.5	6.50
	08-10-2000	Mixed Fish	9	19	78.2	9.31
	08-10-2000	Green Sunfish	4	11	84.4	7.34
SLOC	07-21-1999	Mixed Fish	14	17	77.6	9.37
J1B	06-28-2000	Common Carp	13	17	82.0	5.05
	06-28-2000	Shiners	30	36	75.2	7.87
	08-10-2000	Common Carp	4	9	80.5	15.0
	08-10-2000	Shiners	10	11	77.2	13.3

Table 30. Concentration of selenium in common carp samples collected from Stewart Lake near Jensen, Utah, 1991-2000

[Data from U.S. Fish and Wildlife Service; µg/g, micrograms per gram, dry weight; —, not recorded]

Abbreviated site name	Date	Number of Fish	Total weight (grams)	Percent moisture	Selenium (µg/g)
SLN	08-08-1991	—	2,579	76.3	53.0
	08-08-1991	—	2,677	77.3	47.0
	05-17-1995	5	4,607	74.5	24.7
	07-13-1995	5	893	78.4	31.5
	07-13-1995	5	5,042	75.2	14.7
	11/28-1995	3	1,710	75.1	40.7
	11/28-1995	3	2,657	74.0	37.3
	04-23-1996	5	3,692	76.7	34.5
	04-23-1996	3	6,290	76.9	34.2
	04-23-1996	5	1,080	78.5	19.8
	10-24-1996	5	830	76.5	22.7
	04-15-1997	3	989	79.7	37.0
	04-15-1997	4	1,127	78.2	31.7
	04-15-1997	5	868	77.9	29.3
	05-28-1997	5	1,272	79.3	30.9
	05-28-1997	5	5,385	76.0	27.3
	05-28-1997	5	4,702	78.0	23.3
	06-10-1997	5	5,448	77.8	29.0
	06-10-1997	5	3,678	77.7	29.0
	06-10-1997	5	1,320	79.0	26.6
	07-08-1997	5	4,165	76.9	32.1
	07-08-1997	5	2,676	75.3	26.0
	07-08-1997	5	987	78.6	24.2
	08-27-1997	5	1,199	77.2	27.1
	08-27-1997	5	4,204	78.2	25.7
	08-27-1997	5	2,649	76.2	21.8
	04-22-1998	5	500	83.7	22.5
	04-22-1998	5	2,509	78.5	19.2
	04-22-1998	3	3,013	79.3	17.5
	04-22-1998	5	3,360	79.0	15.7
	05-20-1998	5	724	79.6	29.2
	05-20-1998	3	2,697	79.1	10.4
	06-02-1998	5	838	81.2	32.9
	06-02-1998	3	2,424	79.0	31.7
	06-02-1998	5	1,829	78.9	19.7
	06-16-1998	5	3,081	79.5	27.8
	06-16-1998	5	4,343	76.8	25.4
	06-16-1998	3	303	79.4	24.7
	06-16-1998	2	47	80.8	21.2
	08-27-1998	5	2,945	80.2	30.0
	06-03-1999	4	837	80.5	24.0
	06-03-1999	5	3,853	78.1	19.8
	06-03-1999	4	4,423	76.6	14.6
	06-22-1999	5	1,880	79.2	19.6
	06-22-1999	5	1,299	78.9	19.1
	06-22-1999	5	5,702	75.1	10.7
	07-08-1999	4	56	82.2	31.7

Table 30. Concentration of selenium in common carp samples collected from Stewart Lake near Jensen, Utah, 1991-2000—Continued

Abbreviated site name	Date	Number of Fish	Total weight (grams)	Percent moisture	Selenium (µg/g)
SLN—Continued	07-08-1999	5	1,781	78.8	23.9
	07-08-1999	5	1,367	79.7	19.1
	07-08-1999	5	3,270	77.7	16.5
	07-20-1999	5	1,810	80.1	23.8
	07-20-1999	5	3,352	75.9	16.5
	05-31-2000	3	3,650	77.9	23.9
	05-31-2000	3	1,060	79.2	19.1
	06-14-2000	3	2,449	76.4	21.1
	06-14-2000	3	4,217	76.3	26.0
	06-27-2000	4	3,360	73.6	20.3
SLO	08-08-1991	—	2,400	76.0	38.0
	08-09-1991	—	2,655	76.6	35.0
	05-17-1995	5	2,725	74.9	27.2
	07-12-1995	5	933	79.2	19.7
	07-12-1995	5	887	79.1	10.3
	04-23-1996	3	2,507	76.0	17.3
	10-24-1996	5	313	74.7	28.0
	10-24-1996	4	344	75.8	24.7
	10-24-1996	4	944	76.8	23.2
	04-15-1997	2	134	82.0	29.1
	04-15-1997	5	376	79.9	29.0
	04-15-1997	5	620	79.5	23.6
	05-28-1997	5	1,173	78.4	36.2
	05-28-1997	5	4,510	79.3	15.2
	06-10-1997	4	785	78.5	29.0
	06-10-1997	5	4,075	78.4	26.2
	06-10-1997	2	2,465	78.4	10.5
	07-08-1997	5	3,185	77.8	23.0
	07-08-1997	5	4,583	78.2	23.0
	07-08-1997	5	969	78.2	21.2
	08-27-1997	2	1,672	75.9	22.0
	08-27-1997	2	1,092	76.1	11.2
	04-21-1998	5	3,219	77.7	19.2
	04-21-1998	5	3,933	78.1	18.6
	04-21-1998	5	1,081	81.2	15.9
	05-20-1998	5	955	80.1	15.9
	05-20-1998	5	2,861	77.7	13.0
	05-20-1998	5	5,150	77.3	7.82
	06-02-1998	5	3,928	79.0	9.48
	06-02-1998	5	1,161	82.9	7.27
	06-02-1998	5	2,473	79.2	2.12
	06-16-1998	4	3,521	75.0	20.0
	06-16-1998	5	922	79.1	15.2
	06-16-1998	5	1,710	78.2	8.02
	07-15-1998	5	1,072	82.8	21.5
	07-15-1998	5	3,809	77.6	20.0

Table 30. Concentration of selenium in common carp samples collected from Stewart Lake near Jensen, Utah, 1991-2000—Continued

Abbreviated site name	Date	Number of Fish	Total weight (grams)	Percent moisture	Selenium (µg/g)
SLO—Continued	08-27-1998	3	2,436	81.3	23.5
	08-27-1998	3	1,425	81.3	23.3
	08-27-1998	3	1,939	86.9	19.0
	05-18-1999	4	2,211	79.2	16.8
	05-18-1999	4	3,872	75.5	7.22
	05-18-1999	5	6,629	73.4	5.94
	06-02-1999	4	3,223	79.0	22.8
	06-02-1999	2	374	80.2	3.31
	06-22-1999	5	1,542	78.7	12.6
	06-22-1999	5	4,419	72.8	9.29
	06-22-1999	4	5,266	77.5	8.70
	07-07-1999	4	2,979	76.1	20.7
	07-07-1999	3	984	78.8	19.0
	07-07-1999	3	4,160	70.5	7.36
	07-20-1999	4	1,708	78.8	18.1
	07-20-1999	3	811	80.4	17.0
	07-20-1999	4	4,284	75.4	10.0
	05-17-2000	3	941	81.5	15.9
	06-01-2000	5	2,445	79.1	14.0
	06-13-2000	3	2,421	76.9	10.3
	06-13-2000	3	3,605	76.1	12.8
	06-28-2000	3	1,878	75.5	13.1
	06-28-2000	3	3,855	74.7	22.7
	07-10-2000	5	3,587	74.1	17.9
	07-10-2000	3	1,957	73.6	14.1
	07-10-2000	3	2,917	73.7	13.6
SLJ1	10-24-1996	4	836	78.0	18.7
	04-15-1997	2	1,488	76.9	29.3
	04-15-1997	3	626	78.1	20.6
	04-15-1997	5	882	80.3	17.8
	04-15-1997	5	276	79.5	24.4
	04-15-1997	5	540	79.8	22.6
	06-10-1997	3	642	78.1	24.7
	06-10-1997	5	1,082	78.7	23.2
	06-10-1997	3	1,839	76.1	17.6
	07-08-1997	5	1,025	77.3	20.5
	07-08-1997	2	2,130	77.8	19.4
	07-08-1997	5	1,153	77.5	15.1
	08-27-1997	5	1,400	78.3	16.9
	08-27-1997	5	373	78.7	16.2
	05-19-1998	5	1,037	81.5	10.5
	05-19-1998	5	3,026	80.0	7.82
	06-02-1998	5	1,048	79.6	16.2
	06-02-1998	5	4,681	78.1	14.7
	06-02-1998	5	3,265	76.2	8.60
	06-16-1998	5	4,471	79.8	17.1
SLJ1—Continued	06-16-1998	5	2,028	76.7	16.9

Table 30. Concentration of selenium in common carp samples collected from Stewart Lake near Jensen, Utah, 1991-2000—Continued

Abbreviated site name	Date	Number of Fish	Total weight (grams)	Percent moisture	Selenium (µg/g)
	06-16-1998	5	970	78.2	13.8
	06-03-1999	2	375	78.0	40.9
	06-22-1999	4	4,420	76.7	12.3
	06-22-1999	3	5,214	73.8	8.59
	06-22-1999	5	3,662	77.2	3.95
	07-07-1999	5	1,327	79.1	19.9
	07-07-1999	5	5,855	74.5	17.3
	07-07-1999	5	2,048	77.2	13.4
	05-31-2000	3	3,950	76.9	5.72
	05-31-2000	3	3,146	76.2	22.8
	05-31-2000	4	2,753	77.1	9.30
	06-13-2000	4	4,121	76.2	8.77
	06-13-2000	3	1,540	77.4	16.5
	06-28-2000	4	4,571	73.0	12.1
	06-28-2000	4	2,765	73.4	12.5
SLM	03-18-1999	5	3,462	79.3	24.2
	03-18-1999	4	2,168	79.3	22.4
	03-18-1999	4	1,274	79.4	20.9
	09-27-1999	5	5,682	80.2	22.6
	09-27-1999	5	3,724	77.8	22.8
	09-27-1999	5	2,965	76.2	31.5
SLJ4	07-31-1991	—	1,519	78.8	62.0

Table 31. Concentration of selenium in samples of small fish collected from Stewart Lake Waterfowl Management Area near Jensen, Utah, 1994-2000

[Data from U.S. Fish and Wildlife Service; µg/g, micrograms per gram, dry weight; —, not determined]

Abbreviated site name	Species	Date	Number of fish	Total weight (grams)	Percent moisture	Selenium (µg/g)
SLN	Common Carp	10-26-1994	1	—	73.8	33.5
	Common Carp	07-13-1998	1	46	84.1	18.2
	Common Carp	07-08-1999	43	74	82.9	31.5
	Common Carp	07-08-1999	46	73	83.8	29.8
	Common Carp	07-20-1999	62	108	82.0	37.5
	Fathead Minnow	05-20-1998	—	13	80.6	14.4
	Fathead Minnow	07-13-1998	—	15	76.2	9.27
	Fathead Minnow	05-18-1999	40	151	77.7	50.7
	Fathead Minnow	05-31-2000	—	11	78.9	33.2
	Green Sunfish	06-01-2000	—	89	76.9	20.7
	Red Shiner	07-12-1995	—	6	80.8	28.3
SLO	Common Carp	07-08-1999	40	115	83.4	19.9
	Common Carp	07-08-1999	40	87	82.9	18.5
	Common Carp	07-20-1999	140	423	82.6	17.6
	Common Carp	06-28-2000	50	39	83.2	21.5
	Fathead Minnow	05-18-1999	40	164	77.9	42.4
	Fathead Minnow	05-17-2000	—	82	83.1	25.1
	Fathead Minnow	06-01-2000	—	14	75.9	20.6
	Green Sunfish	05-18-1999	5	79	74.7	30.5
	Green Sunfish	07-20-1999	100	35	80.5	13.0
	Green Sunfish	06-01-2000	—	41	75.9	21.8
	Black Bullhead	07-08-1997	100	6	89.6	2.45
	Larval fish	06-01-2000	—	13	90.5	12.1
	Mixed fish	06-22-1999	7	11	73.1	7.62
	Mixed fish	07-09-1999	15	6	86.6	15.0
	Red Shiner	04-15-1997	23	19	81.7	16.0
SLI	Common Carp	07-21-1999	50	94	82.3	15.9
	Fathead Minnow	05-31-2000	—	42	74.9	19.9
	Green Sunfish	07-21-1999	20	50	77.9	13.4
	Larval fish	06-24-1997	151	5	84.8	3.60
	Larval fish	06-25-1997	133	5	86.8	4.50
	Larval fish	06-06-2000	—	4	93.6	8.33
	Larval fish	06-06-2000	—	4	81.5	8.94
	Mixed fish	06-03-1999	4	15	79.5	12.3
	Mixed fish	06-08-2000	—	11	81.9	9.67
	Red Shiner	06-02-1999	—	49	72.8	28.8
	Red Shiner	06-22-1999	9	21	71.9	11.9
	Red Shiner	07-21-1999	50	152	77.9	14.9
SLJ1	Common Carp	06-30-1998	25	159	71.2	13.1
	Fathead Minnow	04-21-1998	—	21	77.2	7.08
SSD	Common Carp	07-26-1999	—	21	80.0	16.5
	Larval fish	07-26-1999	—	2	75.5	12.2
SFP	Larval fish	06-09-2000	—	5	87.4	13.3
SLM	Larval fish	06-01-2000	—	2	93.0	11.1
	Larval fish	06-01-2000	—	2	86.8	12.8
	Larval fish	06-06-2000	—	3	88.3	10.1

Table 32. Concentration of selenium in nonendangered fish samples except common carp collected from Stewart Lake Waterfowl Management Area near Jensen, Utah, 1994-2000

[Data from U.S. Fish and Wildlife Service; µg/g, micrograms per gram, dry weight; —, not recorded; see table 30 for common carp]

Abbreviated site name	Species	Date	Number of fish	Weight (grams)	Percent moisture	Selenium (µg/g)
SLN	Black Bullhead	06-16-1998	7	661	80.3	9.3
	Black Bullhead	07-08-1999	5	354	80.4	13.0
	Channel Catfish	10-26-1994	—	650	74.5	12.0
	Channel Catfish	05-17-1995	—	3,671	74.3	15.6
	Channel Catfish	07-13-1995	—	2,233	76.5	14.2
	Channel Catfish	07-13-1995	—	615	73.6	8.03
	Channel Catfish	04-23-1996	1	244	78.2	18.2
	Channel Catfish	04-23-1996	1	778	72.4	15.0
	Channel Catfish	05-28-1997	2	877	76.1	10.2
	Channel Catfish	06-10-1997	2	1,811	73.2	10.2
	Channel Catfish	06-22-1999	3	1,289	76.5	7.14
	Channel Catfish	07-08-1999	3	1,284	77.5	7.00
	Channel Catfish	07-20-1999	3	2,748	75.5	7.91
	Channel Catfish	05-31-2000	5	1,444	77.0	8.45
	Northern Pike	04-29-1998	4	5,391	75.8	5.46
	White Sucker	10-26-1994	—	2,203	75.2	18.1
	White Sucker	05-17-1995	—	2,248	73.3	16.4
	White Sucker	07-13-1995	—	2,444	74.6	13.2
	White Sucker	11-28-1995	4	1,987	72.7	22.1
	White Sucker	10-24-1996	1	184	79.8	24.8
SLO	Black Bullhead	04-15-1997	4	131	82.6	18.0
	Black Bullhead	07-15-1998	5	681	81.2	5.37
	Black Bullhead	07-20-1999	25	51	83.6	21.1
	Channel Catfish	05-17-1995	—	3,671	73.8	11.1
	Channel Catfish	07-12-1995	—	2,501	74.4	9.17
	Channel Catfish	07-20-1999	2	740	80.2	7.59
	Channel Catfish	06-01-2000	3	580	79.1	20.3
	Channel Catfish	06-02-2000	3	629	76.9	11.0
	Northern Pike	04-21-1998	3	4,426	75.2	6.92
	White Sucker	05-17-1995	—	2,455	72.8	20.0
	White Sucker	04-23-1996	5	2,095	72.3	28.6
	White Sucker	10-24-1996	1	337	74.8	17.0
	White Sucker	06-10-1997	3	1,802	73.7	3.72
SLI	Channel Catfish	06-28-2000	4	2,172	78.0	9.66
SLJ1	Black Bullhead	08-28-1997	4	135	83.3	9.60
SSD	Black Bullhead	07-26-1999	—	17	84.1	8.70
SLM	Channel Catfish	06-18-1997	muscle plug	—	—	19.4
	Black Bullhead	07-20-1999	50	29	84.6	22.0

Table 33. Concentration of selenium in bird eggs collected from Stewart Lake Waterfowl Management Area near Jensen, Utah, 1995-2000

[Data from U.S. Fish and Wildlife Service; µg/g, micrograms per gram, dry weight]

Abbreviated site name	Species	Date	Total weight (grams)	Percent moisture	Selenium (µg/g)
BB	American Coot	06-24-1997	19	73.1	2.21
	American Coot	06-24-1997	27	76.4	1.23
SLM	American Coot	06-07-1995	30	76.5	19.0
	American Coot	06-07-1995	22	72.5	13.6
	American Coot	06-22-1999	26	74.5	13.5
	Black-necked Stilt	06-27-2000	16	73.0	15.5
	Black-necked Stilt	06-27-2000	18	73.6	14.6
	Black-necked Stilt	06-27-2000	10	73.8	8.01
	Black-necked Stilt	06-27-2000	17	71.8	15.7
	Canada Goose	05-03-1995	135	70.1	4.13
	Canada Goose	05-03-1995	124	68.2	3.90
	Canada Goose	05-03-1995	123	68.0	1.63
	Redhead	05-13-1995	48	68.3	3.63
	Western Grebe	06-07-1995	35	75.7	24.4
	Western Grebe	06-07-1995	36	76.7	24.1
	Western Grebe	06-07-1995	35	76.0	21.0
	Western Grebe	06-07-1995	36	74.7	19.9
SLN	American Coot	07-07-1999	20	75.2	23.6
	American Coot	07-21-1999	19	78.0	22.3
	American Coot	06-28-2000	26	77.4	25.4
	Forster's Tern	06-28-2000	16	79.2	14.4
	Redhead	06-11-1997	47	67.1	14.6
	Western Grebe	06-27-2000	45	79.3	15.7
SLO	American Avocet	06-16-1998	23	74.0	24.5
	American Avocet	06-16-1998	26	74.2	16.6
	American Coot	06-27-2000	18	77.2	15.8
	Eared Grebe	06-27-2000	19	77.0	26.6
	Redhead	06-10-1997	40	71.4	3.60
	Redhead	06-11-1997	41	69.1	6.90
SSD	Black-necked Stilt	06-22-1999	18	73.6	14.8
	Killdeer	06-23-1999	13	72.1	12.9
	Killdeer	07-08-1999	11	72.8	13.7

Table 34. Concentration of selenium in bird livers collected from Stewart Lake Waterfowl Management Area near Jensen, Utah, 1995

[Data from U.S. Fish and Wildlife Service; µg/g, micrograms per gram, dry weight]

Abbreviated site name	Species	Date	Total weight (grams)	Percent moisture	Selenium (µg/g)
SLM	American Coot	11-28-1995	17	69.2	49.1
	American Coot	11-28-1995	15	68.5	38.7
	American Coot	11-28-1995	12	69.7	32.3
	American Coot	11-28-1995	44	72.0	18.0
	American Coot	11-28-1995	44	70.0	15.6
	American Coot	11-28-1995	33	66.3	15.1
	Canada Goose	11-28-1995	31	78.7	15.3

Table 35. Concentration of trace elements in biological samples collected from selected sites in the middle Green River basin, eastern Utah (except Stewart Lake Waterfowl Management Area), 1991-93

[Data from U.S. Fish and Wildlife Service; g, grams; µg/g, micrograms per gram, dry weight; <, less than; WB, Whole body; —, not determined]

Short site name	Species	Date	Sample type	Total weight (g)	Percent moisture	Alumi-num (µg/g)	Arsenic (µg/g)	Boron (µg/g)	Barium (µg/g)	Beryllium (µg/g)	Cadmium (µg/g)
30A	Filamentous Green Algae	08-10-1993	Vegetation	54	93.2	3,220	10.0	14.9	699	<0.240	0.479
30A	Stonewart	08-10-1993	Vegetation	82	89.2	539	2.11	7.28	60.8	<.242	<.242
30A	Pondweed	08-10-1993	Vegetation	104	90.8	843	3.28	21.8	93.3	<.246	.2703
30A	Watercress	08-10-1993	Vegetation	89	95.5	389	1.80	19.9	86.0	<.235	<.235
30A	Filamentous Green Algae	08-10-1993	Vegetation	40	87.8	321	6.55	192	11.5	<.244	<.244
30A	Filamentous Green Algae	08-10-1993	Vegetation	56	88.6	400	6.25	104	16.3	<.238	<.238
30A	Watercress	08-10-1993	Vegetation	46	96.5	562	2.64	32.8	14.8	<.243	.387
AC40	Cliff Swallow	07-09-1991	WB	25	76.3	549	.33	6	36.7	.02	.19
AC40	Cliff Swallow	07-09-1991	WB	67	79.5	260	<.1	5	9.7	<.01	.12
AC40	Waterboatmen	08-21-1991	Invertebrate	3	89.8						
AC40	Crayfish	08-15-1991	Invertebrate	145	77.3	521	2	5	35.6	.02	.38
AC40	Red Shiner	08-15-1991	Fish, WB	56	76.0	270	.4	<2	3.7	<.01	.06
AC40	Dace, probably speckled	08-15-1991	Fish, WB	55	69.5	76	.3	<2	2.2	<.01	.086
AC40	White Sucker	08-15-1991	Fish, WB	534	75.4	98	.3	<2	1.9	<.01	<.03
ACBJ	Crayfish	08-16-1991	Invertebrate	49	72.5	120	2	4	15.7	<.03	.36
ACBJ	Fathead Minnow	08-16-1991	Fish, WB	27	76.3	2,650	1	4	27.9	.093	.11
ACBJ	Red Shiner	08-16-1991	Fish, WB	52	75.0	42	.6	<2	1.4	<.01	.06
ACBR	Crayfish	08-15-1991	Invertebrate	105	76.7	429	2.8	4	33.8	<.03	.4
ACBR	Red Shiner	08-15-1991	Fish, WB	75	76.0	907	.6	<2	8.1	.03	.19
ACBR	Dace, probably speckled	08-15-1991	Fish, WB	19	71.0	671	.3	<2	6	.02	.42
ACBR	Cattail	05-09-1991	Vegetation	185	85.9	466	.87	13	52.5	.03	.06
ACBR	Red Shiner	08-20-1991	Fish, WB	935	92.9	734	2.3	20	21.5	.03	.38
ACBR	White Sucker	08-15-1991	Fish, WB	519	75.0	240	.3	<2	2.9	<.01	.04
ACN	Cliff Swallow	07-09-1991	WB	23	56.2	260	<.1	<2	4.3	<.01	.14
ACN	Cliff Swallow	07-09-1991	WB	56	64.4	280	<.1	2	6.5	<.01	.11
ACN	Canada Goose	05-09-1991	Not Recorded	26	72.1	120	.1	2	7	<.01	.04
ACS	Cliff Swallow	07-09-1991	WB	88	65.2	190	.1	<2	10.8	<.01	.093
ACV	Corixids	08-21-1991	Invertebrate	21	85.3	65	.68	4	1.4	<.01	<.03
ACV	Pondweed	05-09-1991	Vegetation	50	91.4	1,870	5.6	21	46.5	.074	.2
ACV	Cattail	05-09-1991	Vegetation	197	87.2	709	2.9	12	22.8	.037	.099
ACV	Crayfish	08-15-1991	Invertebrate	134	78.2	240	2.3	<2	52.4	<.01	1.7
ACV	Fathead Minnow	08-15-1991	Fish, WB	17	76.4	490	.83	<2	7.5	.01	.44
ACV	Dace, probably speckled	08-15-1991	Fish, WB	10	76.5	120	.3	<2	4.6	<.01	.37
ACV	Pondweed	08-21-1991	Vegetation	100	90.3	1,620	2.6	28	36	.065	.13
ACV	Cattail	08-21-1991	Vegetation	388	90.8	660	1.6	14	10.9	.02	.07
AVCP	Filamentous Green Algae	08-10-1993	Vegetation	35	94.0	313	1.4	136	53.5	<.249	<.249
AVCP	Filamentous Green Algae	08-10-1993	Vegetation	61	89.6	1,190	6.46	52.3	1,190	<.234	<.234
AVCP	Black Bullhead	08-10-1993	Fish, WB	643	78.2	100	<.485	1.14	23.5	<.099	<.099
AVCP	Stonewart	08-10-1993	Vegetation	38	88.5	1,010	4.29	12.0	381.4	.256	.278
AVCP	Fathead Minnow	08-10-1993	Fish, WB	13	81.2	607	1.42	3.16	20.5	<.206	<.206
AVCP	Green Sunfish	08-10-1993	Fish, WB	49	80.1	48.5	<.499	1.62	3.18	<.097	<.097
AVCP	White Sucker	08-10-1993	Fish, WB	706	75.7	134	.589	.744	10.3	<.100	<.098
AVCP	White Sucker	08-10-1993	Fish, WB	642	75.2	80.2	.553	<.477	12.2	<.095	<.095
AVCP	Cattail	08-10-1993	Vegetation	378	89.9	447	1.81	12.7	23.3	<.249	<.249
ACGR	Pondweed	08-20-1991	Vegetation	50	90.0	3,380	2.6	280	38.1	.12	.21
ACGR	Cattail	05-09-1991	Vegetation	55	91.9	1,130	3.7	19	18.7	.053	.18
ACGR	Cattail	08-20-1991	Vegetation	39	92.5	1,010	.97	27	14.3	.036	.21
ACGR	Crayfish	08-16-1991	Invertebrate	7	99.2	690	<2	<30	18	<.4	<1
ACGR	Fathead Minnow	08-16-1991	Fish, WB	5	79.4	310	.36	3	15.3	<.03	.2
ACGR	Green Sunfish	08-16-1991	Fish, WB	145	75.8	43	<.2	<2	2.4	<.01	.03
ACGR	Red Shiner	08-16-1991	Fish, WB	7	77.7	810	.5	<2	14	.03	.16
ACGR	Algae	08-11-1993	Vegetation	40	45.2	6,020	5.94	7.45	133	.383	.406
BC	Waterboatmen	07-13-1993	Invertebrate	2	74.6	618	1.91	1.26	16.5	<.235	1.00
BCD	Crayfish	08-27-1991	Invertebrate	164	72.3	846	2.1	3	133	.034	.45
BCD	Fathead Minnow	08-27-1991	Fish, WB	49	78.2	2,320	1.2	2	32.4	.083	.53

Table 35. Concentration of trace elements in biological samples collected from selected sites in the middle Green River basin, eastern Utah (except Stewart Lake Waterfowl Management Area), 1991-93—Continued

Short site name	Chromium (µg/g)	Copper (µg/g)	Iron (µg/g)	Mercury (µg/g)	Magnesium (µg/g)	Manganese (µg/g)	Molybdenum (µg/g)	Nickel (µg/g)	Lead (µg/g)	Selenium (µg/g)	Strontium (µg/g)	Vanadium (µg/g)	Zinc (µg/g)
30A	11.91	12.2	5,880	<0.245	6,400	753	<1.20	7.46	9.74	5.86	381	13.7	68.6
30A	3.46	3.84	962	<.246	6,500	1,410	<1.21	3.18	4.79	<1.23	1,570	2.82	20.4
30A	6.46	6.15	2,380	<.25	3,030	1,140	2.09	4.66	2.86	3.28	285	7.17	34.7
30A	4.64	7.95	1,040	<.235	3,940	362	2.72	2.46	2.65	2.58	240	2.71	56.2
30A	4.09	2.89	1,100	<.246	4,210	211	<1.22	1.80	2.41	2.00	753	<1.22	20.9
30A	5.72	3.21	2,740	<.242	3,760	372	<1.19	4.26	1.92	4.37	671	1.65	27.5
30A	5.49	5.30	3,320	<.248	8,023	170	1.64	5.77	2.89	5.17	349	2.88	69.8
AC40	2.9	12	475	.02	1,770	20.2	<1	1.6	.73	4.4	45.9	1.5	109
AC40	5.2	14	368	.02	1,300	11	<1	2.9	.46	3.4	26.8	1	112
AC40	—	—	—	—	—	—	—	—	—	22.0	—	—	—
AC40	2.1	40.5	317	.018	2,380	131	<1	2.1	.5	13.0	1,120	2.6	52
AC40	1.9	4.5	237	.051	1,530	33.5	<1	1.1	<.4	41.0	212	1.1	196
AC40	.57	2.4	111	.037	1,160	26.7	<.9	.3	<.4	38.0	172	.4	141
AC40	1.2	3.3	144	.032	1,330	28	<1	.62	<.5	64.0	143	.6	72.6
ACBJ	1.7	48.8	231	.04	3,020	122	<1	2.2	<1	12.0	1,130	.4	54.2
ACBJ	6.7	4.6	1,430	.025	2,590	67.8	<.9	3.3	1	26.0	163	7.7	121
ACBJ	1.2	2.6	145	.053	1,310	19.7	<.9	.6	<.4	34.0	178	<.3	160
ACBR	1.1	56.6	255	.027	2,870	171	<1	1.6	<1	16.0	926	1.6	57.7
ACBR	2.4	2.9	558	.037	1,790	69.6	<.9	1.4	.5	41.0	221	3.3	170
ACBR	.88	1.9	413	.076	1,410	61.1	<1	.4	<.5	35.0	152	2.4	106
ACBR	12.2	2.2	1,170	.01	2,690	139	1	6.4	.7	13.0	84.5	3.5	15
ACBR	3.6	2.8	2,120	.3	3,910	130	<1	2.2	.7	5.2	139	3.2	18
ACBR	1.2	3.7	227	.046	1,280	25.1	<1	.65	2.4	64.0	119	.87	63.5
ACN	3.1	6	240	.082	796	8.8	<1	1.9	.2	13	38	.9	72.7
ACN	6.8	5.8	342	.062	1,030	8.4	<1	3.1	.2	14	49.3	.92	82.3
ACN	11	8.6	409	.13	850	10	<1	5.5	<.1	24	59.3	.5	87.7
ACS	8.9	6	334	.035	857	7.6	<1	4.1	1.1	11	55	.8	73.6
ACV	<.1	8.4	243	.087	1,270	43.4	<1	.4	<.4	4.2	27.4	<.3	113
ACV	3.4	6.2	6,580	.027	4,100	629	2	3.5	1.5	4.1	357	7.5	49
ACV	2.1	2.7	3,330	.009	3,170	267	<1	1.9	.5	1.1	120	3.3	25
ACV	.57	40.6	329	.069	2,660	84.1	<1	.77	<.4	2.2	965	.6	62.9
ACV	.75	3.5	404	.16	1,600	38.3	<1	.3	1	7.9	163	1.3	141
ACV	.3	3.3	124	.42	100	18	<1	<.1	<.4	11.0	295	<.3	189
ACV	3.9	5.8	3,720	.027	4,020	239	3	3.1	1	3.0	332	6.7	22
ACV	1.7	3.2	1,540	.01	3,370	169	<1	1.5	2.6	1.2	142	3.3	15
AVCP	1.85	2.98	467	<.240	12,500	344	<1.24	1.93	2.42	1.64	442	1.24	10.1
AVCP	5.06	7.27	2,610	<.242	4,920	764	<1.17	5.29	7.07	1.26	650	4.43	35.7
AVCP	4.09	3.53	151	.118	1,560	27.4	<.494	.59	.755	2.90	124	<.494	88.8
AVCP	3.50	5.63	2,650	<.245	5,520	513	<1.19	5.24	8.53	2.38	1,245	4.76	24.8
AVCP	5.77	8.00	598	<.206	1,640	31.1	<1.03	<1.03	<1.03	2.94	142	2.09	169
AVCP	9.46	2.72	168	.141	1,470	12.5	<.486	.784	.643	4.88	123	<.486	124
AVCP	18.0	4.73	287	<.098	1,460	15.1	.568	.609	.553	2.94	126	.513	86.3
AVCP	4.12	4.32	143	<.097	1,569	8.23	<.477	<.477	<.477	3.30	147	<.477	94.2
AVCP	6.54	3.60	2,470	<.242	3,160	134	<1.24	2.29	<1.24	1.79	139	3.03	21.6
ACGR	4.6	5.8	2,910	.016	8,010	1,910	4.9	5.1	2	13.0	250	13	40.5
ACGR	8	6.9	4,290	.01	4,220	185	<1	4.4	.9	4.5	134	5.3	61.7
ACGR	2.9	7.8	1,330	.02	6,000	384	2	2.3	.7	3.5	171	4.5	71.8
ACGR	<4	120	680	.1	2,520	150	<20	<6	<20	19.0	383	<5	120
ACGR	.7	3.1	541	.098	1,640	68.9	<1	<.3	<1	24.0	183	1.3	167
ACGR	1.1	1.2	76	.19	1,530	13	<1	.55	<.4	20.0	145	<.3	83.8
ACGR	2.4	3.5	504	.073	18,80	27.7	<.9	1.4	.5	19.0	181	2.5	195
ACGR	101	12.5	10,400	<.098	11,300	538	<4.89	14.0	8.87	6.63	224	17.4	86.3
BC	2.04	19.5	1,540	<.239	1,550	90.1	<1.18	1.82	<1.17	4.95	11.6	2.31	118
BCD	1.7	80.1	488	.077	2,090	153	<1	1.6	<.5	4.6	565	2.1	59.8
BCD	2.9	3.8	1,320	.13	2,290	45	<1	1.6	1	18.0	90.4	6.2	123

Table 35. Concentration of trace elements in biological samples collected from selected sites in the middle Green River basin, eastern Utah (except Stewart Lake Waterfowl Management Area), 1991-93—Continued

Short site name	Species	Date	Sample type	Total weight (g)	Percent moisture	Alumi-num (µg/g)	Arsenic (µg/g)	Boron (µg/g)	Barium (µg/g)	Beryllium (µg/g)	Cadmium (µg/g)
BCD	Green Sunfish	08-27-1991	Fish, WB	169	75.3	93	.3	<2	6	<.01	.05
BCD	Mountain Sucker	08-27-1991	Fish, WB	148	76.2	2,450	.69	<2	23	.087	.11
BC149	Pondweed	08-21-1991	Vegetation	60	87.7	3,110	9.1	257	103	.12	.53
BC149	Speckled Dace	08-27-1991	Fish, WB	40	77.0	336	.3	<2	10.3	.01	.38
BC149	Cattail	08-21-1991	Vegetation	538	85.2	1,110	.5	11	17.4	.037	.05
BC149	White Sucker	08-27-1991	Fish, WB	624	78.1	375	.5	<2	8.3	.01	.097
BIP	Green Sunfish	07-24-1991	Fish, WB	314	75.3	<3	.1	2	.69	<.01	<.02
BIP	Green Sunfish	07-24-1991	Fish, WB	206	74.2	8	.1	<2	.38	<.01	<.02
BIP	Corixids, mixed	08-01-1991	Invertebrate	20	83.5	180	.6	15	3.7	<.01	.44
BO	Algae	08-11-1993	Vegetation	22	69.6	9,560	4.55	<4.69	181	.691	.238
DP	Common Carp	06-25-1991	Fish, WB	3,094	78.0	120	.3	<2	5.2	<.01	<.02
DP	Common Carp	06-25-1991	Fish, WB	2,506	78.2	180	.32	<2	5.2	<.01	<.02
DP	Flannelmouth Sucker	06-25-1991	Fish, WB	741	76.4	572	.62	<2	5.1	.03	<.02
DP	Corixids, mixed	08-01-1991	Invertebrate	9	85.9	160	.58	6	42.1	<.03	.45
KSP	Filamentous Green Algae	08-10-1993	Vegetation	26	87.8	770	8.57	186	80.5	<.239	2.20
KSP	Stonewart	08-10-1993	Vegetation	26	81.9	281	3.15	11.6	136	<.210	.669
KSP	Green Sunfish	08-10-1993	Fish, WB	177	72.6	48.9	<.491	6.46	.803	<.099	<.099
KSP	Pondweed	08-10-1993	Vegetation	30	89.3	247	2.34	584	40.6	<.238	3.23
KSP	Cattail	08-10-1993	Vegetation	329	92.0	1,240	4.84	20.4	32.3	<.242	1.03
LJP	Filamentous Green Algae	08-10-1993	Vegetation	28	86.2	517	10.1	280	54.8	<.216	<.216
LJP	Stonewart	08-10-1993	Vegetation	84	81.2	296	5.56	42.1	65.2	<.196	<.196
LJP	Ruppia	08-10-1993	Vegetation	41	85.8	204	3.75	323	45.1	<.238	<.238
L6	Corixids	08-01-1991	Invertebrate	17	78.8	63	.4	<2	9.9	<.01	.089
L6	Red Shiner	07-31-1991	Fish, WB	137	71.3	5	.1	<2	7	<.01	<.02
MG	Watercress	08-03-1993	Vegetation	163	91.9	528	3.3	34.6	19.3	<.243	.958
MMM	Coleoptera	08-21-1991	Invertebrate	27	72.7	81	.3	11	1.8	<.01	.07
MSR	Domestic Goose	05-15-1991	Egg	104	68.8	<3	<.1	3	1.8	<.01	<.03
NR	Cattail	06-25-1991	Vegetation	650	90.7	—	—	—	—	—	—
NR	Cattail	06-25-1991	Vegetation	781	91.7	—	—	—	—	—	—
NR	Cattail	06-25-1991	Vegetation	716	88.8	—	—	—	—	—	—
NR	Cattail	06-25-1991	Vegetation	186	81.2	—	—	—	—	—	—
NR	Cattai	06-25-1991	Vegetation	602	91.4	—	—	—	—	—	—
NR	Cattail	06-25-1991	Vegetation	647	79.9	—	—	—	—	—	—
NR	Cattail	06-25-1991	Vegetation	494	90.9	—	—	—	—	—	—
NR	Cattail	06-25-1991	Vegetation	437	92.5	—	—	—	—	—	—
NR	Cattail	06-25-1991	Vegetation	549	92.1	—	—	—	—	—	—
NR	Cattail	06-25-1991	Vegetation	590	93.1	—	—	—	—	—	—
NR	Cattail	06-25-1991	Vegetation	676	92.1	—	—	—	—	—	—
NR	Cattail	06-25-1991	Vegetation	563	90.7	—	—	—	—	—	—
NR	Fathead Minnow	07-30-1991	Fish, WB	25	81.3	24	.1	<2	20.2	<.01	.03
NR	Red Shiner	07-30-1991	Fish, WB	35	80.2	74	.2	<2	26.9	<.01	.05
NR	Corixids	08-06-1991	Invertebrate	24	85.0	28	.4	<2	44.4	<.01	.49
GWP	Common Carp	06-24-1991	Fish, WB	3,145	78.6	35	.2	<2	3.8	<.01	<.02
GWP	Common Carp	06-24-1991	Fish, WB	6,123	73.8	52	.2	<2	2.4	<.01	<.02
GPJ	American Coot	06-26-1991	Egg	23	79.9	<3	<.1	4	6.5	<.01	<.02
GWP	Corixids, mixed	08-01-1991	Invertebrate	14	82.4	190	.4	5	5.1	<.01	.23
S3	Common Carp	07-25-1991	Fish, WB	250	78.6	48	.52	<2	4.2	<.01	.078
S3	Common Carp	07-25-1991	Fish, WB	255	79.7	180	.8	<2	3.2	.01	.1
S3	Corixids	08-06-1991	Invertebrate	13	86.3	260	1.4	2	10.3	.01	2.45
S5	Cattail	08-01-1991	Vegetation	95	94.0	—	—	—	—	—	—
S5	Cattail	08-01-1991	Vegetation	191	90.9	—	—	—	—	—	—
S5	Cattail	08-01-1991	Vegetation	129	94.9	—	—	—	—	—	—
S5	Cattail	08-01-1991	Vegetation	100	93.9	—	—	—	—	—	—

Table 35. Concentration of trace elements in biological samples collected from selected sites in the middle Green River basin,eastern Utah (except Stewart Lake Waterfowl Management Area), 1991-93—Continued

Short site name	Chromium (µg/g)	Copper (µg/g)	Iron (µg/g)	Mercury (µg/g)	Magnesium (µg/g)	Manga-nese (µg/g)	Molyb-denum (µg/g)	Nickel (µg/g)	Lead (µg/g)	Selenium (µg/g)	Strontium (µg/g)	Vanadium (µg/g)	Zinc (µg/g)
BCD	1.6	3.4	101	.3	1,410	21.2	<1	.75	<.4	9.8	107	.3	88.1
BCD	4.1	3.9	1,390	.16	2,030	68.7	<1	2	1	12.0	36.3	6.8	78.9
BC149	3.3	5.3	6,340	.02	4,850	2,710	2	7.9	1	8.7	287	11	44.9
BC149	1.1	3.8	236	.26	1,510	28	<1	.57	<.5	19.0	135	1	129
BC149	3.6	2.6	1,190	.007	2,440	257	<1	2.2	.6	.7	96.9	3.3	15
BC149	2	7	335	.11	1,490	18	<1	1.2	<.4	43.0	67.3	1.1	61.5
BIP	2.1	2.1	55	.44	1,410	21.9	<1	1.2	<.5	9.4	405	<.3	87
BIP	.66	2.5	42	.64	1,360	20.8	<1	.4	<.5	9.8	297	<.3	75.5
BIP	.45	19.4	238	.2	1,500	27.9	<1	.4	<.5	5.2	158	.5	208
BO	22.6	17.0	12,300	<.094	9,780	440	<4.69	16.2	13.2	.61	155	8.14	48.0
DIP	.89	3.4	165	.25	1,470	5.9	<1	.55	<.5	17	368	.6	180
DIP	.62	3.2	220	.28	1,390	6.9	<1	.4	<.5	14	271	.7	182
DIP	1.4	2.7	491	.25	1,480	13	<1	.92	<.5	13	163	1.6	60.2
DIP	<.3	11	290	.11	1,430	33.6	<1	.8	<1	8.1	37.2	.5	363
KSP	3.15	3.89	1,460	<.25	5,530	492	<1.20	3.29	1.50	3.55	622	2.99	25.6
KSP	1.51	2.87	294	<.197	6,470	222	<1.05	2.49	7.02	2.99	1220	<1.05	8.06
KSP	20.2	6.67	233	.208	1,540	8.51	<.495	1.05	1.14	29.7	159	<.495	209
KSP	3.76	5.10	630	<.237	5,260	582	1.78	4.12	<1.19	3.41	267	2.13	38.6
KSP	8.76	6.56	6,730	<.249	5,080	143	<1.21	5.24	2.01	3.21	111	7.36	63.7
LJP	2.56	2.66	1,670	<.223	14,200	1,340	<1.08	3.77	4.64	1.99	842	3.8	16.6
LJP	2.24	1.58	787	<.219	8,820	961	<.980	1.47	5.03	2.92	1,920	1.45	9.52
LJP	1.90	1.99	565	<.238	12,200	2,040	1.25	2.43	3.20	1.69	775	2.02	23.4
L6	.2	15	132	.13	844	27	<1	.3	.6	1.7	52.1	<.3	143
L6	1	2.4	49	.23	1,250	11	<1	.71	<.4	4.3	103	<.3	163
MG	3.02	11.3	3,430	<.214	5,680	270	1.60	4.28	<1.21	58.1	216	5.87	59.1
MMM	1.5	14	170	.031	1,240	66	<1	.97	<.4	9.5	55.9	<.3	184
MSR	.55	3.2	106	<.01	539	.5	<1	.4	<.1	6.7	10	<.3	51.9
NR	—	—	—	—	—	—	—	—	—	13	—	—	—
NR	—	—	—	—	—	—	—	—	—	39	—	—	—
NR	—	—	—	—	—	—	—	—	—	7.4	—	—	—
NR	—	—	—	—	—	—	—	—	—	15	—	—	—
NR	—	—	—	—	—	—	—	—	—	11	—	—	—
NR	—	—	—	—	—	—	—	—	—	<.2	—	—	—
NR	—	—	—	—	—	—	—	—	—	17	—	—	—
NR	—	—	—	—	—	—	—	—	—	15	—	—	—
NR	—	—	—	—	—	—	—	—	—	23	—	—	—
NR	—	—	—	—	—	—	—	—	—	12	—	—	—
NR	—	—	—	—	—	—	—	—	—	13	—	—	—
NR	—	—	—	—	—	—	—	—	—	18	—	—	—
NR	2.5	4.6	106	.01	1,530	9	<1	1.5	<.4	100	299	<.3	190
NR	2.2	7.4	133	.01	1,570	15	<1	1.2	<.4	81	307	.3	175
NR	<.1	25	132	.055	1,210	46.4	<1	.2	<.5	35	49.2	<.3	118
GWP	2.1	2.8	112	.18	1,360	7.2	<1	1.2	<.5	12	364	.5	156
GWP	.95	3.6	127	.31	1,200	10	<1	.5	<.5	7.7	343	.6	193
GPJ	3	4.3	113	.055	876	2.2	<1	1.6	<.1	18	39.1	<.3	65.7
GWP	.3	18	253	.25	1,240	23.9	<1	.4	<.4	8.1	79.5	.5	137
S3	5.3	4.6	121	.04	1,270	6.9	<1	2.5	<.4	7.1	311	.4	178
S3	1.3	4.2	245	.036	1,120	8.7	<1	.65	<.4	8.2	132	.5	152
S3	.43	19.3	399	.074	1,420	35.2	<1	.77	<.4	5.2	290	.6	194
S5	—	—	—	—	—	—	—	—	—	.3	—	—	—
S5	—	—	—	—	—	—	—	—	—	.5	—	—	—
S5	—	—	—	—	—	—	—	—	—	.75	—	—	—
S5	—	—	—	—	—	—	—	—	—	.78	—	—	—

Table 35. Concentration of trace elements in biological samples collected from selected sites in the middle Green River basin,eastern Utah (except Stewart Lake Waterfowl Management Area), 1991-93—Continued

Short site name	Species	Date	Sample type	Total weight (g)	Percent moisture	Alumi-num (µg/g)	Arsenic (µg/g)	Boron (µg/g)	Barium (µg/g)	Beryllium (µg/g)	Cadmium (µg/g)
S5	Cattail	08-01-1991	Vegetation	193	92.9	—	—	—	—	—	—
S5	Cattail	08-01-1991	Vegetation	289	93.0	—	—	—	—	—	—
S5	Cattail	08-01-1991	Vegetation	137	77.5	—	—	—	—	—	—
S5	Cattail	08-01-1991	Vegetation	207	90.3	—	—	—	—	—	—
S5	Cattail	08-01-1991	Vegetation	88	83.7	—	—	—	—	—	—
S5	Cattail	08-01-1991	Vegetation	146	92.6	—	—	—	—	—	—
S5	Common Carp	07-31-1991	Fish, WB	158	78.4	85	.46	<2	4.2	.01	.05
S5	Corixids	08-06-1991	Invertebrate	5	73.6	170	1.5	<2	10.9	<.01	.15
S5	Common Carp	08-08-1991	Fish, WB	212	79.4	58	.4	<2	4	<.01	.13
SR	Cattail	06-25-1991	Vegetation	701	91.3	—	—	—	—	—	—
SR	Cattail	06-25-1991	Vegetation	1,182	88.4	—	—	—	—	—	—
SR	Cattail	06-25-1991	Vegetation	965	84.6	—	—	—	—	—	—
SR	Cattail	06-25-1991	Vegetation	869	91.3	—	—	—	—	—	—
SR	Cattail	06-25-1991	Vegetation	623	90.8	—	—	—	—	—	—
SR	Cattail	06-25-1991	Vegetation	561	93.8	—	—	—	—	—	—
SR	Cattail	06-25-1991	Vegetation	395	93	—	—	—	—	—	—
SR	Red Shiner	07-30-1991	Fish, WB	22	77.9	56	.3	<2	48.4	<.01	.03
SR	Coleoptera larvae	08-06-1991	Invertebrate	9	84.2	38	3.2	<2	1.6	<.01	.02
SR	Corixids	08-06-1991	Invertebrate	28	78.9	63	.3	<2	5.9	<.01	.16
SB	Colorado Pikeminnow	08-10-1993	Fish, WB	11	76.5	135	<.5	<.548	6.81	<.110	.179
WSP	Mixed, mostly amphipoda	08-21-1991	Invertebrate	28	95.5	1,860	2.4	81	15.5	.05	.81
WSP	American Coot	07-12-1991	Egg	21	77.0	<3	<.1	6	.63	<.01	<.02
WSP	Gadwall	06-06-1991	Egg	42	65.2	<3	<.1	<2	2.6	<.01	<.02
WSP	Gadwall	06-06-1991	Egg	36	68.7	<3	<.1	<2	2.1	<.01	.02
WSP	Gadwall	06-11-1991	Egg	40	68.2	<3	<.1	<2	6	<.01	<.02
WSP	Gadwall	06-11-1991	Egg	34	69.0	<3	<.1	<2	4.8	<.01	<.03
WSP	Gadwall	06-20-1991	Egg	34	67.9	<3	<.1	<2	4.8	<.01	<.02
WSP	Gadwall	06-27-1991	Egg	37	68.4	<3	<.1	<2	9.2	<.01	<.03
WSP	Gadwall	07-07-1991	Egg	39	68.5	<3	<.1	<2	1.5	<.01	<.03
WSP	Gadwall	07-10-1991	Egg	39	67.9	<3	<.1	<2	4.1	<.01	<.03
WSP	Gadwall	07-10-1991	Egg	39	68.5	<3	<.1	<2	6.4	<.01	<.02
WSP	Mallard	05-14-1991	Egg	43	69.9	<3	<.1	<2	2.9	<.01	<.02
WSP	Mallard	05-14-1991	Egg	48	69.0	<3	<.1	<2	2.6	<.01	<.02
WSP	Green Sunfish	07-23-1991	Fish, WB	166	80.7	38	<.2	8	.48	<.01	<.02
WSP	Common Carp	08-12-1991	Fish, WB	858	76.0	200	.2	4	2	<.01	.03
WSP	Common Carp	07-23-1991	Fish, WB	3,384	76.1	110	.3	4	1.2	<.01	.04
WSP	Common Carp	07-23-1991	Fish, WB	3,622	73.5	150	.4	2	1.7	<.01	<.02
WSP	Pondweed	08-21-1991	Vegetation	95	84.0	2,160	1.5	1,650	25	.079	.13

Table 35. Concentration of trace elements in biological samples collected from selected sites in the middle Green River basin,eastern Utah (except Stewart Lake Waterfowl Management Area), 1991-93—Continued

Short site name	Chromium (µg/g)	Copper (µg/g)	Iron (µg/g)	Mercury (µg/g)	Magnesium (µg/g)	Manga-nese (µg/g)	Molyb-denum (µg/g)	Nickel (µg/g)	Lead (µg/g)	Selenium (µg/g)	Strontium (µg/g)	Vanadium (µg/g)	Zinc (µg/g)
S5	—	—	—	—	—	—	—	—	—	.5	—	—	—
S5	—	—	—	—	—	—	—	—	—	.81	—	—	—
S5	—	—	—	—	—	—	—	—	—	.5	—	—	—
S5	—	—	—	—	—	—	—	—	—	.2	—	—	—
S5	—	—	—	—	—	—	—	—	—	<.2	—	—	—
S5	—	—	—	—	—	—	—	—	—	<.2	—	—	—
S5	4	3.5	152	.042	1,290	7.3	<1	2.2	<.5	8.5	343	.5	155
S5	.49	16	212	.049	891	55.3	<1	.53	1.6	8	277	.4	72.5
S5	2.2	4.8	172	.045	1,210	16	<1	1.3	<.5	12	194	.4	131
SR	—	—	—	—	—	—	—	—	—	27	—	—	—
SR	—	—	—	—	—	—	—	—	—	12	—	—	—
SR	—	—	—	—	—	—	—	—	—	12	—	—	—
SR	—	—	—	—	—	—	—	—	—	14	—	—	—
SR	—	—	—	—	—	—	—	—	—	9.9	—	—	—
SR	—	—	—	—	—	—	—	—	—	41	—	—	—
SR	—	—	—	—	—	—	—	—	—	9	—	—	—
SR	4.5	6.5	124	.009	1,350	9.3	<1	2.4	<.4	87	231	<.3	144
SR	.2	23.4	79	.02	2,020	34.3	<1	.2	<.4	44	13.1	<.3	180
SR	.2	20.5	127	.11	877	19	<1	.3	.5	12	93.2	<.3	224
SB	27.3	28.5	406	.283	1,700	19.8	<.548	2.15	2.22	3.28	129	<.548	168
WSP	2.5	11	1,200	.078	6,810	45.7	<1	2.2	<2	60.0	274	5.6	529
WSP	<.1	3.6	137	.17	431	2.2	<1	<.1	<.1	27	14.1	<.3	70.4
WSP	<.1	3.3	109	.2	337	4.8	<1	<.1	<.1	9	7.7	<.3	61.1
WSP	<.1	5	162	.86	388	2	2	<.1	<.1	9.5	8.1	<.3	64
WSP	<.1	4.3	138	.32	383	1	<1	<.1	<.1	2.8	9.73	<.3	64.8
WSP	<.1	3.4	127	.34	369	1.7	<1	<.2	<.1	8	11.3	<.3	58.5
WSP	<.1	3.9	101	.57	311	1.1	<1	.2	.1	12	11.9	<.3	69
WSP	<.1	4.2	147	.38	358	1	<1	<.2	.1	3.7	14.9	<.3	64.3
WSP	<.1	3.7	132	.96	348	.94	<1	.2	<.1	9.5	8.3	<.3	60.3
WSP	<.1	3.9	126	.42	373	1.1	<1	<.2	<.1	5.5	12.4	<.3	58.9
WSP	<.1	3.7	111	.63	345	1.2	<1	<.2	<.1	3.8	13	<.3	53.7
WSP	<.1	4	121	.092	437	1	<1	<.1	<.1	20	15.5	<.3	59.7
WSP	<.1	3.1	104	.12	407	1.7	<1	<.1	<.1	19	14.8	<.3	55.1
WSP	.59	1.3	103	.13	1,500	21.8	<1	.5	<.4	100.0	87	<.3	107
WSP	.96	4.7	272	.031	1,460	22.3	<1	.52	<.4	77.0	182	.5	219
WSP	1.9	3.3	162	.031	1,300	12	<1	1	<.4	78.0	147	.4	214
WSP	1.8	2.6	189	.026	1,280	14	<1	1	<.4	83.0	159	.4	205
WSP	3.6	4.4	1,430	.02	8,800	421	1	12	1	6.5	530	7.3	22

Table 36. Concentration of selenium in muscle plugs from endangered fish from Stewart Lake Waterfowl Management Area near Jensen, Utah, 1997-2000

[Data from U.S. Fish and Wildlife Service; mm, millimeters; g, grams; µg/g, micrograms per gram, dry weight; —, no data]

Site name	Abbreviated site name	Date	Species	Length (mm)	Weight (g)	Selenium (µg/g)
Stewart Inlet	SLI	05-31-2000	Colorado Pikeminnow	460	941	4.75
Stewart Lake	SLM	06-02-1999	Colorado Pikeminnow	—	—	5.31
Stewart Lake	SLM	06-02-1999	Colorado Pikeminnow	—	—	8.40
Stewart Center	SLM	06-19-1997	Razorback Sucker	568	1,720	12.1
Stewart Lake	SLM	06-22-1999	Razorback Sucker	403	703	3.18
J3 Drain	SLN	06-10-1997	Colorado Pikeminnow	—	—	8.14
Stewart North Overlook	SLN	06-27-2000	Razorback Sucker	315	391	5.76
Stewart Outlet	SLO	06-02-1998	Colorado Pikeminnow	422	618	5.84
Stewart Outlet	SLO	06-10-1997	Colorado Pikeminnow	575	—	7.40
Stewart Outlet	SLO	06-18-1997	Razorback Sucker	485	1,014	13.8
Stewart Outlet	SLO	06-19-1997	Razorback Sucker	529	1,420	18.2
Stewart Outlet	SLO	06-19-1997	Razorback Sucker	505	1,410	21.5
Stewart Outlet	SLO	06-28-2000	Razorback Sucker	315	356	5.02
Stewart Outlet	SLO	06-28-2000	Razorback Sucker	312	382	6.56
Stewart Outlet	SLO	06-28-2000	Razorback Sucker	271	250	9.84
Stewart Outlet	SLO	07/10-2000	Razorback Sucker	330	421	9.44
Stewart Outlet	SLO	07/10-2000	Razorback Sucker	340	469	9.48
Stewart Outlet	SLO	07/12-2000	Razorback Sucker	330	392	8.17
Stewart Outlet	SLO	07/12-2000	Razorback Sucker	368	565	9.06

Table 37. Concentration of selenium in muscle plugs from endangered fish from selected sites in the middle Green River basin, eastern Utah (except Stewart Lake Waterfowl Management Area), 1995-2000

[mm, millimeters; µg/g, micrograms per gram, dry weight; —, no data]

Site name	Abbreviated site name	Date	Species	Length (mm)	Weight (grams)	Selenium (µg/g)
Bonanza Bridge	BB	03-17-1999	Colorado Pikeminnow	563	1,319	3.05
Bonanza Bridge	BB	08-04-1999	Razorback Sucker	420	740	.069
Bonanza Bridge	BB	08-04-1999	Colorado Pikeminnow	534	1,040	2.73
Bonanza Bridge	BB	08-04-1999	Colorado Pikeminnow	497	848	3.56
Bonanza Bridge	BB	08-04-1999	Colorado Pikeminnow	552	1,085	
Bonanza Bridge	BB	08-12-1998	Colorado Pikeminnow	448	561	3.38
Bonanza Bridge	BB	08-29-1995	Colorado Pikeminnow	515	1,050	4.20
Bonanza Bridge	BB	08-29-1995	Colorado Pikeminnow	550	1,145	4.70
Bonanza Bridge	BB	08-29-1995	Colorado Pikeminnow	510	1,037	5.30
Brush Creek	BC	04-30-1996 to 05-16-1996	Colorado Pikeminnow	—	—	3.71
Brush Creek	BC	05-06-1997	Colorado Pikeminnow	632	2,300	4.19
Brush Creek	BC	07-30-1996	Colorado Pikeminnow	440	740	4.02
Brush Creek	BC	08-13-1998	Colorado Pikeminnow	405	488	4.09
Bonanza	BO	03-17-1999	Colorado Pikeminnow	540	1,172	2.20
Bonanza	BO	07-19-1995	Colorado Pikeminnow	476	—	4.80
Bonanza	BO	07-19-1995	Colorado Pikeminnow	560	—	6.50
Bonanza	BO	07-19-1995	Colorado Pikeminnow	602	—	7.20
Bonanza	BO	08-03-1999	Razorback Sucker	415	718	.74
Bonanza	BO	08-05-1999	Razorback Sucker	458	923	.73
Bonanza	BO	08-08-2000	Colorado Pikeminnow	510	1,081	4.41
Collier Draw	CD	03-08-2000	Colorado Pikeminnow	481	777	2.70
Collier Draw	CD	03-16-1999	Colorado Pikeminnow	544	1,276	3.51
Collier Draw	CD	07-28-1999	Razorback Sucker[1]	—	496	.48
Collier Draw	CD	08-07-1997	Colorado Pikeminnow	621	1,798	4.22
Collier Draw	CD	08-09-2000	Colorado Pikeminnow	480	885	6.01
Collier Draw	CD	08-09-2000	Colorado Pikeminnow	480	739	6.87
Collier Draw	CD	08-12-1998	Colorado Pikeminnow	500	927	2.94
Collier Draw	CD	08-12-1998	Colorado Pikeminnow	524	984	3.08
Escalante Bar	EB	04-30-1997	Razorback Sucker	547	1,860	10.7
Escalante Bar	EB	05-07-1997	Razorback Sucker	508	1,300	26.4
Escalante Bar	EB	08-03-1999	Razorback Sucker	371	—	.63
Hamacker Bottom	HA	03-14-2000	Colorado Pikeminnow	487	893	3.32
Hamacker Bottom	HA	03-16-1999	Colorado Pikeminnow	443	—	3.00
Hamacker Bottom	HA	03-16-1999	Colorado Pikeminnow	571	—	3.06
Hamacker Bottom	HA	03-16-1999	Colorado Pikeminnow	333	—	3.46
Hamacker Bottom	HA	07-27-1999	Razorback Sucker[1]	—	358	.69
Hamacker Bottom	HA	08-04-1999	Colorado Pikeminnow	487	964	
Hamacker Bottom	HA	08-09-2000	Colorado Pikeminnow	600	1,474	3.64
Hamacker Bottom	HA	08-09-2000	Colorado Pikeminnow	564	1,300	6.91
Hamacker Bottom	HA	08-12-1998	Colorado Pikeminnow	649	2,106	1.65
Hamacker Bottom	HA	08-12-1998	Colorado Pikeminnow	510	1,004	2.40
Horseshoe Bend	HB	03-08-2000	Colorado Pikeminnow	553	1,229	5.41
Horseshoe Bend	HB	08-09-2000	Colorado Pikeminnow	478	769	5.24
Leota Bottom	LB	04-30-1996 to 05-16-1996	Colorado Pikeminnow	—	—	3.59
Leota Bottom	LB	04-30-1996 to 05-16-1996	Colorado Pikeminnow	—	—	4.95

Table 37. Concentration of selenium in muscle plugs from endangered fish from selected sites in the middle Green River basin, eastern Utah (except Stewart Lake Waterfowl Management Area), 1995-2000—Continued

Site name	Abbreviated site name	Date	Species	Length (mm)	Weight (grams)	Selenium (µg/g)
Leota Bottom	LB	03-18-1999	Colorado Pikeminnow	498	873	2.34
Leota Bottom	LB	03-18-1999	Colorado Pikeminnow	597	1,470	2.41
Leota Bottom	LB	03-18-1999	Colorado Pikeminnow	636	1,752	2.87
Leota Bottom	LB	03-18-1999	Colorado Pikeminnow	592	1,506	4.13
Leota Bottom	LB	04-29-1997	Colorado Pikeminnow	551	1,550	2.66
Leota Bottom	LB	04-29-1997	Colorado Pikeminnow	605	1,850	3.31
Leota Bottom	LB	04-29-1997	Colorado Pikeminnow	538	1,145	3.48
Leota Bottom	LB	05-02-1997	Colorado Pikeminnow	524	1,275	2.78
Leota Bottom	LB	05-02-1997	Colorado Pikeminnow	601	1,740	3.33
Leota Bottom	LB	07-28-1999	Razorback Sucker[1]	—	463	.80
Leota Bottom	LB	08-05-1999	Razorback Sucker	370	497	.67
Leota Bottom	LB	08-13-1998	Colorado Pikeminnow	565	1,229	2.77
WB- Old Charlie	OCW	06-23-1995	Razorback Sucker	531	1,636	4.20
WB- Old Charlie	OCW	06-26-1995	Razorback Sucker	585	2,353	5.00
WB- Old Charlie	OCW	06-27-1995	Razorback Sucker	471	1,182	3.10
WB- Old Charlie	OCW	06-27-1995	Razorback Sucker	556	1,909	3.40
WB- Old Charlie	OCW	06-27-1995	Razorback Sucker	572	1,909	4.10
WB- Old Charlie	OCW	06-27-1995	Razorback Sucker	545	2,000	4.40
Ouray NFH	OFH	06-09-2000	Razorback Sucker	—	—	.89
Ouray NFH	OFH	06-09-2000	Razorback Sucker	—	—	.89
Ouray NFH	OFH	06-09-2000	Razorback Sucker	—	—	.94
Ouray NFH	OFH	06-09-2000	Razorback Sucker	—	—	.95
Ouray NFH	OFH	06-09-2000	Razorback Sucker	—	—	.95
RZB	RZB	04-30-1996 to 05-16-1996	Colorado Pikeminnow	—	—	4.92
RZB	RZB	04-26-1999	Colorado Pikeminnow	470	845	3.51
RZB	RZB	05-06-1997	Razorback Sucker	539	1,675	3.76
RZB	RZB	05-06-1997	Colorado Pikeminnow	374	450	4.20
RZB	RZB	05-15-1995	Razorback Sucker	440	950	6.20
RZB	RZB	05-16-1995	Razorback Sucker	449	1,125	2.90
RZB	RZB	06-02-1997	Razorback Sucker	329	260	1.46
RZB	RZB	06-02-1997	Razorback Sucker	452	860	7.61
Stewart/Ashley	SA	05-06-1997	Colorado Pikeminnow	623	1,625	5.43
Stewart/Ashley	SA	05-06-1997	Razorback Sucker	489	1,300	6.34
Stewart/Ashley	SA	05-07-1997	Razorback Sucker	591	2,100	5.15
Stewart/Ashley	SA	05-07-1997	Colorado Pikeminnow	627	1,580	5.45
Stewart/Ashley	SA	05-12-1997	Colorado Pikeminnow	568	1,500	4.91
Stewart/Ashley	SA	08-03-1999	Colorado Pikeminnow	533	1,171	5.06
Sheppard Bottom	SB	03-18-1999	Colorado Pikeminnow	586	1,245	2.39
Sheppard Bottom	SB	03-18-1999	Colorado Pikeminnow	429	534	3.08
Sheppard Bottom	SB	03-18-1999	Colorado Pikeminnow	607	1,563	
Sheppard Bottom	SB	03-18-1999	Colorado Pikeminnow	486	747	
Sheppard Bottom	SB	07-30-1999	Colorado Pikeminnow[1]	—	515	1.88
Sheppard Bottom	SB	07-31-1996	Colorado Pikeminnow	540	1,102	2.99
Sheppard Bottom	SB	07-31-1996	Colorado Pikeminnow	564	1,297	4.57
Sheppard Bottom	SB	08-05-1999	Razorback Sucker	398	625	1.37

[1] Salvaged sample from dead fish.