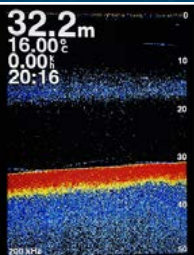


# History and Outcomes of Opossum Shrimp (*Mysis diluviana*) Introductions in Colorado



TECHNICAL PUBLICATION NUMBER 58 • AUGUST 2021



#### COVER PHOTOS

Top left: Bill Pate and Doug Silver collecting an environmental DNA (eDNA) water sample to detect *Mysis* (photo by Brett Johnson).

Top center: Ben Galloway collecting water temperature and dissolved oxygen data (photo by Brett Johnson).

Top right: Ben Galloway collecting an eDNA water sample in the Rawah Wilderness (photo by Kyle Christianson).

Center: Opossum Shrimp *Mysis diluviana* (photo by Terry Wygant).

Bottom (left to right): Bill Pate deploying the *Mysis* net at Lake Granby (photo by Brett Johnson);  
Screen shot of fish finder showing *Mysis* layer (photo by Brett Johnson); Bagging a *Mysis* net sample  
(photo by Brett Johnson); Doug Silver recording data (photo by Brett Johnson).

Back cover: Ben Galloway with the 1-meter diameter *Mysis* net (photo by Brett Johnson).

#### SUGGESTED CITATION

Silver, D. B., B. M. Johnson, W. M. Pate, A. G. Hansen, and K. R. Christianson. 2021.  
History and outcomes of Opossum Shrimp (*Mysis diluviana*) introductions in Colorado.  
Colorado Parks and Wildlife Technical Publication 58.

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# History and Outcomes of Opossum Shrimp (*Mysis diluviana*) Introductions in Colorado

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**Technical Publication No. 58**

**Colorado Parks and Wildlife**

**August 2021**

**CPW-R-T-58-21 ISSN 0084-8883**

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## Executive Summary

The Opossum Shrimp *Mysis diluviana* (formerly *M. relicta*, herein *Mysis*) is a small, shrimp-like crustacean native to cold, deep lakes in the Great Lakes region of the U.S. and Canada. *Mysis* were introduced to lakes and reservoirs in Colorado, and other western U.S. states and Canadian provinces to improve food resources for sport fishes. *Mysis* were first introduced to Twin Lakes, Colorado in 1957. That introduction was highly successful, and the population served as the source for more than 50 other introductions in the state during 1969-1975.

*Mysis* had important effects on food webs, but few studies have examined the outcomes of the introductions in Colorado or the extent of potential invasions by natural dispersal or inadvertent transplants caused by water transfers. The present study was conducted during 2010-2019 to update the distribution and status of *Mysis* populations in Colorado. The specific objectives were to 1) develop a comprehensive historical account of *Mysis* introductions in the state, 2) determine outcome of *Mysis* introductions to waters not previously sampled and invasion success in select downstream waters, and 3) continue the long-term *Mysis* sampling program initiated by Martinez et al. (2010) in a subset of high-profile waters with established *Mysis* populations.

We sampled 50 lakes and reservoirs during 2010-2019. *Mysis* were established in 15 (48%) of the stocked waters we sampled, and none of the previously known *Mysis* populations had been extirpated. *Mysis* invaded five (26%) of the 19 at-risk waters we sampled. Invasion of downstream waters only occurred in waters connected by artificial structures (tunnels, pipelines, and canals) suggesting that fish predation and/or

turbulence may prevent *Mysis* dispersal via natural streams.

Elevation did not appear to be a strong determinant of stocking success and *Mysis* were established ranging in elevation from 1,656 m to 3,271 m. Generally, stocking was unsuccessful in waters < 9 m deep and < 16 ha in surface area. More than half of the waters with *Mysis* were >20 m deep and >250 ha in area. The density of Colorado's *Mysis* populations varies widely. In 10 waters sampled during late summer, average density was lowest at Lower Twin Lake (66 individuals/m<sup>2</sup>), and highest at Lake Granby (745 individuals/m<sup>2</sup>). Carter, Chambers and Grand lakes all had average *Mysis* densities > 400 individuals/m<sup>2</sup>.

*Mysis* were able to control *Daphnia* populations and therefore food availability for planktivorous sport fish. Virtually no *Daphnia* were found in *Mysis* waters before June or after October. Thermal stratification provided a thermal refugium for *Daphnia* that isolated them from *Mysis* in some lower elevation waters.

The project gathered a wealth of data on limnological conditions in 50 Colorado lakes and reservoirs, and on 20 *Mysis* populations. These baseline data should prove useful in the future as climate change and intensifying water resource exploitation impact the state's lentic waters. In the future, sampling more of the high elevation, remote lakes that were stocked with *Mysis* would add to our understanding of habitat associations in the species, and continued monitoring of *Mysis* in high profile waters would provide managers with information to interpret the effects of environment change on lake and reservoir food webs and fisheries with *Mysis*.

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## Acknowledgments

Funding for this study was provided by a private gift to Colorado State University, account number 6-464540, and by Colorado Parks and Wildlife. The study could not have been conducted without the cooperation and assistance from current and retired Colorado Parks and Wildlife personnel including Kendall Bakich, Jake Bennett, Dan Brauch, Jon Ewert, Jesse Lepak, Tom Nesler, Greg Policky, Clee and Mary Seeling, and Andrew Treble. We are particularly grateful to Patrick Martinez for his foresight, development of sampling protocols, meticulous data collection, and insights into *Mysis* ecology that formed the basis for *Mysis* research and management in Colorado and beyond. Access to waters and assistance with sampling logistics were provided by various governmental agencies including Aurora Water (Rich Vidmar, Tom Hankins, and Tom Goodmar); Bureau of Reclamation (Kara Lamb, Tara Piper); Colorado Springs Utilities (Kirsta Scheff-Norris); Denver Water (Greg East, Rick Lewis, Ian Oliver, Brandon Ransom, Andy Skinner); Larimer Parks and Recreation (Will Talbott); Town of Frisco (Phil Hofer, Jen Shimp); and U.S. Forest Service (Jenny Windorski). Many Colorado State University students and employees assisted with field and laboratory work including Casey Barby, Collin Farrell, Brady Gabbert, Ben Galloway, James Grinolds, Jason Hanlon, Krista Harrington, Josh Hobgood, Adam Hundley, Marci Koski, Orion McComas, Connor Murphy, Devin Olsen, Joe Pitti, Lindsey Roberts, and Marshall Wolf. Our apologies to those we have neglected to mention.



## Background



Opossum Shrimp, by Per Harald Olsen, CC BY-SA 3.0, commons.wikimedia.org/w/index.php?curid=28351304.

The Opossum Shrimp *Mysis diluviana* (formerly *M. relicta*, herein *Mysis*) is a small (< 25 mm in body length) shrimp-like crustacean native to deep, oligotrophic lakes in the Great Lakes region of the U.S. and central and eastern Canada (Dadswell 1974; Audzijonyte and Väinölä 2005). *Mysis* are an important food for many species of fish throughout their native range (Johannsson 1992). It is a relatively short-lived species that reproduces once or twice in their lifetime. Sexual maturity is reached in 1 year in productive systems and 2-4 years in others (Caldwell and Wilhelm 2012). The breeding season begins in late fall and may continue through winter. Males usually die following mating. Fertilized eggs (10-40) are retained and hatch in the female's brood pouch (marsupium) until they are fully developed. The young are released in early spring at a size of about 3-4 mm (Berrill 1969; Brownell 1970). Growth and life cycle duration depend on temperature and lake productivity (Berrill and Lasenby 1983).

Lifespan is typically 1-3 years (Beeton and Gannon 1991), with females living longer than males. Population density varies greatly

across systems but peak densities of over 1,000 individuals/m<sup>2</sup> have been reported in their native range (Jude et al 2018). *Mysis* are omnivorous feeding on phytoplankton, detritus and zooplankton (Johannsson et al. 2001; O'Malley and Bunnell 2014). Martinez and Bergersen (1989) remarked that *Mysis* are "extremely facultative in exploiting resources and flourishing under a variety of ecological conditions".

*Mysis* were introduced into lakes and reservoirs across western North America during the 1950s–1980s with the goal of improving the food supply for trout and kokanee *Oncorhynchus nerka* (Lasenby et al. 1986). In Colorado, *Mysis* were first introduced to Twin Lakes in 1957, and then individuals from Twin Lakes were subsequently transplanted to more than 50 other waters in Colorado and surrounding states during 1969-1975.

*Mysis* introductions stimulated tremendous growth of trout in tailwaters below some Colorado reservoirs stocked with *Mysis* (Nehring 1991), and *Mysis* were important prey for young Lake Trout *Salvelinus namaycush* (Griest 1977) but eventually it



became apparent that other reservoir fish did not benefit from the introductions. In these systems, *Mysis* competed with sport fish for zooplankton prey, depleting or eliminating *Daphnia* populations that are the preferred food of many planktivorous fishes (Martinez and Bergersen 1989). *Mysis* evaded most fish predation through a behavior called diel vertical migration (DVM) - daily migrations up and down in the water column. This behavior allows *Mysis* to feed on surface-dwelling zooplankton at night when darkness keeps them safe from fish predation, and then at sunrise they migrate to the darkness of the depths to hide from their predators during the day (Beeton and Bowers 1982).

Finnell (1977) provided the first indication that *Mysis* introductions in Colorado may not have been entirely beneficial and could result in the decline or total elimination of *Daphnia* and other species of zooplankton important to fish. Nesler (1986) confirmed that although *Mysis* appeared to be consumed opportunistically by Brown *Salmo trutta* and Rainbow *O. mykiss* trout and kokanee, *Mysis* impacts to zooplankton were harmful to these sport fishes, particularly kokanee. Nesler (1986) concluded that the establishment of *Mysis* in the state, and the inability to eliminate them was a fishery management problem. Similarly, biologists in other western states and Canadian provinces also discovered too late that *Mysis* introductions were generally harmful to sport fisheries (Nesler and Bergersen 1991). Because of the unanticipated effects of *Mysis* on fish

populations effective management of Colorado's coldwater fisheries requires information on the current distribution and status of *Mysis*.

There have been relatively few studies to determine the outcome of *Mysis* introductions in Colorado, or surveys to investigate if there have been subsequent invasions. Finnell (1972, 1977) sampled 14 waters to determine success of the introductions. Later, Nesler (1986) reported that a total of 24 waters had been surveyed for *Mysis* prior to 1985. Martinez et al. (2010) conducted a 19-year sampling program to determine *Mysis* presence/absence, monitor their population dynamics, and study their impacts to *Daphnia* and sport fish populations in 15 coldwater reservoirs.

With relatively few of the stocked systems investigated questions remained about the presence/absence and colonization success of *Mysis* in a large number of waters that were either stocked with or could have been invaded by *Mysis* from upstream systems. Some stocked waters had not been sampled ever or for decades to determine if the species persisted, and few downstream systems were examined at all. The objectives of the present study were to 1) develop a comprehensive history of *Mysis* introductions in the state, 2) determine outcomes of *Mysis* introductions, and 3) determine invasion success in select downstream waters. We were also interested in whether varying environmental characteristics of waters affected establishment of *Mysis*.

## Chapter 1. History of *Mysis diluviana* Introductions in Colorado

### Genesis of the idea

Efforts to expand and diversify Colorado's fishing opportunities in lakes relied on introductions of sport fish. Fish stocking was widespread in the state's high elevation lakes by the early 1870s (Wiltzius 1985, Metcalf et al. 2012). An era of dam-building during the 20<sup>th</sup> century (Ho et al. 2017) provided thousands of hectares of new fish habitat in Colorado that also were stocked with a variety of popular sport fish, including Lake Trout, Rainbow Trout, and kokanee (Wiltzius 1985). Seeking to improve the growth of these fish in lakes and reservoirs, biologists also introduced fish food organisms (Finnell 1972). One of the most widespread efforts to bolster food resources for fish in the state's waters was the introduction of the Opossum Shrimp, *Mysis diluviana*.

Interest in introducing *Mysis* to enhance salmonid growth in Colorado lakes and reservoirs was undoubtedly stimulated by a "successful" introduction at Kootenay Lake, British Columbia initiated in 1949 (Sparrow et al. 1964). Growth of kokanee in Kootenay Lake improved dramatically after *Mysis* were introduced, prompting hundreds of *Mysis* introductions in western North America and Scandinavia (Northcote 1991; Lasenby et al. 1986). Endorsement of the idea by one of the leading aquatic ecologists of that time, Dr. Robert Pennak of the University of Colorado, provided further justification for *Mysis* introductions in Colorado. In 1957, William Klein, fisheries researcher at Colorado Game and Fish Department, wrote a one-page memo advocating for the introduction of *Mysis* in Colorado's high country and initiated the efforts to stock *Mysis* into Lower Twin Lakes (Klein 1957):

*"In 1951, Dr. R. W. Pennak of the Biology Department at Colorado University,*

*suggested that the importation of Mysis was feasible and would probably improve the food chain for trout in some of the deeper Colorado Mountain lakes where good oxygen conditions prevailed at all depths. Since the possibilities of improving environmental conditions for trout in lakes of the type mentioned are extremely limited, it was deemed advisable to take advantage of the possibilities of improving the food chain for trout by importing Mysis on an experimental basis.*

*Mysis are large plancters (sic) that reach a length of about 3/4 of an inch. They are known to be an important source of food for lake trout in particular and likely would be fed upon by other species of trout and kokanee."*

### The first introduction

The decision was made to bring *Mysis* to Colorado and the first introduction occurred at Twin Lakes, Lake County, in late 1957 (Klein 1957):

*"With the cooperation of the Minnesota Department of Conservation Mysis were obtained from Clearwater Lake in northeastern Minnesota and planted in lower Twin Lake near Leadville on October 3, 1957."*

Klein (1957) did not specify the exact location of Clearwater Lake, and there are several lakes by that name in northeastern Minnesota. Based on lake characteristics it is most likely that the source of Colorado's initial *Mysis* introduction was located in Cook County, near the city of Grand Marais. The Minnesota Department of Natural Resources (MDNR) online lakes database (MDNR 2016) showed nine lakes named "Clearwater Lake"; four of these are located in northeastern Minnesota (Table 1.1).

Table 1.1. Characteristics of lakes named “Clearwater Lake”, located in northeastern Minnesota. Lake characteristics were obtained from MDNA LakeFinder online database (MDNA 2016). BWCA is Boundary Waters Canoe Area, where motorized boats are prohibited.

Lake number	UTM coordinates (zone 15)	Access	Surface area (ac)	Maximum depth (ft)	Lake Trout present?
1	696005 E 5328008 N	Drive-up	1,325	130	Y
2	610757 E 5303584 N	Carry-in (BWCA)	641	46	N
3	498676 E 5267775 N	No access	72	30	N
4	559804 E 5202121 N	Carry-in	15	25	N

The presumed source lake is the only one of the four that is accessible by road and that is inhabited by Lake Trout (MDNR 2016) which implies the presence of an oxygenated hypolimnion, a requirement for *Mysis* persistence. We collected *Mysis* from this lake in 2016 for genetic comparison to the Colorado populations it founded.

Klein (1957) speculated that if the introduction was successful, it would require several years before *Mysis* became abundant enough to be detected by sampling devices. In follow-up studies Colorado Game, Fish, and Parks (GFP) aquatic researcher Larry Finnell (1972) reported that the establishment of *Mysis* in Twin Lakes:

*“...far exceeded expectations. From the introductory plant of 600-1,000 individuals in the lower lake, standing crop populations of both lakes are tentatively estimated at 15 to 20 organisms per square foot throughout most of the lake basin”.*

*Mysis* became the dominant food item for Lake Trout less than 20 inches in length, and body condition of subadult Lake Trout improved (Finnell 1972; Finnell and Bennett 1973; Griest 1977).

### Transplants to other waters

With an abundant supply of *Mysis* and favorable responses in the Lake Trout population, GFP began transplanting *Mysis* from Twin Lakes to other systems with the goal of “increasing the available forage for gamefish” (Finnell 1977). The hope was that *Mysis* would supplement or replace *Daphnia* as a food source for Lake Trout and other coldwater species including kokanee (Nesler 1986). *Mysis* were collected from Twin Lakes using a specially designed bottom trawl and were distributed by aircraft, hatchery trucks or portable fish tanks into dozens of lakes and reservoirs in Colorado and nearby states (Finnell 1977).

Determining the exact list of Colorado waters stocked with *Mysis* and the outcomes of these introductions was difficult because the introduction program required a variety of agency personnel working over many years. Further, lake names were not always standardized among investigators, some of whom used colloquial names instead of formal geographic nomenclature. We gathered a variety of sources including peer-reviewed publications (Martinez and Bergersen 1989, 1991; Nehring 1991; Silver et al. 2016; Carim et al. 2016; Wolf et al. 2016; Johnson et al. 2002; Johnson and

Martinez 2012), agency memoranda and reports (Klein 1957; Finnell 1972, 1977; Finnell and Bennett 1973, 1974; Griest 1977; Wiltzius 1985; Nesler 1986, Martinez 1986, 1990-2009; Martinez and Wiltzius 1991, 1995; Martinez et al. 2010) and magazine articles (Martinez 1992). We also interviewed retired agency personnel with first-hand knowledge of *Mysis* introductions and studies (Larry Finnell, Pat Martinez, Tom Nesler, Cleo and Mary Seeling, Jake Bennett). Many of the individuals involved with the earliest *Mysis* work in the state had passed on so our list of stocked waters may be incomplete. The primary sources for establishing the list of waters receiving *Mysis* and the outcomes were CPW Federal Aid reports by Finnell (1977) and Nesler (1986).

In some cases, sources provided contradictory information on the exact waters that were stocked with *Mysis*. For instance, Klein (1957, unpublished) and Finnell (1972) stated that Lower Twin Lakes was the original recipient of *Mysis* but Nesler (1986) listed both Lower and Upper Twin Lakes as being stocked. Because the lakes are connected by a 0.2 km long natural channel the distinction is of little consequence. Nesler (1986) refers to “Rainbow Lake” in Jackson County, but Finnell (1977) listed “Big Rainbow Lake” which he said was also in Jackson County. There is no such lake in Jackson County. There is a “Big Rainbow Lake” but it is in Larimer County. We assumed that both authors referred to Rainbow Lake, and that Finnell erroneously referred to it as Big Rainbow Lake because it is the largest in a chain of three “Rainbow” lakes in Jackson County.

Sources also disagree and it is impossible to determine which of the set of “Gold Dust Lakes” in Eagle County was stocked. Finnell (1972) reported Gold Dust #3 while his 1977 report just listed “Gold Dust” and Nesler (1986) reported that Gold Dust #1- #5 were

stocked. Finnell (1972) listed Kathleen Lake in the Northeast Region, while his 1977 report and Nesler (1986) both refer to Lake Katherine in Jackson County. There is a Kathleen Lake in Jackson County, but aerial imagery from 2019 (Google Earth 2020) showed that the lake had dried up, so we assumed Finnell (1972) erroneously listed Kathleen Lake but was referring to Lake Katherine. All three sources list Timberline Lake in Lake County, but Finnell (1977) also reported Timber Lake in Larimer County. We assumed that both lakes were stocked.

Confusion also exists about which of the string of three Pierre lakes in Pitkin County was stocked. Finnell (1972) stated Pierre Lake #3 was stocked whereas the other two sources stated simply Pierre Lake. Finally, there were two lakes mentioned in just a single report and that could not be located in Google Earth (2020) or Geonames (2020): Demel Lake (Finnell 1972), and Observatory Lake (Finnell 1977); we do not include these two waters in our list of documented introductions.

### **All waters stocked with *Mysis***

We identified a total of 53 lakes and reservoirs in Colorado that were stocked with *Mysis* by the state (Table 1.2; Gold Dust lakes and Pierre lakes each counted as single waters). Stocked waters ranged from a coolwater foothills reservoir (Horsetooth Reservoir, 1,656 m) to natural lakes above tree line to a maximum elevation of 3,853 m (Silver King Lake). The mean elevation of stocked waters was 3,067 m and the median was 3,109 m. Over 90% of the introductions occurred in waters at elevations > 2,500 m. Waters receiving *Mysis* also ranged widely in surface area (1-2,938 ha; mean = 207 ha, median 14 ha) and depth (1-85 m; mean = 30 m; median = 24 m). The first transplants of *Mysis* from Twin Lakes occurred at Grand Lake (Grand County) and Lower Big Creek

Table 1.2. Documented introductions of *Mysis diluviana* in Colorado, and sampling conducted prior to 2014 when the present study began. Numbered footnotes show data sources. NA = not available or reported. Dashes represent waters that have never been sampled for *Mysis*. Sampling methods included the standardized CPW *Mysis* net (Net: Martinez 1992), environmental DNA (eDNA; Carim et al. 2016), examination of fish stomachs (Fish). “NR” is not reported.

Water body name	County	Elevation (m)	Surface area (ha)	Depth (m)	Stocking events <sup>1</sup>	Years stocked	Last sampled	Sampling method	Detected?
Agua Fria	Jackson	3,060	11	18.0	4	1971-1974 <sup>1, 2</sup>	--	--	--
Blodgett	Eagle	3,581	10	28.6	1	1972 <sup>1, 2</sup>	--	--	--
Blue	Jackson	2,992	9	40.2	4	1971-1974 <sup>1, 2</sup>	--	--	--
Bowl of Tears	Eagle	3,673	8	30.8	1	1972 <sup>1, 2</sup>	--	--	--
Capitol	Pitkin	3,536	9	30.5	1	1972 <sup>1, 2</sup>	--	--	--
Chalk	Lake	3,734	6	6.7	NA	1972 <sup>2</sup>	1983 <sup>2</sup>	NR	Y
Chambers	Larimer	2,790	121	27.7	5	1971-1974 <sup>1, 2</sup>	1975 <sup>2</sup>	--	Y
Chapman	Pitkin	3,002	9	7.6	1	1970 <sup>1, 2</sup>	--	--	--
Cheesman	Douglas	2,085	354	57.9	4	1971-1974 <sup>1, 2</sup>	1992 <sup>4</sup>	Net	N
Clear Creek	Chaffee	2,706	165	15.2	1	1971 <sup>1, 2</sup>	NR <sup>2</sup>	NR	N
Crater	Grand	3,146	8	23.8	1	1972 <sup>1, 2</sup>	--	--	--
Crystal	Lake	2,987	4	4.0	1	1972 <sup>1, 2</sup>	1983 <sup>2</sup>	NR	N
Deckers	Lake	3,463	3	NA	1	1972 <sup>1, 2</sup>	--	--	--
Deep	Garfield	3,185	12	17	1	1972 <sup>1, 2</sup>	--	--	--
Diemer	Pitkin	2,591	16	2.4	1	1970 <sup>1, 2</sup>	NR <sup>1</sup>	NR	NR
Dillon	Summit	2,749	1,276	57.3	2	1970 <sup>1, 2</sup>	2009 <sup>3</sup>	Net	Y
Forest	Larimer	3,359	5	11.9	NA	1971-1974 <sup>2</sup>	--	--	--
Gold Dust lakes	Eagle	3,475	NA	NA	1	1972 <sup>1, 2</sup>	--	--	--
Granby	Grand	2,524	2,938	67.4	1	1971 <sup>1, 2</sup>	2009 <sup>5</sup>	Net	Y



Table 1.2. Continued. Documented introductions of *Mysis diluviana* in Colorado, and sampling conducted prior to 2014 when the present study began. Numbered footnotes show data sources. NA = not available or reported. Dashes represent waters that have never been sampled for *Mysis*. Sampling methods included the standardized CPW *Mysis* net (Net: Martinez 1992), environmental DNA (eDNA; Carim et al. 2016), examination of fish stomachs (Fish).

Water body name	County	Elevation (m)	Surface area (ha)	Depth (m)	Stocking events <sup>1</sup>	Years stocked	Last sampled	Sampling method	Detected?
Grand	Grand	2,550	208	80.8	3	1969-1971 <sup>1,2</sup>	1975 <sup>2</sup>	NR	Y
Green Mountain	Summit	2,423	862	77.4	1	1974 <sup>1,2</sup>	2005 <sup>3</sup>	Net	N
Gross	Boulder	2,220	167	85.3	4	1971-1974 <sup>1,2</sup>	1992 <sup>3</sup>	Net	Y
Homestake	Eagle	3,078	138	60	1	1972 <sup>1,2</sup>	--	--	--
Horsetooth	Larimer	1,656	769	57.3	4	1971-1974 <sup>1,2</sup>	2006 <sup>3</sup>	Net	Y
Ivanhoe	Pitkin	3,109	40	7.0	1	1970 <sup>1,2</sup>	--	--	--
Jefferson	Park	3,259	45	52.8	1	1972 <sup>1,2</sup>	1983 <sup>2</sup>	NR	Y
Katherine	Jackson	3,005	9	35.0	4	1971-1974 <sup>1,2</sup>	--	--	--
Kelly	Jackson	3,293	9	13.1	4	1971-1974 <sup>1,2</sup>	--	--	--
Little Echo	Gilpin	3,409	5	22.9	4	1971-1974 <sup>1,2</sup>	--	--	--
Lost Man	Pitkin	3,243	9	7.0	1	1971 <sup>1</sup> , 1970 <sup>2</sup>	--	--	--
Lower Big Creek	Jackson	2,743	152	17.4	10	1969-1972 <sup>1,2</sup>	1992 <sup>3</sup>	Net	Y
Lower Twin	Lake	2,804	742	29.3	1	1957 <sup>2</sup>	1996 <sup>3</sup>	Net	Y
New York	Eagle	3,353	16	18.9	1	1972 <sup>1,2</sup>	--	--	--
Pass	Summit	3,655	1	1.2	1	1970 <sup>1,2</sup>	--	--	--
Peggy	Jackson	3,403	4	9.4	4	1971-1974 <sup>2</sup>	--	--	--
Pierre lakes	Pitkin	3,732	19	NA	1	1972 <sup>1,2</sup>	--	--	--
Rainbow	Jackson	3,003	39	27.7	4	1971-1974 <sup>1,2</sup>	1976 <sup>2</sup>	Trawl	N

Table 1.2. Continued. Documented introductions of *Mysis diluviana* in Colorado, and sampling conducted prior to 2014 when the present study began. Numbered footnotes show data sources. NA = not available or reported. Dashes represent waters that have never been sampled for *Mysis*. Sampling methods included the standardized CPW *Mysis* net (Net: Martinez 1992), environmental DNA (eDNA; Carim et al. 2016), examination of fish stomachs (Fish).

Water body name	County	Elevation (m)	Surface area (ha)	Depth (m)	Stocking events <sup>1</sup>	Years stocked	Last sampled	Sampling method	Detected?
Rawah #4	Larimer	3,497	11	45.4	4	1971-1974 <sup>1,2</sup>	--	--	--
Roxy Ann	Jackson	3,110	26	38.4	4	1971-1974 <sup>1,2</sup>	--	--	--
Ruedi	Eagle	2,367	445	78.0	3	1970 <sup>1,2</sup>	2003 <sup>3</sup>	Net	Y
Sellar	Pitkin	2,743	8	7.4	1	1970 <sup>1,2</sup>	1976 <sup>2</sup>	NR	N
Silver King	Chaffee	3,853	7	3.3	1	1972 <sup>1,2</sup>	--	--	--
Stillwater	Garfield	3,138	47	14.6	1	1974 <sup>1,2</sup>	--	--	--
Sugarbowl	Larimer	3,289	3	15.8	4	1971-1974 <sup>1,2</sup>	1981 <sup>2</sup>	Fish	N
Taylor Park	Gunnison	2,844	823	44.0	2	1974-1975 <sup>1</sup> 1973-1974 <sup>2</sup>	2009 <sup>5</sup>	Net	Y
Timber	Larimer	3,328	5	NA	4	1971-1974 <sup>1</sup>	--	--	--
Timberline	Lake	3,338	2	8.5	1	1971 <sup>1,2</sup>	1976 <sup>2</sup>	Fish	N
Turquoise	Lake	3,008	734	39.0	2	1972 <sup>1,2</sup>	1992 <sup>3</sup>	Net	Y
Twin	Jackson	3,007	9	14.0	4	1971-1974 <sup>1,2</sup>	--	--	--
Upper Big Creek	Jackson	2,746	41	9.1	4	1971-1974 <sup>1,2</sup>	--	--	--
Upper Camp	Larimer	3,271	16	23.5	4	1971-1974 <sup>1,2</sup>	1982 <sup>2</sup>	Fish	N
Upper Twin	Lake	2,804	381	30.2	1	1957 <sup>2</sup>	1996 <sup>3</sup>	Net	Y
Willis	Chaffee	3,587	4	NA	1	1972 <sup>1,2</sup>	--	--	--

<sup>1</sup>Finnell 1977; <sup>2</sup>Nesler 1986; <sup>3</sup>Martinez et al. 2010; <sup>4</sup>Martinez 1993; <sup>5</sup>Lepak 2014; unpublished; \*presumed false positive eDNA

Lake (Jackson County) in 1969, and the stocking program ended in 1974 (Nesler 1986) or 1975 (Finnell 1977) (Table 1.2). Waters received plants of 10,000-250,000 mysids, and about half of the waters were stocked just once (53%; Table 1.2).

Most of the stocked waters were either never sampled to determine if the introduction was successful, i.e., if *Mysis* were present, or they were last sampled more than 35 years ago (Table 1.2). Of the 23 waters that had never been sampled prior to the present study virtually all reside in remote wilderness locations. Nesler (1986) reported that 20 stocked waters had been sampled for *Mysis* before 1985. Martinez et al. (2010) resampled 11 of those waters for *Mysis* (Cheesman, Dillon, Granby, Green Mountain, Horsetooth, Jefferson, Lower Big Creek, Ruedi, Taylor Park, Turquoise and Twin) plus one previously unsampled water (Gross Reservoir) during 1991-2009. Thus, the outcomes of *Mysis* stocking and the persistence of stocked populations were unknown for many waters stocked with *Mysis*. Further, little was known about *Mysis* dispersal into unstocked waters.

Hydrologic characteristics of many lakes and reservoirs in Colorado can facilitate natural and anthropogenic dispersal of *Mysis* to unstocked waters. Most reservoirs in Colorado are impoundments formed by damming rivers or they receive water transfers from systems outside their watersheds. Therefore, reservoirs can be invaded by *Mysis* transported from upstream

systems. We identified 24 unstocked lakes and reservoirs that were at-risk of *Mysis* invasion based on their connections to stocked waters (Table 1.3). We recognize that this list is incomplete because we were not able to determine how many connections exist between *Mysis* waters and waters downstream. Connections among water bodies can be intermittent, and it is not known how far *Mysis* can survive being transported from a source to a destination water. Nesler (1986) reported that four unstocked reservoirs connected to stocked waters via the Colorado-Big Thompson Project (CBT) had been sampled (Carter, Estes, Mary's, and Shadow Mountain) prior to 1985. Martinez et al. (2010) resampled two of these (Carter Lake in 1999, and Shadow Mountain Reservoir in 2005), plus Blue Mesa Reservoir, which is downstream from a stocked water (Taylor Park Reservoir). No other reservoirs downstream of or connected by water transfers from stocked waters had been sampled for *Mysis* so the extent of downstream dispersal in the state's reservoirs was unknown. The hydrology of many of the State's natural lakes could also promote dispersal of *Mysis* to unstocked waters. These "paternoster" lakes are connected by natural streams. Paternoster lakes downstream of lakes stocked with *Mysis* could be invaded by natural dispersal via the connecting streams. None of these downstream natural lakes had ever been sampled for *Mysis*. Thus, there was considerable uncertainty about the outcomes of *Mysis* introductions and the status and distribution of *Mysis* in Colorado at the start of the present study.

Table 1.3. Colorado waters that were at-risk invasion by *Mysis diluviana* via natural dispersal from upstream waters or by entrainment in water transfers. Location coordinates are provided in UTM (Zone 13, NAD83 datum). The proximate source is the nearest water stocked with *Mysis* or known to be inhabited by *Mysis*. Of these only Carter, Estes, Mt. Elbert, and Shadow Mountain had been sampled previously (Nesler 1986; Martinez et al. 2010).

Water body name	County	Elev. (m)	Area (ha)	Depth (m)	Easting	Northing	Proximate source	Connection type	Distance (km)
Blue Mesa	Gunnison	2,292	3,706	101	307166	4260601	Taylor Park	Stream	67
Boulder	Boulder	1,578	283	8.5	481500	4436014	Carter	Canals	37
Carter	Larimer	1,757	449	54.9	481262	4462786	Flatiron <sup>1</sup>	Pipeline	2
Chatfield	Douglas	1,655	598	15.8	494571	4378512	Cheesman	Stream	55
Flatiron	Larimer	1,666	15	5.5	480362	4468948	Estes	Tunnel	4
Estes	Larimer	2,276	75	13.7	458263	4469647	Mary's <sup>1</sup>	Tunnel	4
Lower Camp	Larimer	3,208	5	0.7	421661	4505246	Upper Camp	Stream	1.3
Lower Rainbow	Jackson	2,963	3.2	-	363099	4500929	Rainbow	Stream	0.6
Mary's Lake	Larimer	2,452	16	10	454769	4466376	Grand Lake	Tunnel	26
McIntyre	Larimer	3,242	6	10.7	418779	4506346	Sugarbowl	Stream	0.4
Middle Rainbow	Jackson	3,000	3.0	-	362679	4501022	Rainbow	Stream	0.07
Mt. Elbert	Lake	2,940	129	20	382254	4329387	Lower Twin	Pipeline	0.9
Norrie	Pitkin	2,584	1.4	1.9	357433	4354154	Chapman	Stream	1.4
Pinewood	Larimer	2,006	39	7.3	475634	4468411	Estes	Tunnel	17
Pueblo	Pueblo	1,471	2,295	53	523809	4235750	Clear Creek	Stream	209
Rawah #1	Larimer	3,262	3	2.4	419545	4505469	Rawah #4	Stream	3.0
Rawah #2	Larimer	3,276	3	3.4	419633	4505058	Rawah #4	Stream	2.6
Rawah #3	Larimer	3,320	9	39.6	419236	4503964	Rawah #4	Stream	1.3
Shadow Mountain	Grand	2,550	541	11.3	428312	4451353	Granby	Canal	4.3
Strontia Springs	Douglas	1,829	40	64.6	489019	4364742	Cheesman	Stream	41
Upper Stillwater	Garfield	2,975	22	6.4	323092	4434755	Stillwater	Stream	4.8

Table 1.3. Continued. Colorado waters that were at-risk invasion by *Mysis diluviana* via natural dispersal from upstream waters or by entrainment in water transfers. Location coordinates are provided in UTM (Zone 13, NAD83 datum). The proximate source is the nearest water stocked with *Mysis* or known to be inhabited by *Mysis*. Of these only Carter, Estes, Mt. Elbert, and Shadow Mountain had been sampled previously (Nesler 1986; Martinez et al. 2010).

Water body name	County	Elev. (m)	Area (ha)	Depth (m)	Easting	Northing	Proximate source	Connection type	Distance (km)
Willow Creek <sup>2</sup>	Grand	2,481	123	37.8	419609	4444619	Granby	Canal	4.7
Windy Gap	Grand	2,389	43	7.6	416390	4439882	Granby	Stream	12.7
Yamcolo	Garfield	2,925	79	24.1	324261	4435259	Stillwater	Stream	5.6

<sup>1</sup>presumed, unable to sample for *Mysis*; <sup>2</sup>downstream of Lake Granby but normally water is pumped upstream to Lake Granby



## Chapter 2. A Compendium of *Mysis* sampling in Colorado, 2010-2019

### Introduction

The widespread introductions of *Mysis* in Colorado provide an interesting management “experiment” to better understand this invasive species’ habitat needs and its effects on other species. Determining outcomes of *Mysis* introductions and invasion success in downstream waters help identify environmental conditions that promote or prevent *Mysis* colonization and determine dispersal pathways (e.g., Johnson et al. 2018). Monitoring the distribution, population characteristics and persistence of *Mysis* is important for understanding their habitat requirements and impacts to fish populations (Martinez et al. 2010; Johnson and Martinez 2012), and for devising management actions to minimize harmful effects. The primary objective of this portion of the present study was to determine the current range and status of *Mysis* populations in the state. We were also interested in understanding how differences in environmental conditions affected *Mysis* colonization success, persistence, and population dynamics.

### Methods

We endeavored to sample as many of the previously unsampled stocked waters as we could while also sampling a set of waters that had not been sampled for 10 years or more to determine if *Mysis* were still present. Colorado’s mountainous topography presented a unique opportunity to compare *Mysis* demographics across an elevational gradient of growing season length, thermal conditions, productivity, and food web structure. We chose a set of four waters to sample more frequently to compare *Mysis* demographics over a 1,500 m elevational gradient (Carter Lake, Dillon Reservoir, Jefferson Lake, and Lower Twin Lake).

Carter Lake was chosen since it is the lowest elevation water with a robust *Mysis* population. Jefferson Lake was chosen as it represents highest elevation water that is accessible. Lower Twin Lake was chosen because it is the state’s original population, and Dillon Reservoir was selected because of its proximity to Lower Twin Lake and it is at a similar elevation. Dillon Reservoir, Horsetooth Reservoir, Lake Granby and Taylor Park Reservoir were sampled annually to maintain a long-term monitoring time series for these waters.

We also sampled a subset of waters that we deemed susceptible to *Mysis* invasion. Waters were assumed to be at risk of invasion if they received water transfers from a reservoir containing *Mysis*, or they were downstream and connected to a water containing *Mysis* via a natural waterway. We used USGS topographic maps and Google Earth satellite imagery to look for waters in proximity to stocked waters. In some cases, waters appeared to be connected by intermittent streams, but we assumed that *Mysis* could be transported downstream in wet years or during high runoff periods in those systems. We included downstream waters even if they were connected to a stocked water in which we did not detect *Mysis* because it is possible that *Mysis* dispersed soon after stocking.

Sampling methods and intensity depended on lake depth, surface area, and accessibility. In waters > 10 m deep and accessible by motor vehicle we sampled for *Mysis* with a net; in shallower waters and in a few very remote waters we used environmental DNA (eDNA) sampling to determine *Mysis* presence/absence. Net sampling for *Mysis* was conducted at standardized stations (Appendix 1) coinciding with those of Martinez et al. (2010) or selected using the

same criteria in waters not sampled by Martinez et al. (2010): stations at new waters were selected to represent varying water depths >10 m, including the deepest portions of each lake or reservoir, at which mysids would be expected to occur during summer. In waters with surface area < 40 ha we selected three stations, in waters with surface areas of 40-405 ha we sampled five stations, and we sampled 10 stations in larger waters. *Mysis* eDNA samples were collected from a single station at the lake's deepest location. We measured basic limnological characteristics and sampled zooplankton at a subset of the *Mysis* sampling stations. A single temperature-dissolved oxygen profile was measured at the deepest location in the lake. The number of limnological stations and zooplankton sampling stations depended on lake area. In waters < 40 ha we performed limnological measurements and zooplankton sampling at one station, at three stations in waters with surface areas of 40-405 ha, and at 5 stations in larger waters.

Conductivity, pH, salinity, and total dissolved solids were measured at the surface using an Oakton PCSTestr35 multimeter. Turbidity was measured at the surface with a Hach 2100Q turbidimeter. A standard 0.20-m Secchi disc was used to measure water clarity on the shaded side of the boat without sunglasses. Temperature-dissolved oxygen profiles were measured with a YSI ProODO meter from the surface to a maximum depth of 60 m. In most waters, zooplankton were collected by a single vertical tow at each station using a Wisconsin net with 153- $\mu$ m mesh and 117-mm opening. The net was lowered to a depth of 10 m (or to the bottom if the lake was shallower than 10 m) and then retrieved by hand at about 0.5 m/second. One tow was completed at each station and the depth of the net was recorded if <10 m to allow calculation of water volume sampled. Samples were preserved using a chilled 4% formalin solution that was sugared and

buffered (EPA 2013). During 2011-2013 (Lepak 2013, 2014) zooplankton were sampled with oblique tows from depths of 0-10 m with a Clarke-Bumpus metered sampler (153- $\mu$ m mesh net) with two replicates per site and samples. Samples were preserved in 70% ethanol in those years.

*Mysis* were sampled using the net configuration and methods of Martinez et al. (2010). Sampling commenced at least one hour after sunset and was timed as closely as possible to the New Moon, or on nights when moonrise occurred after sampling was completed. A single sample was collected from each station using vertical tows from the bottom to the surface with a 1-m diameter, 3-m long conical plankton net with 500- $\mu$ m aperture Nitex mesh. The net terminated with a removable cup with 500- $\mu$ m Nitex mesh. The net was lowered to within 1 m of the bottom and allowed to rest for 60 s before being retrieved with an electric windlass at a rate of 0.37 m/s. The catch from each haul was preserved in a 70% ethanol solution. We also compared catches from the standard net configuration with a smaller net more easily transported into remote lakes and deployable from inflatable watercraft (Silver et al. 2016).

Environmental DNA samples were collected following the protocol developed for this study by Carim et al. (2016). Water samples were collected from 1 m above the bottom at the deepest location in each lake using a 3-L Wildco Model 1130-045 van Dorn sampler. Water was immediately filtered through a Whatman 47-mm-diameter, 1.5- $\mu$ m glass microfiber filter using a Cole Parmer Masterflex E/S peristaltic pump. Prior to each sample the van Dorn sampler was sterilized in a 50% bleach solution for 20 minutes. A control sample was collected prior to each field sample to test for equipment contamination by filtering 0.5 L of distilled water that had been swirled in the van Dorn sampler for approximately 10 seconds.

Filters were stored in silica desiccant and frozen until being sent to the National Genomics Center for Wildlife and Fish Conservation for analysis. Environmental DNA was extracted from one half of each filter using a QIAGEN DNeasy Blood and Tissue Kit and QIAshredder using a modified protocol with a final elution volume of 100  $\mu$ l. The second half of each filter was archived at -20 °C for future analysis. If more than one filter was used to collect the sample (i.e., clogged by biota such as algae), DNA from one half of each filter was combined after initial lysis incubation in the extraction process. All DNA extracted from environmental samples was stored at -20 °C until qPCR analysis occurred.

In the laboratory, crustacean zooplankton were identified and enumerated using an aliquot method (Wetzel and Likens 2000). Samples were diluted to a known volume and then subsampled three times using a 1-mL Hensen-Stempel pipette. Each aliquot was placed into a Sedgewick-Rafter counting cell where individuals were identified to species and counted under a stereomicroscope. Adult *Daphnia* were measured for total length (tip of helmet to tip of tail spine) and adult copepods were only counted. Copepod nauplii and *Daphnia* neonates were counted but were not identified to species or measured. Counts were converted to in-lake density from lake volume sampled (assuming 100% net efficiency) and the dilution volume.

*Mysis* samples were enumerated, measured, and classified by sex and life stage. Each individual was measured for total length, to the nearest millimeter from the tip of the rostrum to the tip of the telson, excluding setae (Martinez et al. 2010). Individuals < 10 mm in length and not displaying sexual characteristics were classified as juveniles, and larger ones were all classified as adults. Females were identified by the presence of

oostegites or a marsupium (Reynolds and DeGraeve 1972). Individuals were classified as males if they exhibited an enlarged fourth pleopod and oostegites and a marsupium were absent (Reynolds and DeGraeve 1972). Adults in which sexual characteristics could not be identified were classified as unknown sex (U). Sexed adults were classified into three developmental stages. Immature males (M1) displayed an enlarged fourth pleopod that did not extend beyond base of the telson (Reynolds and DeGraeve 1972). In some cases, the fourth pleopod was approximately the same length as the third pleopod but it was noticeably thicker in its diameter. Males were classified as mature (M2) if the fourth pleopod extended beyond the base of the telson. Males in the third developmental stage (M3) possessed the anatomical traits of M2 males but they appeared to be senescent. Females were classified into three stages based on the characteristics of the marsupium. In immature females (F1) the marsupium was barely visible under the pereopods and had a round shape. Gravid females (F2) were identified by an enlarged, nearly opaque marsupium and the presence of embryos or larvae. Post-partum females (F3) displayed an enlarged, transparent marsupium with no young present. *Mysis* areal density was computed by dividing the total catch at each station by the area of the net opening (0.785 m<sup>2</sup>). The lakewide density was computed as the simple arithmetic mean density among sampling stations.

## Results and Discussion

We sampled a total of 50 lakes and reservoirs during 2010-2019 (Figure 2.1; Table 2.1, 2.2.). Of these, more two thirds had Rainbow, Brook and Brown Trout and about half had Cutthroat and Lake Trout (Table 2.3). Waters ranged in elevation from 1,471 m (Pueblo Reservoir) to 3,655 m (Pass Lake).

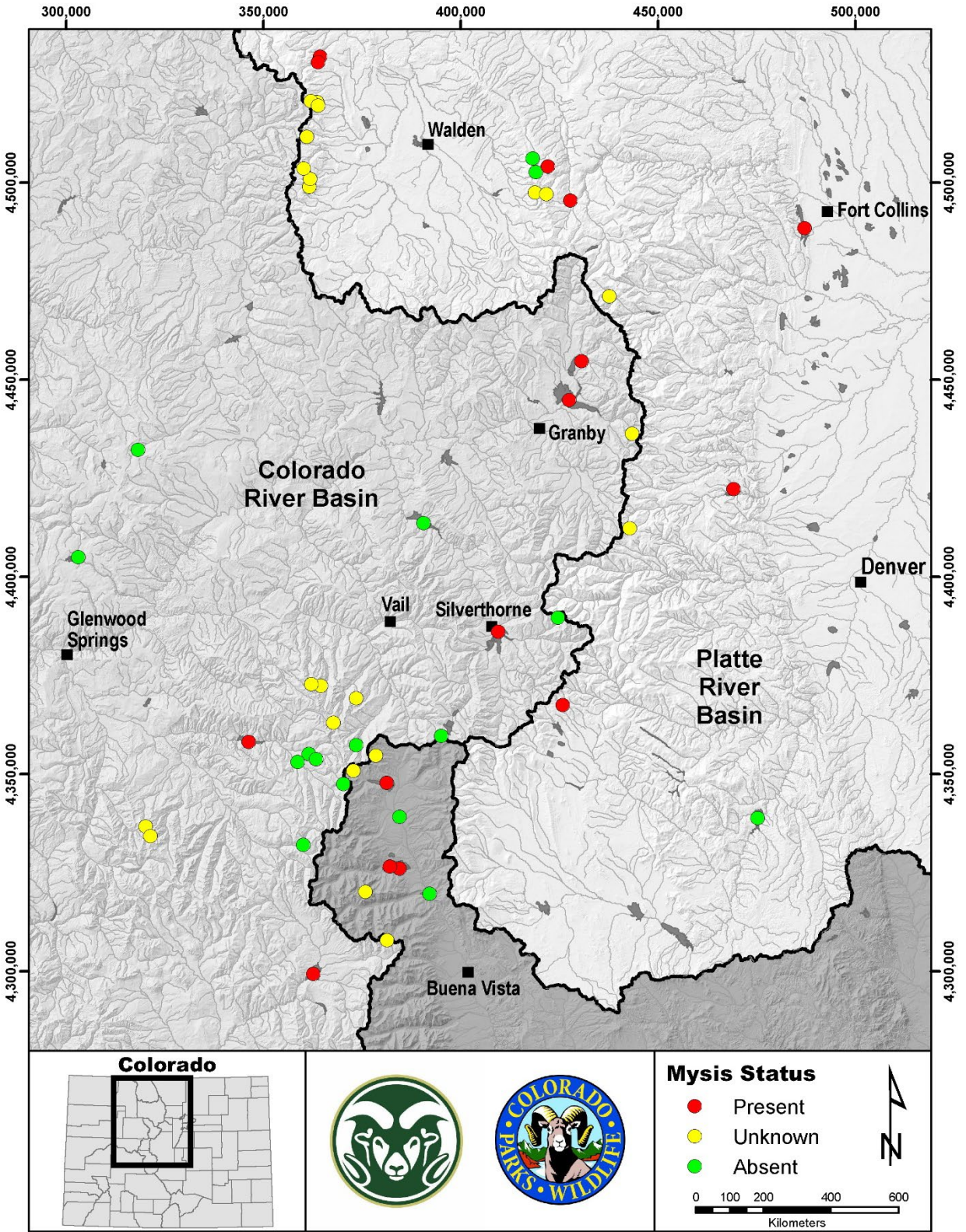


Figure 2.1. Colorado lakes and reservoirs that were stocked with *Mysis*.

Table 2.1. Results of most recent *Mysis* sampling during the present study in 31 waters stocked with *Mysis*. The number of stations reported is for *Mysis* sampling only; a subset of stations was sampled for zooplankton and limnological characteristics in some waters.

Water body name	County	Last sampled	Number of stations	Sampling method	<i>Mysis</i> detected?
Chalk	Lake	2017	1	eDNA	N
Chambers	Larimer	2016	5	Net	Y
Chapman	Pitkin	2016	1	eDNA	N
Cheesman	Douglas	2016	5	Net	N
Clear Creek	Chaffee	2014	3	Net	N
Crystal	Lake	2016	1	eDNA	N
Deep	Garfield	2019	1	eDNA	N
Diemer	Pitkin	2017	1	eDNA	N*
Dillon	Summit	2019	10	Net	Y
Granby	Grand	2019	10	Net	Y
Grand	Grand	2014	8	Net	Y
Green Mountain	Summit	2014	10	Net	N
Gross	Boulder	2019	5	Net	Y
Homestake	Eagle	2018	5	eDNA, Net	N
Horsetooth	Larimer	2018	10	Net	Y
Ivanhoe	Pitkin	2016	1	eDNA	N
Jefferson	Park	2019	5	Net	Y
Lost Man	Pitkin	2016	1	eDNA	N
Lower Big Creek	Jackson	2019	5	Net	Y
Lower Twin	Lake	2014	7	Net	Y
Pass	Summit	2015	2	Net	N
Rawah #4	Larimer	2016	1	eDNA	N
Ruedi	Eagle	2014	10	Net	Y
Sellar	Pitkin	2016	1	eDNA	N
Stillwater	Garfield	2015	5	eDNA, Net	N
Sugarbowl	Larimer	2016	1	eDNA	N
Taylor Park	Gunnison	2018	10	Net	Y
Turquoise	Lake	2014	10	Net	Y
Upper Big Creek	Jackson	2019	1	Net	Y
Upper Camp	Larimer	2016	3	eDNA, Net	Y
Upper Twin	Lake	2014	3	Net	Y

\*presumed false positive eDNA based on shallow depth



Table 2.2. Results of our sampling in 19 Colorado waters that could have been invaded by *Mysis diluviana* via natural dispersal from upstream waters or by entrainment in water transfers. The number of stations reported is for *Mysis* sampling only.

Water body name	County	Years sampled	Number of stations	Sampling method	Detected?
Blue Mesa	Gunnison	2011, 2018	9-15	Net	N
Boulder	Boulder	2018	1	eDNA	N
Carter	Larimer	2014-2019	10	Net	Y
Chatfield	Douglas	2015, 2017	8	eDNA, Net	N
Lake Estes	Larimer	2014	3	Net	Y
Lower Camp	Larimer	2016	1	eDNA	N*
McIntyre	Larimer	2016	1	eDNA	N
Mt. Elbert	Lake	2015	3	Net	Y
Norrie	Pitkin	2016	1	eDNA	N
Pinewood	Larimer	2016	2	Net	Y
Pueblo	Pueblo	2014, 2017	10	eDNA, Net	N
Rawah #1	Larimer	2016	1	eDNA	N
Rawah #2	Larimer	2016	1	eDNA	N
Rawah #3	Larimer	2016	1	eDNA	N
Shadow Mountain	Grand	2014	1	Net	Y
Strontia Springs	Douglas	2018	3	eDNA, Net	N
Upper Stillwater	Garfield	2015	3	eDNA, Net	N
Willow Creek	Grand	2014	3	Net	N
Yamcolo	Garfield	2015	5	eDNA, Net	N

\*presumed false positive eDNA based on shallow depth

Table 2.3. Coldwater fish species present in lakes sampled for *Mysis* based on CPW's fish survey database. Rainbow Trout includes Rainbow X Cutthroat hybrids. Waters in bold were stocked with *Mysis*; there were no data for BLD, CMP, DIE, MCL, NOR, PAS, SUG, UCL, WCR.

Water code	Arctic Char	Arctic Grayling	Brook Trout	Brown Trout	Cutthroat Trout	Kokanee	Lake Trout	Mountain Whitefish	Rainbow Smelt	Rainbow Trout	Splake
<b>BCL</b>		X	X	X		X	X			X	X
<b>BCU</b>		X	X	X		X	X			X	
BMR			X	X	X	X	X			X	
CAR	X		X	X	X	X	X			X	X
CHA				X						X	
<b>CHE</b>				X							
<b>CHK</b>				X						X	
<b>CHM</b>			X		X	X	X			X	X
<b>CHP</b>					X					X	
<b>CLE</b>				X	X	X				X	
<b>CRY</b>			X	X						X	
<b>DEE</b>			X				X			X	X
<b>DIL</b>	X		X	X	X	X				X	
EST			X	X						X	
<b>GDL</b>			X	X		X	X			X	
<b>GRB</b>			X	X	X	X	X			X	
<b>GRE</b>	X		X	X		X	X			X	
<b>GRO</b>			X	X	X	X	X			X	X
<b>HOM</b>			X		X		X				
<b>HST</b>	X			X	X				X	X	X
<b>IVA</b>			X		X		X				
<b>JEF</b>			X			X	X			X	
<b>LMR</b>			X								
<b>LTL</b>			X								
<b>MAR</b>			X	X		X	X			X	X
<b>MEF</b>				X	X		X			X	

Table 2.3. Continued. Coldwater fish species present in lakes sampled for *Mysis* based on CPW's fish survey database. Rainbow Trout includes Rainbow X Cutthroat hybrids. Waters in bold were stocked with *Mysis*; there were no data for BLD, CMP, DIE, MCL, NOR, PAS, SUG, UCL, WCR.

Water code	Arctic Char	Arctic Grayling	Brook Trout	Brown Trout	Cutthroat Trout	Kokanee	Lake Trout	Mountain Whitefish	Rainbow Smelt	Rainbow Trout	Splake
PIN				X						X	
PUE										X	
<b>RUE</b>				X	X	X	X	X		X	
SHA			X	X	X	X	X			X	
<b>STI</b>			X		X					X	
STR				X						X	
<b>TAY</b>				X	X	X	X			X	
<b>TUR</b>			X	X	X		X			X	
UST			X		X					X	
<b>UTL</b>			X								
YAM			X	X				X		X	
Total	4	2	25	25	18	16	19	2	1	31	7

Thirty-one of the waters sampled had been stocked with *Mysis* and the remaining 19 waters had not been stocked but were considered to be at risk of invasion. Eight of the stocked waters and 16 of the at-risk waters had never been sampled for *Mysis*. Another 17 stocked waters had not been sampled for at least 10 years prior to the current study. *Mysis* were detected in 20 of the 50 waters we sampled (Table 2.1, 2.2), and were established in 15 (48%) of the stocked waters and none of the previously known populations had become extirpated. *Mysis* had invaded five (28%) of the at-risk waters we sampled.

#### *Colonization success*

The relatively large number of waters exposed to *Mysis* and the wide range of elevations and therefore environmental conditions that these waters exhibited provided an opportunity to examine factors that may affect the establishment of new populations. Our observations suggest that propagule pressure (frequency of stocking, number of individuals; Simberloff 2009) was not an important determinant of stocking success. As we reported in the previous section, the initial introduction in the State (at Twin Lakes) required only one release of <1,000 individuals to establish a robust population.

Of the waters we sampled where stocking was successful four waters were stocked just one time, three waters were stocked twice, and the remainder were stocked 3-10 times. Most of the waters where stocking was not successful had been stocked only once but Cheesman Reservoir, Rawah Lake #4 and Sugarbowl Lake were each stocked four times and *Mysis* failed to persist in those waters. Habitat suitability of the recipient water may be a more important determinant of *Mysis* colonization than propagule pressure.

The effects lake physiography on stocking success were mixed. Elevation did not appear to be a strong determinant of stocking success. *Mysis* were established in stocked waters ranging in elevation from 1,656 m (Horsetooth Reservoir) to 3,271 m (Upper Camp Lake) but were concentrated around 2,800 m elevation (Figure 2.2). Unsuccessful stocking events were distributed across elevations of 2,085-3,734 m. The actual elevational distribution of *Mysis* in the state is unknown because many of the stocked waters above 3,271 m could not be sampled. Lake morphometry did appear to affect stocking success. Stocking was unsuccessful in waters < 9 m deep and < 16 ha in surface area (Figure 2.2) and more than half of the waters where stocking was successful were > 20 m deep and > 250 ha in area. Johnson et al. (2018) found that stocking and invasion success of *Mysis* in Wyoming was lower in shallow lakes, perhaps because *Mysis* had no deep, low-light refuge from fish predation.

It is difficult to say how limnological characteristics like temperature and dissolved oxygen affected stocking success because these characteristics have strong seasonality and waters were sampled at different times of the year. Further, stratified waters may have suitable temperatures for *Mysis* below the thermocline even if surface temperatures are too high. *Mysis* have a preferred temperature of about 10°C (Boscarino et al. 2010) and an upper incipient lethal temperature of about 20°C (Ricker 1959; Dadswell 1974; Degraeve and Reynolds 1975). In Colorado stratification is strongest and surface temperatures are warmest in mid- to late-summer. Among 19 waters sampled during August there was little difference in surface temperatures of waters with and without *Mysis*: 17.6°C (SD = 2.1) with vs. 16.7°C (SD = 2.2) without.

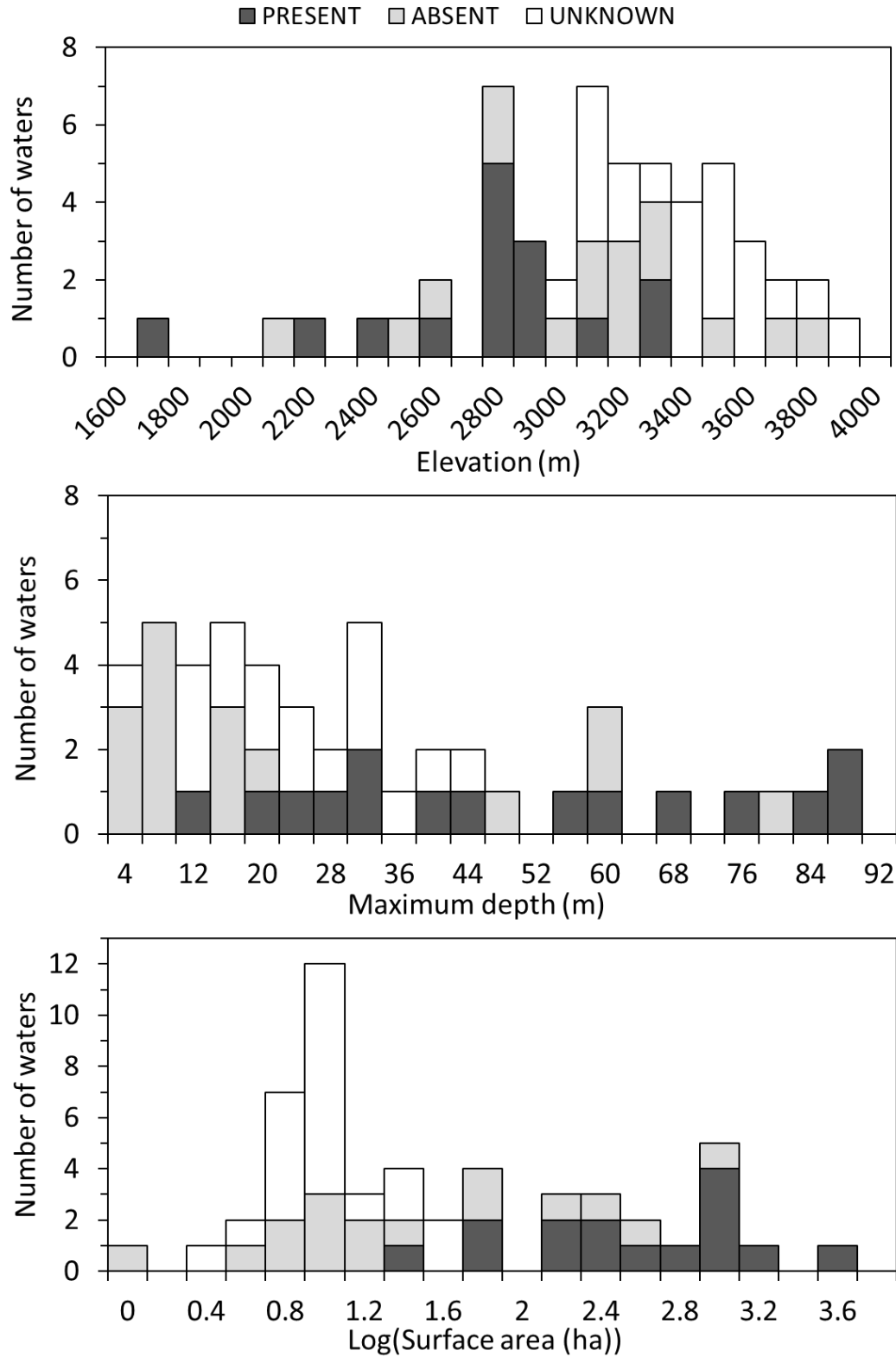


Figure 2.2. *Mysis* presence/absence in waters stocked with *Mysis* as a function of lake elevation and maximum depth. Unknown status waters were mostly remote, high elevation lakes that could not be sampled during the present study.

Johnson et al. (2018) found that *Mysis* were less likely to persist in lakes with low dissolved oxygen concentrations near the bottom, but we couldn't test this because none of the waters we sampled in August had hypolimnetic dissolved oxygen concentrations that were below the lethal limit for *Mysis* (1.0 mg/L; Sherman et al. 1987; Sandeman and Lasenby 1980) in the years that we sampled them. Most of the waters sampled exhibited relatively low conductivity (mean = 79, SD = 83 uS/cm; Figure 2.3) and there was no difference in conductivity between waters with and without *Mysis* (t-test,  $p = 0.10$ ). Turbidity was more variable across waters (mean = 2.9, SD = 5.7; Figure 2.3) but it did not differ between waters with and without *Mysis* (t-test,  $p = 0.36$ )

Examining the conditions under which *Mysis* invaded new waters provided another opportunity to learn about factors that affect establishment of new populations. However, in addition to habitat suitability of the recipient water, successful invasion requires that *Mysis* survive passage from the source water to the destination water. As an obligate lacustrine species *Mysis* are unable to inhabit flowing water and may actually be killed by severe turbulence (Gregg and Bergersen 1980) occurring in natural streams. Further, streams provide little opportunity for *Mysis* to avoid fish predation. The fact that *Mysis* are not found in deep, cold lakes even a few kilometers outside their native range (the area covered by the Pleistocene glaciation) argues to their relatively poor natural dispersal ability (Rudstam 2009). However, waters that are connected to upstream source populations via artificial structures (tunnels, pipelines, and canals) may be more likely to be invaded by *Mysis*. Our findings are consistent with this view. In fact, all the waters invaded by *Mysis* were connected to source waters via artificial structures. Four of the invaded waters are part of the Colorado-Big

Thompson Project (CBT; Figure 2.4). The CBT captures runoff in the Upper Colorado River basin on the West Slope and delivers that water to East Slope storage reservoirs via a system of tunnels, pipelines, and canals. After *Mysis* were stocked in Grand Lake (1969), Lake Granby (1971) and Horsetooth Reservoir (1971) water distribution activities allowed the species to invade other CBT reservoirs including Shadow Mountain Reservoir, Lake Estes, Pinewood Reservoir, and Carter Lake.

We were unable to sample the CBT's Flatiron Reservoir and Mary's Lake due to boating prohibitions, but we believe they could host *Mysis* since upstream and downstream waters contain *Mysis*. *Mysis* were not detected in Willow Creek Reservoir but even though this reservoir is downhill from Lake Granby, a pumping station at Willow Creek Reservoir moves water uphill to Lake Granby. Under normal operating conditions *Mysis* would be unable to reach Willow Creek from Lake Granby. *Mysis* were not detected in Boulder Reservoir either. Boulder Reservoir receives water from Carter Lake via a 37 km system of canals but Boulder Reservoir is relatively shallow and is located at 1,578 m elevation so it may be too warm to support *Mysis*.

None of the downstream waters connected via natural streams that we sampled were found to contain *Mysis*. We speculate that predation by stream fish populations may prevent *Mysis* from invading downstream waters connected by natural waterways, but this question requires further study. In Montana, it is thought that *Mysis* invaded Flathead Lake by passive dispersal from lakes stocked with *Mysis* that were  $\geq 24$  km upstream from Flathead Lake on the Swan and Flathead rivers (Spencer et al. 1991) but the evidence is circumstantial.

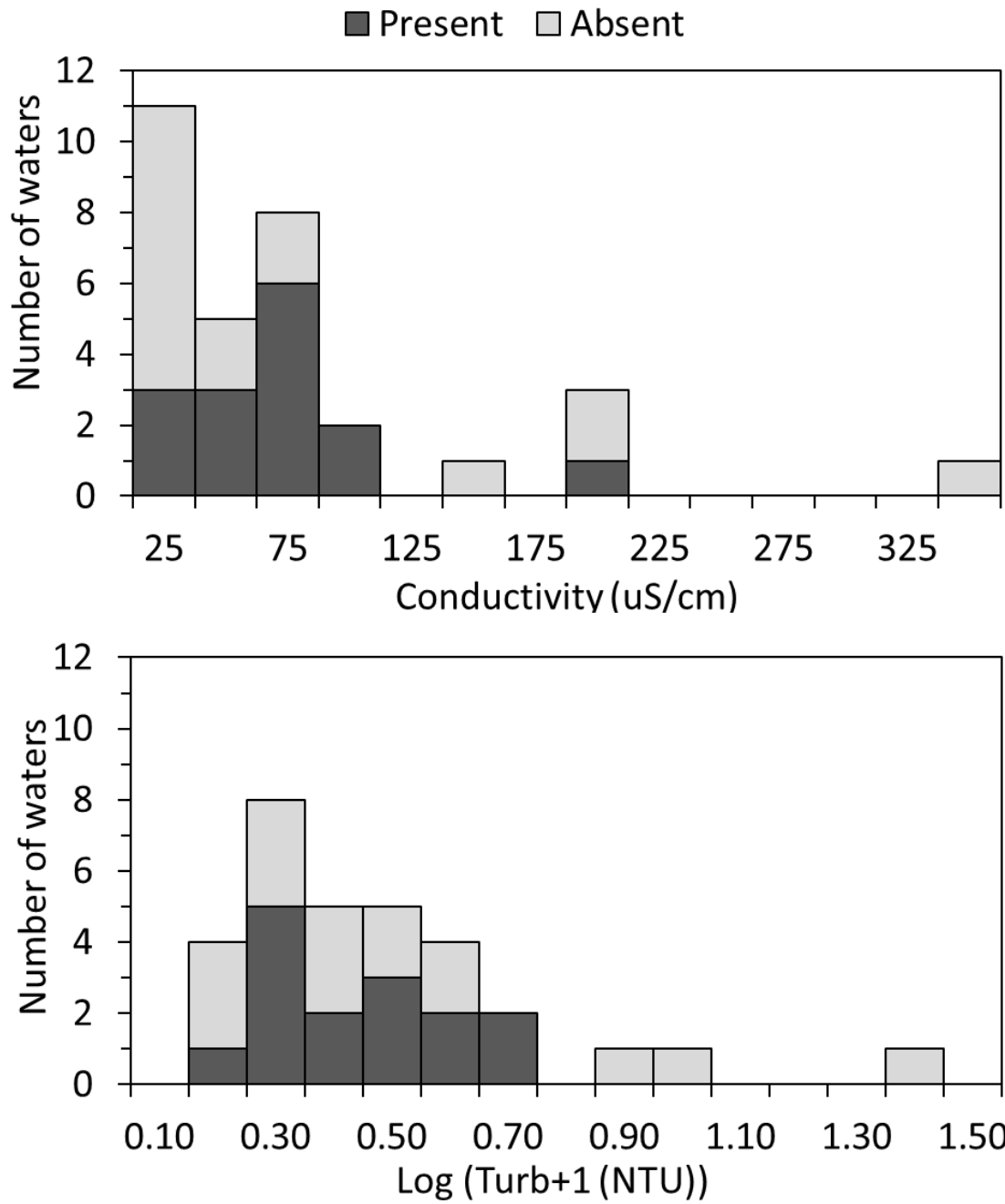


Figure 2.3. *Mysis* presence/absence in waters stocked with *Mysis* as a function of lake conductivity and turbidity.

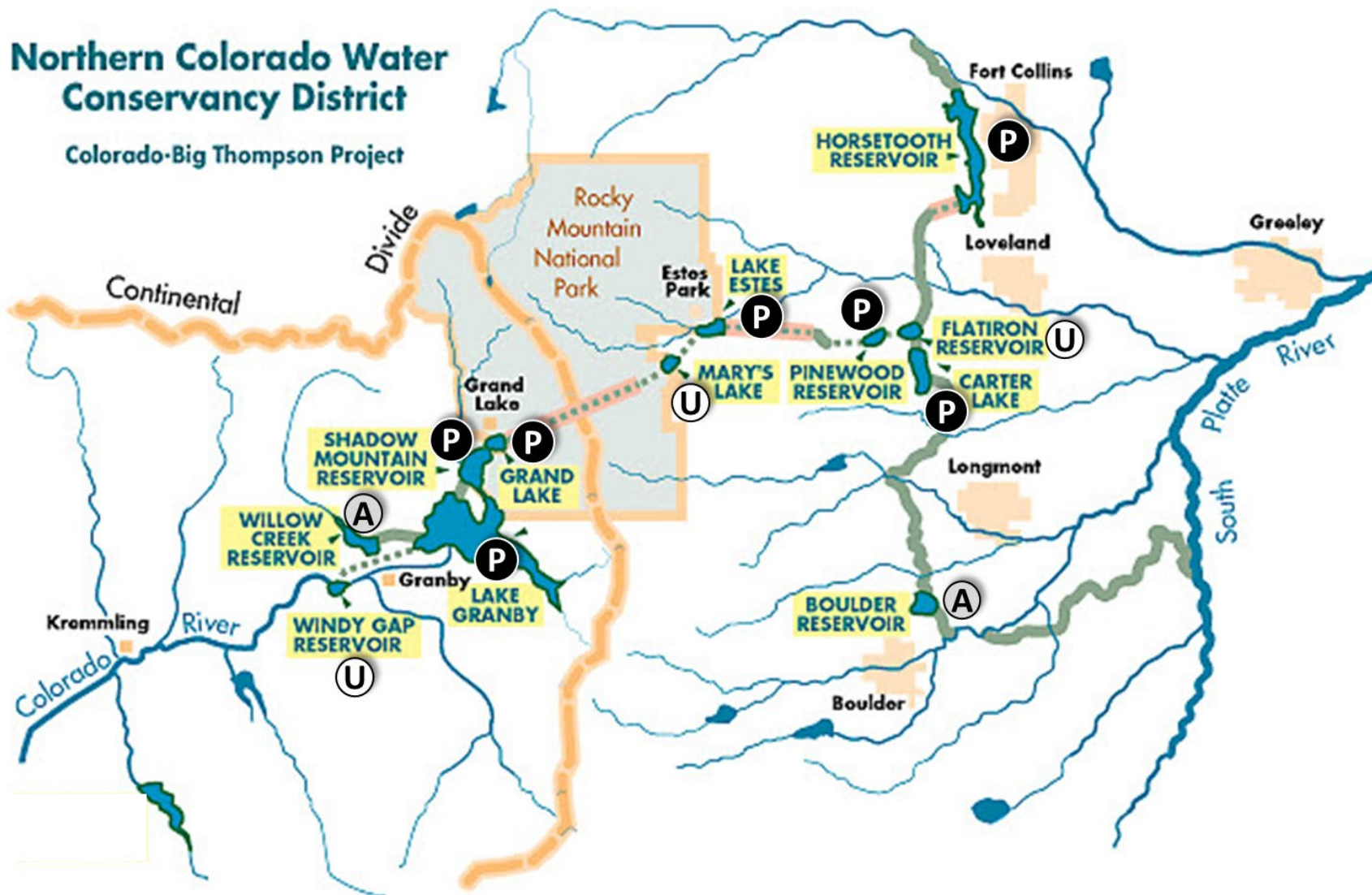


Figure 2.4. Status of *Mysis* in reservoirs of the Colorado-Big Thompson Project (A = absent, P = present, U = unknown). Base map © 2019 Northern Colorado Water Conservancy District. All rights reserved.



### *Mysis* population characteristics

*Mysis* population abundance varies seasonally, resulting from the short life cycle of the species. In populations that produce a single cohort per year abundance should be highest in spring when juveniles are released but density estimates may be biased by differential vulnerability to sampling. Research elsewhere showed that juveniles migrate to shallow water where they are difficult to sample and remain there until late summer (Reynolds and DeGraeve 1972; Morgan & Threlkeld 1982; Johannsson 1995). For this reason, and to ensure that mysids would not be occupying surface waters where they could avoid capture, standardized monitoring performed by CPW is conducted during late summer (Martinez 1992). The possibility of changing spatial distribution through the year implies that comparison of population sizes across our study waters may be invalid unless the waters are sampled at a similar time of year. We sampled 12 waters during CPW's August-September standard monitoring period in 2010-2019. Average lakewide density ranged from a low of 0.9 individuals/m<sup>2</sup> (n = 3) at Horsetooth Reservoir to a high of 496 individuals/m<sup>2</sup> at Lake Granby (n = 10; Figure 2.5). Density was also low at Lower Twin Lake (66 individuals/m<sup>2</sup>, n = 2), and Mount Elbert Forebay (83 individuals/m<sup>2</sup>, n = 2). The average density reported by Martinez et al. (2010) was similar to our values at Lake Granby (477 individuals/m<sup>2</sup>, n = 14) and Taylor Park Reservoir (253 individuals/m<sup>2</sup>, n = 10). Average *Mysis* density at Dillon Reservoir decreased from 284 individuals/m<sup>2</sup> (n=12) during 1992-2008 (Martinez et al. 2010) to 179 individuals/m<sup>2</sup> (n=9) during 2010-2018.

The dynamics of the *Mysis* population in Horsetooth Reservoir are particularly interesting because this population may offer clues about conditions that are unfavorable

for the species. Although we captured no *Mysis* in August-September surveys in 2017 and 2018 at Horsetooth Reservoir, small numbers of *Mysis* have been captured occasionally in surveys at other times. The reservoir was sampled in October 1999, and during 2003-2006 and 2015-2018 by CPW or CSU using identical methods (Figure 2.6; Table A6.3). The average *Mysis* density during all August-October surveys was 1.05 individuals/m<sup>2</sup> (SD = 1.36, n = 8), and in all 11 surveys 0.82 individuals/m<sup>2</sup> (SD = 1.21) (Figure 2.6). No *Mysis* were captured in 4 of 11 surveys, and few or no juveniles were captured in each survey. We hypothesize that the low abundance in Horsetooth Reservoir is due to two interacting factors: predation by Rainbow Smelt *Osmerus mordax* and metalimnetic oxygen deficits. In 1983 CPW introduced Rainbow Smelt into the reservoir as prey for Walleye (Johnson and Goettl 1999). The Rainbow Smelt population grew rapidly and *Mysis* were thought to have been extirpated from the reservoir by 1988 (Johnson and Goettl 1999). Standardized *Mysis* sampling in 2003 showed that *Mysis* had reappeared in the reservoir following the decline of the Smelt population, but at very low abundance. Abundance was low throughout the 2000s, and the population had diminished further by 2015, after a strong Smelt resurgence. A total of only four mysids were captured in four surveys during 2015-2018. Horsetooth Reservoir also has chronic metalimnetic hypoxia during summer. Low oxygen concentrations could interfere with *Mysis* DVM and make them more vulnerable to predation by Rainbow Smelt and other fishes, as was observed by Horppila et al. (2003) with closely related *Mysis relicta* in Finland.

In other waters, population characteristics did not vary as we expected over the wide range of elevations included in our study. Generally, lake productivity and temperatures should decrease with elevation

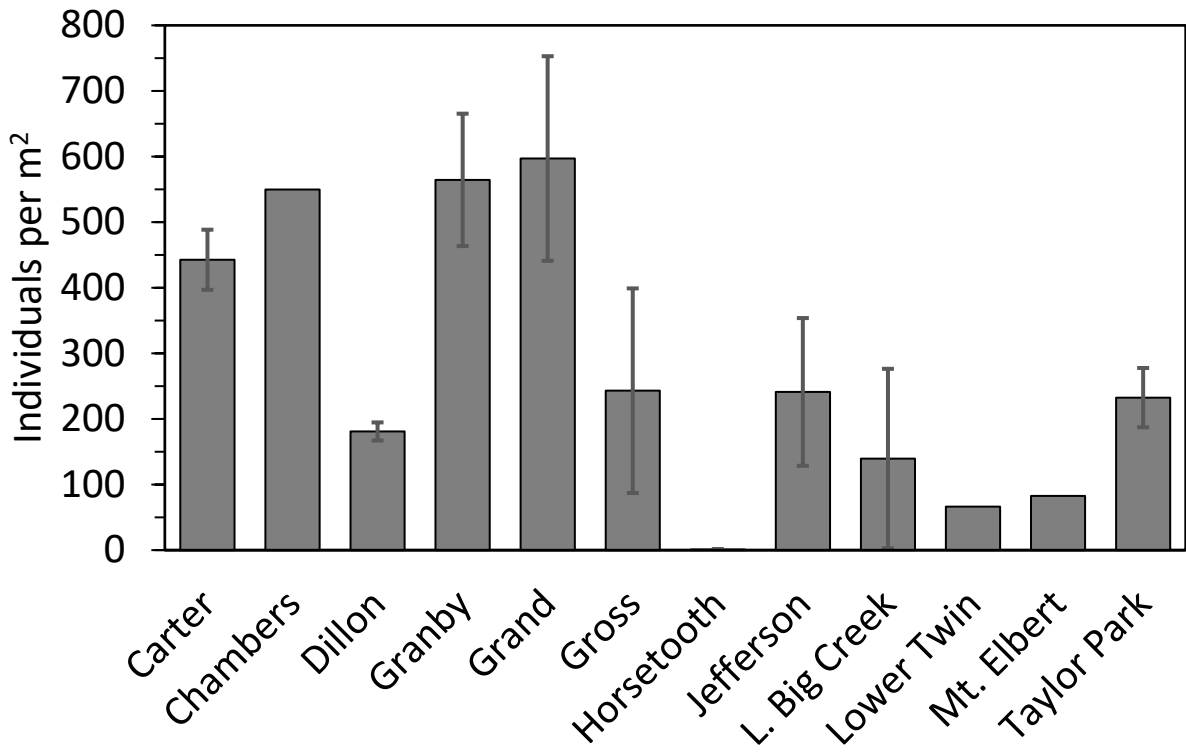


Figure 2.5. Average density of *Mysis* sampled during August-September during 2011-2019 in 12 study waters sampled 1-10 times during the study.

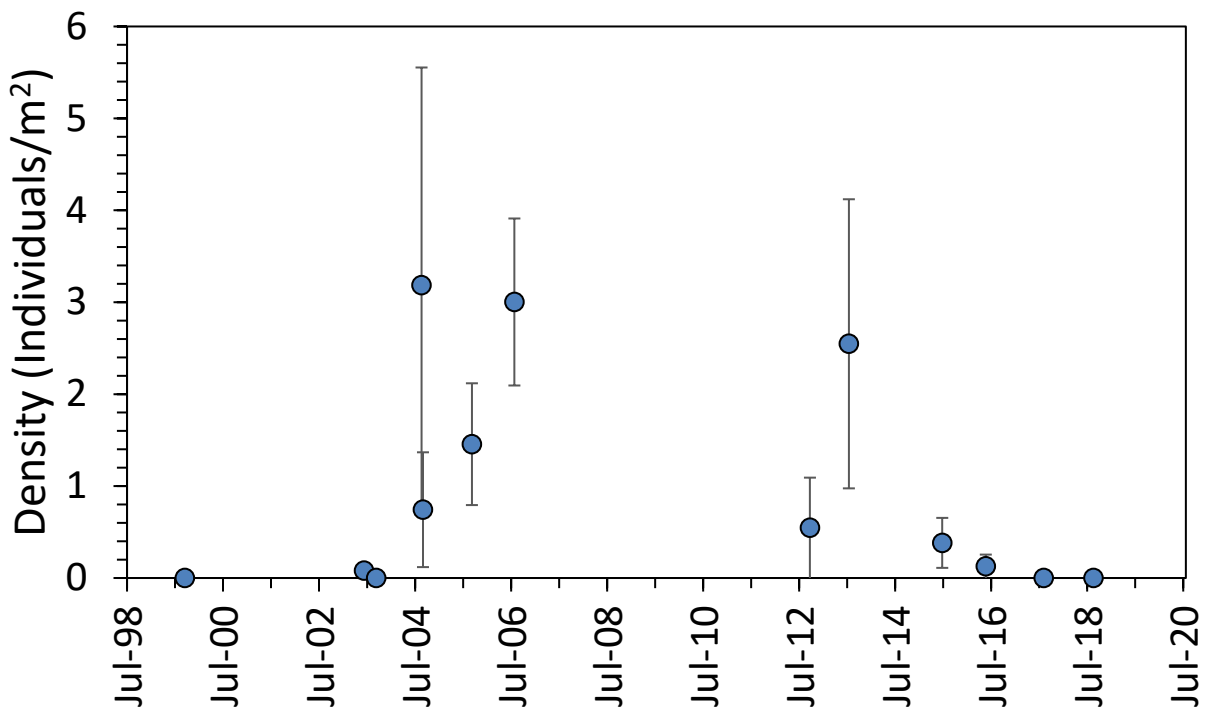


Figure 2.6. Density estimates ( $\pm$ SE) of *Mysis* in Horsetooth Reservoir sampled by CPW and CSU during 1999-2019. See Table A6.3 for details.

so we expected that *Mysis* might produce more than one brood per year and grow the fastest at the lower elevation reservoirs. To examine how recruitment and growth varied with elevation we sampled four reservoirs monthly in 2014 (Carter Lake, Dillon Reservoir, and Lower Twin Lake) and 2018 (Jefferson Lake). These waters differed in elevation ranging from 1,757 m at Carter to 3,260 m at Jefferson Lake. Length-frequency distributions suggest that the effect of elevation on *Mysis* reproduction and growth is more complicated than we thought. All four populations displayed just two age-classes (Figure 2.7), indicating that they produced one brood per year. A small number of large individuals in Jefferson and Carter lakes suggests that some may survive into a third year of life in those waters. Juveniles appeared earliest in Lower Twin Lake and latest in Jefferson Lake. Growth of the juvenile cohort was slowest in Jefferson Lake where they reached only about 8 mm in length by October. Growth of juveniles was fastest at Lower Twin Lake and Dillon Reservoir where they were about 25% larger than at the other waters in October. Apparently, young-of-year grow substantially during winter and spring to reach a modal size of 14-16 mm by June of the following year. In June, adults were largest at Carter Lake, but they grew little during summer compared to the other waters. It may be that high temperatures and relatively high population density limit growth of *Mysis* at Carter Lake despite the lake's higher productivity.

#### *Effects of Mysis on plankton assemblages*

We identified a total of 21 crustacean zooplankton species (Table 2.4). The five most frequently occurring species were found in at least 70% of the waters: *Bosmina longirostris* (39 waters) *Daphnia galeata* (37 waters), *Diacyclops thomasi* (45 waters), and *Leptodiaptomus nudus* (35 waters). The

rarest species, observed in just one water each, were: *Daphnia lumholtzi* (Lower Twin Lake), and *Diaphanosoma birgei* (Carter Lake). In waters with *Mysis* *Daphnia*, the most important zooplankton prey for fish, were extremely rare or nonexistent before thermal stratification produced a thermal refugium (Figure 2.8). Even during summer stratification, *Daphnia* density was substantially lower in *Mysis* waters than at Blue Mesa Reservoir, which supports one the state's top kokanee fisheries. *Daphnia* density was very low throughout the open water season at Dillon Reservoir and Lower Twin Lake, probably due to lower productivity and a less pronounced thermal refugium in these waters.

Many studies have reported that *Daphnia* populations declined dramatically, and their seasonal peak was delayed until late summer after *Mysis* became established (Richards et al. 1975; Rieman and Falter 1981; Nesler and Bergersen 1991; Spencer et al. 1991). Some Colorado waters without *Mysis* had relatively low *Daphnia* and other zooplankton density during summer suggesting that lake-specific factors such as productivity, water retention time and thermal regime are also important drivers of zooplankton communities across the state. However, it is clear that *Mysis* are able to limit *Daphnia* populations and food for planktivorous sport fish throughout the open water period.

#### *Unsampled waters*

The 22 stocked waters and five at-risk waters that were not sampled had boating restrictions or were inaccessible by motor vehicle. Methods to sample from shore will be needed to collect *Mysis* from Mary's Lake and Flatiron Reservoir. The remaining unsampled waters were mostly small (mean = 10 ha) and occurred at elevations above 3,000 m (mean = 3,350 m) (Table 2.5; Figure 2.1). Because these lakes have different

Table 2.4. Crustacean zooplankton taxa identified in samples from study waters in Colorado during 2010-2019.

Taxon	BLD	BMR	CAR	CHK	CHM	CHP	CHA	CHE	CLE	CRY	DEE	DIE	DIL	EST	GDL	GRE	GRO	HOM	HST	IVA	JEF	GBR	LMR	BCL	
<i>Alona guttata</i>			X										X						X			X			
<i>Bosmina longirostris</i>	X	X	X	X		X	X	X	X	X	X		X	X	X	X	X	X	X	X	X	X		X	
<i>Ceriodaphnia quadrangula</i>		X								X		X		X							X				
<i>Chydorus sphaericus</i>									X												X				
<i>Daphnia ambigua</i>				X							X		X								X				
<i>Daphnia galeata</i>	X	X				X	X	X	X			X	X	X	X	X	X		X		X	X		X	
<i>Daphnia longiremis</i>			X			X	X						X							X					
<i>Daphnia lumholtzi</i>																									
<i>Daphnia pulicaria/pulex</i>	X	X	X		X		X	X	X		X		X	X	X	X	X	X	X	X	X	X		X	
<i>Daphnia rosea</i>			X				X			X			X								X	X			
<i>Diacyclops thomasi</i>	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
<i>Diaphanosoma birgei</i>			X																						
<i>Diaphanosoma brachyurum</i>			X																			X			
<i>Holopedium gibberum</i>																									
<i>Leptodiptomus connexus</i>	X		X	X																X					
<i>Leptodiptomus judayi</i>			X								X		X				X								
<i>Leptodiptomus nudus</i>	X	X	X	X			X	X	X		X	X	X		X	X	X	X	X		X	X			
<i>Leptodora kindtii</i>							X											X				X			
<i>Mesocyclops edax</i>						X	X												X						

Table 2.4. Continued. Crustacean zooplankton taxa identified in samples from study waters in Colorado during 2010-2019.

Taxon	CMP	LTL	MCL	MEF	NOR	PIN	PUE	RW1	RW2	RW3	RUE	SEL	SHA	STI	STR	SUG	TAY	TUR	BCU	UCL	UST	UTL	WCR	YAM	
<i>Alona guttata</i>																									
<i>Bosmina longirostris</i>		X	X	X		X	X	X	X	X	X			X	X	X	X	X	X	X	X	X	X	X	X
<i>Ceriodaphnia quadrangula</i>											X	X													
<i>Chydorus sphaericus</i>														X							X				
<i>Daphnia ambigua</i>					X		X																		
<i>Daphnia galeata</i>	X	X	X	X		X	X	X	X	X	X	X	X	X	X	X	X	X		X	X		X	X	
<i>Daphnia longiremis</i>							X																		
<i>Daphnia lumholtzi</i>		X																							
<i>Daphnia pulicaria/pulex</i>		X	X	X		X	X					X	X	X	X	X		X			X		X	X	
<i>Daphnia rosea</i>		X					X																		
<i>Diacyclops thomasi</i>		X	X	X	X	X	X	X	X		X	X	X	X	X	X	X	X	X	X		X	X	X	X
<i>Diaphanosoma birgei</i>																									
<i>Diaphanosoma brachyurum</i>																									
<i>Holopedium gibberum</i>												X						X		X					
<i>Leptodiptomus connexus</i>		X					X				X											X			
<i>Leptodiptomus judayi</i>		X					X															X			
<i>Leptodiptomus nudus</i>	X		X	X		X	X	X		X	X	X	X	X	X	X	X			X	X		X	X	
<i>Leptodora kindtii</i>		X																					X		
<i>Mesocyclops edax</i>							X																		

Table 2.5. Waters that were stocked with *Mysis* that could not be sampled during the current study, grouped by proximity. Only Crystal, Rainbow, and Timberline lakes were sampled previously, but more than 35 years ago, before improved sampling methods were available. Distances are straight-line paths connecting lakes in a cluster.

Water body name	County	Elevation (m)	Area (ha)	Depth (m)	Comments, distance
Silver King	Chaffee	3,853	7	3.3	Shallow, 13.5 km apart
Willis	Chaffee	3,587	4	NA	
Blodgett	Eagle	3,581	10	28.6	20 km
Bowl of Tears	Eagle	3,673	8	30.8	
Gold Dust lakes	Eagle	3,475	NA	NA	
New York	Eagle	3,353	16	18.9	
Deckers	Lake	3,463	3	NA	7 km, about 13 km from Blodgett
Timberline	Lake	3,338	2	8.5	
Little Echo	Gilpin	3,409	5	22.9	Far from other <i>Mysis</i> lakes
Blue	Jackson	2,992	9	40.2	2.5 km
Peggy	Jackson	3,403	4	9.4	
Twin	Jackson	3,007	9	14.0	
Katherine	Jackson	3,005	9	35.0	8 km from lake clusters to north and south
Kelly	Jackson	3,293	9	13.1	3 km
Timber	Larimer	3,328	5	NA	
Agua Fria	Jackson	3,060	11	18.0	4.8 km
Roxy Ann	Jackson	3,110	26	38.4	
Rainbow	Jackson	3,003	39	27.7	
Lower Rainbow <sup>1</sup>	Jackson	2,963	3.2	-	
Middle Rainbow <sup>1</sup>	Jackson	3,000	3.0	-	
Forest	Larimer	3,359	5	11.9	Inside RMNP
Crater	Grand	3,146	8	23.8	Pierre, Capital = 2.5 km apart, another 10 km to Crater
Capitol	Pitkin	3,536	9	30.5	
Pierre lakes	Pitkin	3,732	19	NA	

<sup>1</sup>Not stocked but may have been invaded from Rainbo

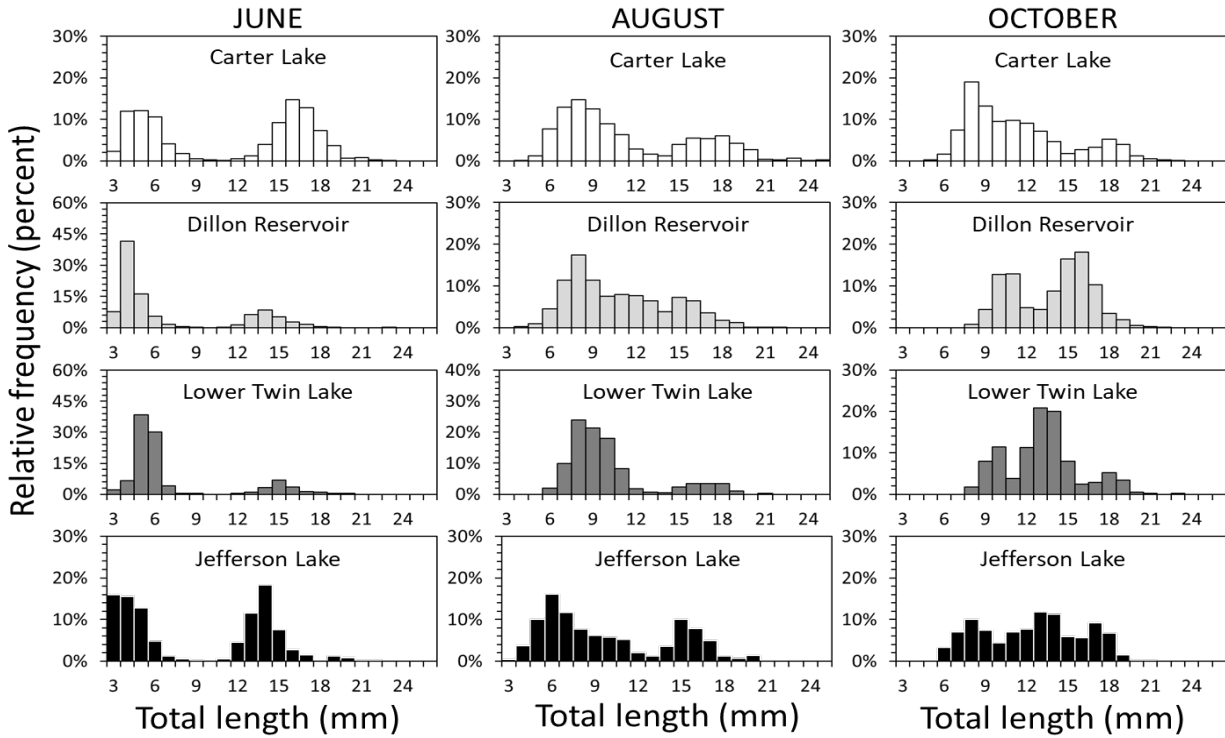


Figure 2.7. Size distributions of *Mysis* sampled in June, August and October at Carter Lake (surface elevation = 1,757 m), Dillon Reservoir (2,748 m), Lower Twin Lake (2,804 m), and Jefferson Lake (3,260 m). Jefferson Lake was sampled in 2018 and the other waters in 2014.

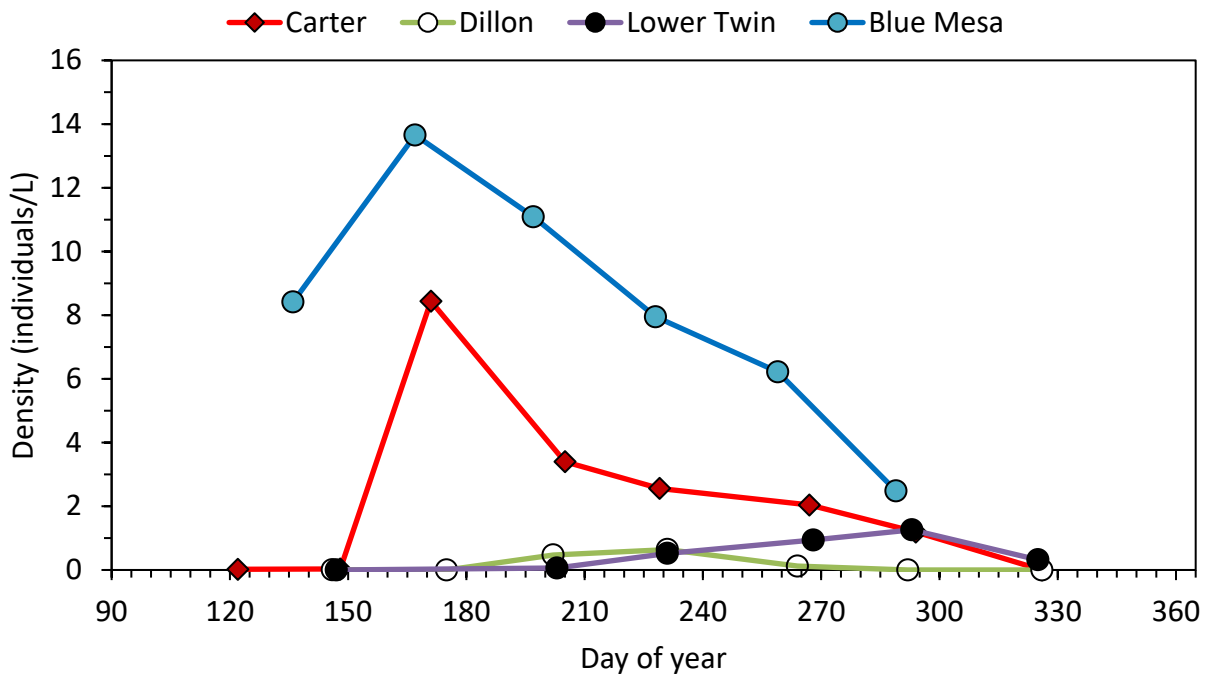


Figure 2.8. Seasonal *Daphnia* density at three *Mysis* reservoirs sampled during 2014 compared with that measured at Blue Mesa Reservoir during 1994-2002 (Johnson and Koski 2002).

characteristics than those we were able to sample, they could provide interesting data on *Mysis* invasion success at the extremes of lake elevation and size. In fact, *Mysis* were stocked into Colorado lakes that are higher in elevation than anywhere else in North America. However, many of these waters are located in wilderness areas where vehicle access is impossible and would have required backpacking across several miles of steep terrain to sample them.

Future efforts to sample these unsampled lakes may require pack horses and outfitters to transport sampling gear and supplies. As proof of concept, we were able to access a cluster of 8 lakes in the Rawah Wilderness with horses and a backcountry outfitter in 2016. Further, we developed methods for physical sampling from inflatable boats (Silver et al. 2016) and eDNA sampling (Carim et al. 2016) during this project that

make *Mysis* sampling in remote lakes more feasible. Thus, while it may be prohibitively expensive to use outfitters and horses to sample all the unsampled *Mysis* waters, a few trips targeting clusters of remote lakes would provide very valuable data. For example, there are six clusters of two to five unsampled lakes across the state (Table 2.5). Outfitter trips to the Blodgett Lake cluster and the Agua Fria cluster would add eight new high elevation waters to the dataset. Based on the small surface area of the unsampled waters, just three sampling stations would be required in each. Most of the lakes are deep enough to sample with the 0.5 m *Mysis* net which provides *Mysis* density and size structure estimates comparable to those collected with the standard 1.0 m diameter net (Silver et al. 2016). Environmental DNA samples should be taken from lakes that can't be sampled by netting.



Bill Pate and Doug Silver collecting an environmental DNA (eDNA) water sample to detect *Mysis* (B. Johnson, Colorado State University).



## Chapter 3. Conclusions and Recommendations

### Primary findings

This 10-year research project was the first and only comprehensive, statewide analysis of the history and outcomes of *Mysis* introductions in Colorado. Our findings include the following:

- *Mysis* were first introduced in Colorado at Twin Lakes in 1957 using stock collected from Clearwater Lake in northeastern Minnesota. The Twin Lakes population then served as the source for more than 50 additional introductions during 1969-1975. Most of the stocked waters were either never sampled for *Mysis* or sampled >35 years ago.
- We sampled 50 lakes and reservoirs during 2010-2019. *Mysis* were established in 15 (48%) of the stocked waters we sampled, and their persistence was high as none of the previously known *Mysis* populations had been extirpated with the possible exception of Horsetooth Reservoir.
- Habitat suitability of the recipient water may be a more important determinant of *Mysis* colonization than propagule pressure. *Mysis* became established in several waters stocked only once and failed to establish in several that were stocked repeatedly.
- *Mysis* invaded five (26%) of the 19 at-risk waters we sampled. Downstream invasions only occurred in waters connected by artificial structures (tunnels, pipelines, and canals) suggesting that fish predation may prevent *Mysis* dispersal via natural streams.
- Elevation did not appear to be a strong determinant of stocking success. *Mysis* were established in stocked waters ranging in elevation from 1,656 m to 3,271 m, but populations were concentrated around 2,800 m elevation.
- Generally, stocking was unsuccessful in waters < 9 m deep and < 16 ha in surface area. More than half of the waters with *Mysis* were >20 m deep and >250 ha in area. Many of the stocked waters we could not sample were small, shallow high elevation waters in wilderness areas.
- The density of Colorado *Mysis* populations varies widely. In 10 waters with non-zero catches and sampled during August or September, average density was lowest at Lower Twin Lake (66 individuals/m<sup>2</sup>), and highest at Lake Granby (496 individuals/m<sup>2</sup>). Carter, Chambers and Grand lakes all had average *Mysis* densities > 400 individuals/m<sup>2</sup>.
- The combination of Smelt predation and low dissolved oxygen in the metalimnion have prevented the *Mysis* population in Horsetooth Reservoir from expanding beyond about 1 individual/m<sup>2</sup> and in the two most recent surveys (2017, 2018) no *Mysis* were captured.
- Effects of elevation on *Mysis* growth and reproduction were not linear in four waters sampled monthly over a 2,500 m elevation range. Each population produced a single cohort per year. Growth of juveniles was comparable at the lowest and highest elevation waters (Carter, Jefferson lakes, respectively) and higher at Dillon Reservoir and Lower Twin Lake despite seemingly lower productivity of those waters.
- *Mysis* were able to control *Daphnia* populations and therefore food availability for planktivorous sport fish. Virtually no *Daphnia* were found in *Mysis* waters before June or after

October. Thermal stratification provided a thermal refugium for *Daphnia* in some lower elevation waters.

- The project gathered a wealth of data on limnological conditions in 50 Colorado

## Future Research

Based on the findings of the present study we recommend the following activities to improve understanding of the effects of *Mysis* on plankton and fish populations and to track the effects of environmental change on lentic food webs and fisheries with *Mysis*:

1. Continue to monitor *Mysis* and plankton in high-value waters to interpret fishery trends and to examine effects of climate change and increasing water demand on *Mysis* population dynamics. Maintain the database initiated by Patrick Martinez on *Mysis* and plankton dynamics at several of the state's largest coldwater reservoirs that now spans three decades.
2. Although history suggests that *Mysis* invasion from upstream is unlikely at Blue Mesa Reservoir, periodic *Mysis* sampling at the reservoir is advisable.
3. Periodic *Mysis* sampling at Horsetooth Reservoir would be insightful because abundance there is extremely low, and the population may be on the verge of collapse. Documenting the extirpation of a non-native *Mysis* population would be unprecedented.
4. Efforts should be made to sample the remaining unsampled waters in the Colorado-Big Thompson Project. Windy Gap Reservoir could be sampled by boat, but shore-based methods to sample Mary's Lake and Flatiron Reservoir will need to be developed since no boats are allowed on those reservoirs.
5. Several remote lakes that were stocked with *Mysis* but could not be sampled during the present study are clustered together. Horse pack trips targeting lake clusters and sampling methods developed during the present study would make determining status of *Mysis* in more waters feasible.
6. Refinement of the eDNA method developed during this project into a quantitative tool could provide a rapid population assessment method in place of costly and time-consuming net sampling.
7. Research to investigate the top-down effects of *Mysis* predation on water clarity is limited. An investigation of the influence of *Mysis* on water clarity could be performed at Grand Lake, where water clarity declines are of great public interest, and the feasibility of *Mysis* removal as a water clarity remediation tool could be tested.

lakes and reservoirs, and on 20 *Mysis* populations. These baseline data should prove useful in the future as climate change and intensifying water resource exploitation impact the state's lentic waters.

## Literature Cited

- Audzijonyte, A., and R. Vainola. 2005. Diversity and distributions of circumpolar fresh and brackish water *Mysis* (Crustacea: Mysidacea): descriptions of *M. relicta* Loven, 1862, *M. salemaai* n. sp., *M. segerstralei* n. sp. and *M. diluviana* n. sp., based on molecular and morphological characteristics. *Hydrobiologia* 544:89-141. <https://doi.org/10.1371/journal.pone.0161664>
- Beeton, A. M., and J. A. Bowers. 1982. Vertical migration of *Mysis relicta* Lovén. *Hydrobiologia* 93:53–61.
- Beeton, A. M. and J. E. Gannon. 1991. Effect of environment on reproduction and growth of *Mysis relicta*. *American Fisheries Society Symposium* 9:144-148.
- Berrill, M. 1969. The embryonic behavior of the mysid shrimp, *Mysis relicta*. *Canadian Journal of Zoology* 47:1217-1221.
- Berrill, M., and D. C. Lasenby. 1983. Life cycles of the freshwater mysid shrimp *Mysis relicta* reared at two temperatures. *Transactions of the American Fisheries Society* 112:551-553.
- Boscarino, B. T., L. G. Rudstam, E. R. Loew, and E. L. Mills. 2009. Predicting the vertical distribution of the opossum shrimp, *Mysis relicta*, in Lake Ontario: a test of laboratory-based light preferences. *Canadian Journal of Fisheries and Aquatic Sciences* 66:101-113
- Brownell, W. 1970. Studies on the ecology of *Mysis relicta* in Cayuga Lake. M.S. Thesis. Cornell Univ., Ithaca, N.Y. 67 p.
- Carim, K. J., K. R. Christianson, K. M. McKelvey, W. M. Pate, D. B. Silver, B. M. Johnson, B. T. Galloway, M. K. Young, and M. K. Schwartz. 2016. Environmental DNA marker development with sparse biological information: A case study on Opossum Shrimp (*Mysis diluviana*). *PLoS ONE* 11(8): e0161664, <https://doi.org/10.1371/journal.pone.0161664>
- Dadswell, M. J. 1974. Distribution, ecology, and postglacial dispersal of certain crustaceans and fishes in eastern North America. *Publications in zoology number 11*, National Museum of Natural Sciences, National Museums of Canada, Ottawa.
- DeGraeve, G.M. & J.B. Reynolds. 1975. Feeding behavior and temperature and light tolerance of *Mysis relicta* in the laboratory. *Trans. Am. Fish. Soc.* 104:394-397.
- Devlin, S. P., S. K. Tappenbeck, J. A. Craft, T. H. Tappenbeck, D. W. Chess, D. C. Whited, B. K. Ellis, and J. A. Stanford. 2016. Spatial and temporal dynamics of invasive freshwater shrimp (*Mysis diluviana*): Long-term effects on ecosystem properties in a large oligotrophic lake. *Ecosystems*. 10.1007/s10021-016-0023-x
- Finnell, L. M. 1972. Fryingpan-Arkansas fish research investigations, Report number 1. Colorado Division of Wildlife, Fort Collins. 46 pp.
- Finnell, L. M. 1977. Fryingpan-Arkansas fish research investigations, Final report. Colorado Division of Wildlife, Final Report, Fort Collins. 96 pp.
- Finnell, L. M., and G. L. Bennett. 1973. Fryingpan-Arkansas fish research investigations. Colorado Division of Wildlife, Report number 2, Fort Collins. 60 pp.
- Griest, J. R. 1977. The Lake Trout of Twin Lakes, Colorado. REC-ERC-77-4
- Hansen, A. G. 2018. Coldwater lake and reservoir research projects. Colorado Parks and Wildlife, Fort Collins.
- Ho, M., U. Lall, M. Allaire, N. Devineni, H. H. Kwon, I. Pal, D. Raff and D. Wegner. 2017. The future role of dams in the United States

- of America. Reviews of Geophysics  
<https://doi.org/10.1002/2016WR019905>.
- Horppila, J., A. Liljendahl-Nurminen, T. Malinen, M. Salonen, A. Tuomaala, L. Uusitalo, and M. Vinni. 2003. *Mysis relicta* in a eutrophic lake –consequences of obligatory habitat shifts. *Limnology and Oceanography* 48: 1214-1222.
- Johannsson, O. E. 1992. Life history and productivity of *Mysis relicta* in Lake Ontario. *Journal of Great Lakes Research* 18:154-168.
- Johannsson, O. E. 1995. Response of *Mysis relicta* population dynamics and productivity to spatial and seasonal gradients in Lake Ontario. *Canadian Journal of Fisheries and Aquatic Sciences* 52:1509–1522.
- Johannsson, O. E., M. F. Leggett, L. G. Rudstam, M. R. Servos, M. A. Mohammadian, G. Gal, R. M. Dermott, R. H. Hesslein. 2001. Diet of *Mysis relicta* in Lake Ontario as revealed by gut content analysis. *Canadian Journal Fisheries and Aquatic Sciences* 58:1975-1986.
- Johnson, B. M. and M. L. Koski. 2005. Reservoir and food web dynamics at Blue Mesa Reservoir, Colorado, 1993-2002. Final report, U.S. Bureau of Reclamation, Grand Junction, Colorado, 186 pages.
- Johnson, B. M., P. J. Martinez, and J. D. Stockwell. 2002. Tracking trophic interactions in coldwater reservoirs using naturally occurring stable isotopes. *Transactions of the American Fisheries Society* 131:1-13.
- Johnson, B. M. and P. J. Martinez. 2012. Hydroclimate mediates effects of a keystone species in a coldwater reservoir. *Lake and Reservoir Management* 28:70-83.
- Jude, D. J., L. G. Rudstam, T. J. Holda, J. M. Watkins, P. T. Euclide, and M. D. Balcer. 2018. Trends in *Mysis diluviana* abundance in the Great Lakes, 2006–2016. *Journal of Great Lakes Research* 44:590-599.
- Klein, W. D. 1957. An experimental plant of the small crustacean, *Mysis*. Colorado Game and Fish Department, Fishery Leaflet 53, Denver. 1 p.
- Lasenby, D. C., T. G. Northcote, and M. F. Fürst. 1986. Theory, practice, and effects of *Mysis relicta* introductions to North American and Scandinavian lakes. *Canadian Journal of Fisheries and Aquatic Sciences* 43:1277–1284.
- Lepak, J. 2013. Lake and reservoir food web ecology. Colorado Parks and Wildlife, Fort Collins.
- Lepak, J. 2014. Lake and reservoir food web ecology. Colorado Parks and Wildlife, Fort Collins.
- Martinez, P. J., M. D. Gross, and E. M. Vigil. 2010. A compendium of crustacean zooplankton and *Mysis diluviana* collections from selected Colorado reservoirs and lakes, 1991-2009. Fort Collins, CO: Colorado Division of Wildlife, 278 pp.
- Martinez, P.J. 1986. Zooplankton and kokanee Interactions in Lake Granby, Colorado and management of introduced *Mysis*. Master's thesis, Colorado State University, Fort Collins. 176 pp.
- Martinez, P. J. 1992. Coldwater reservoir ecology. Colorado Division of Wildlife, Federal Aid in Sport Fish Restoration, Project F-89, Progress Report, Fort Collins. 131 pp.
- Martinez, P. J. 1993. Coldwater reservoir ecology. Colorado Division of Wildlife, Federal Aid in Sport Fish Restoration, Project F-89, Final Report, Fort Collins. 86 pp.
- Martinez, P. J. 1994. Coldwater reservoir ecology. Colorado Division of Wildlife, Federal Aid in Sport Fish Restoration,

- Project F-85, Progress Report, Fort Collins. 155 pp.
- Martinez, P. J. 1995. Coldwater reservoir ecology. Colorado Division of Wildlife, Federal Aid in Sport Fish Restoration, Project F-242R-2, Final Report, Fort Collins. 162 pp.
- Martinez, P. J. 1996. Coldwater reservoir ecology. Colorado Division of Wildlife, Federal Aid in Sport Fish Restoration, Project F-242R-3, Progress Report, Fort Collins. 143 pp.
- Martinez, P. J. 1997. Coldwater reservoir ecology. Colorado Division of Wildlife, Federal Aid in Sport Fish Restoration, Project F-242R-4, Progress Report, Fort Collins. 137 pp.
- Martinez, P. J. 1998. Coldwater reservoir ecology. Colorado Division of Wildlife, Federal Aid in Sport Fish Restoration, Project F-242-R6, Progress Report, Fort Collins. 200 pp.
- Martinez, P. J. 2000a. Coldwater reservoir ecology. Colorado Division of Wildlife, Federal Aid in Sport Fish Restoration, Project F-242-R9, Progress Report, Fort Collins. 183 pp.
- Martinez, P. J. 2001a. Coldwater reservoir ecology. Colorado Division of Wildlife, Federal Aid in Sport Fish Restoration, Project F-242R-3, Progress Report, Fort Collins. 172 pp.
- Martinez, P. J. 2002a. Coldwater reservoir ecology. Colorado Division of Wildlife, Federal Aid in Sport Fish Restoration, Project F-242-R10, Progress Report, Fort Collins. 83 pp.
- Martinez, P. J. 2003a. Coldwater reservoir ecology. Colorado Division of Wildlife, Federal Aid in Sport Fish Restoration, Project F-242-R10, Progress Report, Fort Collins. 104 pp.
- Martinez, P. J. 2004a. Coldwater reservoir ecology. Colorado Division of Wildlife, Federal Aid in Sport Fish Restoration, Project F-242-R11, Progress Report, Fort Collins. 122 pp.
- Martinez, P. J. 2005. Coldwater reservoir ecology. Colorado Division of Wildlife, Federal Aid in Sport Fish Restoration, Project F-242-R12, Progress Report, Fort Collins. 148 pp.
- Martinez, P. J. 2006a. Coldwater reservoir ecology. Colorado Division of Wildlife, Federal Aid in Sport Fish Restoration, Project F-242-R13, Progress Report, Fort Collins. 121 pp.
- Martinez, P. J. 2007a. Coldwater reservoir ecology. Colorado Division of Wildlife, Federal Aid in Sport Fish Restoration, Project F-242-R14, Progress Report, Fort Collins. 128 pp.
- Martinez, P. J. 2008. Coldwater reservoir ecology. Colorado Division of Wildlife, Federal Aid in Sport Fish Restoration, Project F-242-R14, Progress Report, Fort Collins. 123 pp.
- Martinez, P. J. 2009. Coldwater reservoir ecology. Colorado Division of Wildlife, Federal Aid in Sport Fish Restoration, Project F-242-R16, Progress Report, Fort Collins. 83 pp.
- Martinez, P. J. 2010. Coldwater reservoir ecology. Colorado Division of Wildlife, Federal Aid in Sport Fish Restoration, Project F-242-R, Final Report, Fort Collins.
- Martinez, P. J. 1992. *Mysis mania*. Colorado Outdoors May June:24-26.
- Martinez, P. J., and E. P. Bergersen. 1989. Proposed biological management of *Mysis relicta* in Colorado lakes and reservoirs. North American Journal of Fisheries Management 9:1-11.
- Martinez, P. J., and E. P. Bergersen. 1991. Interactions of zooplankton, *Mysis relicta*,

- and kokanees in Lake Granby, Colorado. American Fisheries Society Symposium 9:49-64.
- Martinez, P. J., and W. J. Wiltzius. 1991. Kokanee studies. Colorado Division of Wildlife, Federal Aid in Sport Fish Wildlife Restoration, Project F-79, Final Report, Fort Collins. 12 pp.
- Martinez, P. J., and W. J. Wiltzius. 1995. Some factors affecting a hatchery-sustained kokanee population in a fluctuating Colorado reservoir. North American Journal of Fisheries Management 15:220-228.
- Metcalf, J. L., S. L. Stowell, C. M. Kennedy, K. B. Rogers, D. McDonald, J. Epp, K. Keepers, A. Cooper, J. J. Austin, and A. P. Martin. 2012. Historical stocking data and 19th century DNA reveal human-induced changes to native diversity and distribution of Cutthroat Trout. Molecular Ecology 21:5194-5207.
- Morgan, M. D. and S. T. Threlkeld 1982. Size dependent horizontal migration of *Mysis relicta*. Hydrobiologia 93:63-68.
- Nehring, R. B. 1991. Effects of reservoir escapement of mysids on two Colorado tailrace trout fisheries. American Fishery Society Symposium 9:134-143.
- Nesler, T. P. 1986. *Mysis*-gamefish studies. Job Progress Report. Colorado Division of Wildlife, Federal Aid in Fish and Wildlife Restoration, Project F-83-R, Fort Collins. 99 pp.
- Nesler, T. P., and E. P. Bergersen. 1991. Mysids in fisheries: hard lessons from headlong introductions. American Fisheries Society Symposium 9. 199 pp.
- Northcote, T. G. 1991. Success, problems, and control of introduced mysid populations in lakes and reservoirs. American Fisheries Society Symposium 9:5-16.
- O'Malley, B., and D. B. Bunnell 2014. Diet of *Mysis diluviana* reveals seasonal patterns of omnivory and consumption of invasive species in offshore Lake Michigan. Journal of Plankton Research 36:989-1002.
- Richards, R. C., C. R. Goldman, T. C. Frantz, and R. Wickwire. 1975. Where have all the *Daphnia* gone? The decline of a major cladoceran in Lake Tahoe, California-Nevada. Verhandlungen Internationale Vereinege Limnologie 19: 835-842.
- Rieman, B. E., and B. Bowler. 1980. Ricker, K. E. 1959. The origin of two glacial relict crustaceans in North America, as related to Pleistocene glaciation. Can. J. Zool. 37(6): 871-893.
- Rieman, B. E., and C. M. Falter. 1981. Effects of the establishment of *Mysis relicta* on the macrozooplankton of a large lake. Transactions of the American Fisheries Society 110: 613-620.
- Roberts, L. 1990. Zebra mussel invasion
- Rudstam, L. G. 2009. Other zooplankton. Pages 667-677, in G. E. Likens, editor. Encyclopedia of inland waters. Academic Press, Boston, Massachusetts.
- Sandeman, I. M. and D. C. Lasenby. 1980. The relationships between ambient oxygen concentration, temperature, body weight, and oxygen consumption for *Mysis relicta* (Malacostraca:Mysidacea). Can. J. Zool. 58:1032-1036.
- Sherman, R. K., D. C. Lasenby, and L. Hollett. 1987. Influence of oxygen concentration on the distribution of *Mysis relicta* Lovén in a eutrophic temperate lake. Canadian Journal of Zoology 65:2646-2650.
- Silver, D. B., B. M. Johnson, W. M. Pate, K. R. Christianson, J. Tipton, J. Sherwood, B. Smith, and Y. Hao. 2016. Effect of net size on estimates of abundance, size, age, and sex ratio of *Mysis diluviana*. Journal of Great Lakes Research 42:731-737. doi.org/10.1016/j.jglr.2016.02.012



Simberloff, D. 2009. The role of propagule pressure in biological invasions. *Annual Review of Ecology, Evolution and Systematics* 40:81-102.

Sparrow, R. A. H., P. A. Larkin, and R. A. Rutherglen. 1964. Successful introduction of *Mysis relicta* Lovén into Kootenay Lake, British Columbia. *Journal of the Fisheries Research Board of Canada* 21:1325-1327.

Spencer, C. N., B. R. McClelland, and J. A. Stafford. 1991. Shrimp stocking, salmon collapse and eagle displacement: cascading interactions in the food web of a large aquatic ecosystem. *Bioscience* 41:14-21.

Wetzel, R. G., and G. E. Likens. 2000. *Limnological analyses*. Springer-Verlag, New York

Wiltzius, W. J. 1985. Fish culture and stocking in Colorado 1872-1978. Colorado Division of Wildlife, Fort Collins.

Wolf, J. M., B. M. Johnson, D. B. Silver, W. M. Pate, and K. R. Christianson. 2016. Freezing and fractionation: effects of preservation on carbon and nitrogen stable isotope values of some limnetic organisms. *Rapid Communications in Mass Spectrometry* 30:562-568. doi.org/10.1002/rcm.7488.



Meter and half-meter diameter plankton nets used for *Mysis* sampling during this study.

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## **Appendix 1 - Sampling station locations**

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Table A1.1. Coordinates (NAD83 datum) of sampling stations. In most cases *Mysis* were sampled at every station, zooplankton and water chemistry were sampled at odd-numbered stations, and a single temperature and dissolved oxygen profile and a single eDNA sample (when necessary) was collected at the deepest station.

Water body name	Code	Sampling station number									
		1	2	3	4	5	6	7	8	9	10
Blue Mesa <sup>1</sup>	BMR	13N 319721 4261655	13N 318715 4261723	13N 317932 4261603	13N 316324 4260565	13N 314796 4259445	13N 313188 4259740	13N 311488 4259160	13N 310106 4259320	13N 309018 4260856	13N 307247 4260130
Blue Mesa <sup>1</sup>	BMR	11: 13N 305043 4260370	12: 13N 300878 4252554	13: 13N 299135 4263522	14: 13N 298722 4260959	15: 13N 298787 4258778					
Boulder Reservoir	BLD	13 T 481500 E 4436014 N	13 T 481859 E 4436621 N	13 T 481019 E 4436530 N							
Carter Lake	CAR	13 T 481262 E 4462786 N	13 T 481280 E 4463083 N	13 T 481335 E 4463799 N	13 T 481736 E 4463948 N	13 T 481733 E 4464396 N	13 T 481240 E 4465005 N	13 T 481415 E 4465856 N	13 T 482075 E 4465956 N	13 T 481394 E 4466353 N	13 T 481890 E 4466754 N
Chalk Lake	CHK	13 S 395044 E 4359820 N									
Chambers Lake	CHM	13 T 427910 E 4495279 N	13 T 428049 E 4495178 N	13 T 427742 E 4495544 N	13 T 427600 E 4495860 N	13 T 427488 E 4496124 N					
Chapman Reservoir	CHP	13 S 358736 E 4353105 N	13 S 358666 E 4353153 N	13 S 358587 E 4353184 N							
Chatfield Reservoir	CHA	13 S 494571 E 4378512 N	13 S 494798 E 4377940 N	13 S 495191 E 4378228 N	13 S 494443 E 4377946 N	13 S 493889 E 4377576 N	13 S 493476 E 4376723 N	13 S 493388 E 4376543 N	13 S 493069 E 4376168 N		

Table A1.1. Continued. Coordinates (NAD83 datum) of sampling stations. In most cases *Mysis* were sampled at every station, zooplankton and water chemistry were sampled at odd-numbered stations, and a single temperature and dissolved oxygen profile and a single eDNA sample (when necessary) was collected at the deepest station.

Water body name	Code	Sampling station number									
		1	2	3	4	5	6	7	8	9	10
Cheesman Lake	CHE	13 S 475139 E 4336626 N	13 S 475309 E 4337745 N	13 S 476214 E 4338909 N	13 S 476153 E 4340085 N	13 S 475860 E 4340787 N					
Clear Creek Reservoir	CLE	13 S 391727 E 4319865 N	13 S 392085 E 4319726 N	13 S 391468 E 4319669 N							
Crystal Lake	CRY	13 S 384431 E 4339396 N	13 S 384434 E 4339257 N	13 S 384431 E 4339168 N							
Deep Lake	DEE	13 S 303043 E 4405143 N									
Diemer Lake	DIE	13 S 361598 E 4355138 N	13 S 361429 E 4355205 N	13 S 361414 E 4355135 N							
Dillon Reservoir	DIL	13 S 407604 E 4382355 N	13 S 408578 E 4383618 N	13 S 409554 E 4382031 N	13 S 409967 E 4383469 N	13 S 409506 E 4384667 N	13 S 409426 E 4386202 N	13 S 410583 E 4386305 N	13 S 410763 E 4386720 N	13 S 410750 E 4385260 N	13 S 412068 E 4384344 N
Dillon Reservoir <sup>1</sup>	DIL	P1: 13T 409473 E 4386201 N	P2: 13T 411270 E 4384940 N	P3: 13T 409733 E 4382208 N	P4: 13T 408569 E 4384751 N	P5: 13T 407538 E 4382876 N					
Grand Lake	GDL	13 T 429988 E 4455688 N	13 T 430082 E 4455581 N	13 T 430915 E 4455625 N	13 T 430844 E 4455264 N	13 T 430591 E 4454801 N	13 T 431095 E 4454950 N	13 T 431548 E 4454719 N	13 T 431623 E 4454648 N		

Table A1.1. Continued. Coordinates (NAD83 datum) of sampling stations. In most cases *Mysis* were sampled at every station, zooplankton and water chemistry were sampled at odd-numbered stations, and a single temperature and dissolved oxygen profile and a single eDNA sample (when necessary) was collected at the deepest station.

Water body name	Code	Sampling station number									
		1	2	3	4	5	6	7	8	9	10
Green Mountain Reservoir	GRE	13 S 393836 E 4412190 N	13 S 393006 E 4412666 N	13 S 391980 E 4413002 N	13 S 391709 E 4413738 N	13 S 390554 E 4413752 N	13 S 389358 E 4414605 N	13 S 388735 E 4415594 N	13 S 388482 E 4415094 N	13 S 387934 E 4415558 N	13 S 387110 E 4414971 N
Gross Reservoir	GRO	13 S 468534 E 4422655 N	13 S 469113 E 4422379 N	13 S 468196 E 4421776 N	13 S 467932 E 4421084 N	13 S 467436 E 4421162 N					
Homestake Reservoir	HOM	13 S 373898 E 4358553 N	13 S 374069 E 4358397 N	13 S 373500 E 4357449 N	13 S 373293 E 4356968 N	13 S 372955 E 4356270 N					
Horsetooth Reservoir	HST	13 T 486983 E 4484743 N	13 T 487840 E 4486553 N	13 T 486890 E 4486225 N	13 T 487203 E 4487358 N	13 T 487045 E 4488464 N	13 T 487101 E 4489460 N	13 T 486415 E 4490678 N	13 T 485917 E 4492104 N	13 T 486086 E 4493190 N	13 T 485535 E 4494160 N
Ivanhoe Lake	IVA	13 S 370204 E 4347623 N	13 S 370029 E 4347816 N	13 S 370177 E 4347688 N							
Jefferson Lake	JEF	13 S 426077 E 4368106 N	13 S 425891 E 4367909 N	13 S 425852 E 4367589 N	13 S 425752 E 4367434 N	13 S 425746 E 4367294 N					
Lake Estes	EST	13 T 458263 E 4469647 N	13 T 458468 E 4469550 N	13 T 458409 E 4469712 N							
Lake Granby	GRB	13 T 425088 E 4444715 N	13 T 425574 E 4446042 N	13 T 425278 E 4447773 N	13 T 426944 E 4447153 N	13 T 426251 E 4444882 N	13 T 427455 E 4445453 N	13 T 428701 E 4445345 N	13 T 428215 E 4443840 N	13 T 431479 E 4443500 N	13 T 432226 E 4442764 N

Table A1.1. Continued. Coordinates (NAD83 datum) of sampling stations. In most cases *Mysis* were sampled at every station, zooplankton and water chemistry were sampled at odd-numbered stations, and a single temperature and dissolved oxygen profile and a single eDNA sample (when necessary) was collected at the deepest station.

Water body name	Code	Sampling station number									
		1	2	3	4	5	6	7	8	9	10
Lost Man Reservoir	LMR	13 S 360036 E 4332165 N	13 S 360027 E 4332098 N	13 S 359939 E 4332057 N							
Lower Big Creek Lake	BCL	13 T 364148 E 4532420 N	13 T 364580 E 4532204 N	13 T 364369 E 4532044 N	13 T 364427 E 4531827 N	13 T 364218 E 4532228 N					
Lower Camp Lake	CMP	13 T 421661 E 4505246 N									
Lower Twin Lake	LTL	13 S 383332 E 4327560 N	13 S 384257 E 4326909 N	13 S 384718 E 4327654 N	13 S 384462 E 4326177 N	13 S 385557 E 4326059 N	13 S 384094 E 4326828 N	13 S 385609 E 4327295 N			
McIntyre Lake	MCL	13 T 418779 E 4506346 N	13 T 418757 E 4506248 N								
Mount Elbert Forebay	MEF	13 S 382254 E 4329387 N	13 S 382487 E 4329467 N	13 S 382854 E 4329558 N							
Norrie Lake	NOR	13 S 357433 E 4354154 N	13 S 357396 E 4354168 N	13 S 357383 E 4354211 N							
Pass Lake	PAS	13 S 424621 E 4389776 N									

Table A1.1. Continued. Coordinates (NAD83 datum) of sampling stations. In most cases *Mysis* were sampled at every station, zooplankton and water chemistry were sampled at odd-numbered stations, and a single temperature and dissolved oxygen profile and a single eDNA sample (when necessary) was collected at the deepest station.

Water body name	Code	Sampling station number									
		1	2	3	4	5	6	7	8	9	10
Pinewood Reservoir	PIN	13 T 475634 E 4468411 N	13 T 475759 E 4468116 N								
Pueblo Reservoir	PUE	13 S 523809 E 4235750 N	13 S 522022 E 4235185 N	13 S 521045 E 4235487 N	13 S 520621 E 4233770 N	13 S 519447 E 4235511 N	13 S 518529 E 4235814 N	13 S 517734 E 4236037 N	13 S 517677 E 4236958 N	13 S 516657 E 4237197 N	13 S 521973 E 4235989 N
Rawah Lake #1	RW1	13 T 419545 E 4505469 N	13 T 419496 E 4505448 N								
Rawah Lake #2	RW2	13 T 419633 E 4505058 N	13 T 419615 E 4505002 N								
Rawah Lake #3	RW3	13 T 419236 E 4503964 N	13 T 419351 E 4504082 N	13 T 419210 E 4504089 N							
Rawah Lake #4	RW4	13 T 419016 E 4502697 N									
Ruedi Reservoir	RUE	13 S 343463 E 4358769 N	13 S 344077 E 4359207 N	13 S 344761 E 4359084 N	13 S 345159 E 4358498 N	13 S 345684 E 4358410 N	13 S 346314 E 4358058 N	13 S 346668 E 4357953 N	13 S 347185 E 4357944 N	13 S 347946 E 4358095 N	13 S 348285 E 4357981 N
Sellar Lake	SEL	13 S 363444 E 4353858 N	13 S 363304 E 4353919 N	13 S 363298 E 4353792 N							

Table A1.1. Continued. Coordinates (NAD83 datum) of sampling stations. In most cases *Mysis* were sampled at every station, zooplankton and water chemistry were sampled at odd-numbered stations, and a single temperature and dissolved oxygen profile and a single eDNA sample (when necessary) was collected at the deepest station.

Water body name	Code	Sampling station number										
		1	2	3	4	5	6	7	8	9	10	
Shadow Mountain Reservoir	SHA	13 T 428312 E 4451353 N										
Stillwater Reservoir	STI	13 T 318679 E 4432736 N	13 T 318514 E 4432512 N	13 T 318273 E 4432286 N	13 T 318024 E 4432180 N	13 T 317889 E 4432108 N						
Strontia Springs Reservoir	STR	13 S 489019 E 4364742 N	13 S 488786 E 4364890 N	13 S 488399 E 4364131 N								
Sugarbowl Lake	SUG	13 T 418219 E 4506189 N	13 T 418177 E 4506244 N	13 T 418280 E 4506253 N								
Taylor Park Reservoir	TAY	13 S 360825 E 4298001 N	13 S 360746 E 4298154 N	13 S 361032 E 4298124 N	13 S 362674 E 4300079 N	13 S 362567 E 4299386 N	13 S 362773 E 4300274 N	13 S 363177 E 4299626 N	13 S 363169 E 4298543 N	13 S 363159 E 4300486 N	13 S 362869 E 4300675 N	
Turquoise Lake	TUR	13 S 381627 E 4345971 N	13 S 381726 E 4345809 N	13 S 381840 E 4347079 N	13 S 382617 E 4347334 N	13 S 381208 E 4347892 N	13 S 380660 E 4347708 N	13 S 379652 E 4347602 N	13 S 378895 E 4348065 N	13 S 378525 E 4348115 N	13 S 378219 E 4347958 N	
Upper Big Creek Lake	BCU	13 T 363833 E 4530526 N										
Upper Camp Lake	UCL	13 T 421990 E 4504132 N	13 T 422004 E 4504138 N	13 T 422017 E 4504155 N								

Table A1.1. Continued. Coordinates (NAD83 datum) of sampling stations. In most cases *Mysis* were sampled at every station, zooplankton and water chemistry were sampled at odd-numbered stations, and a single temperature and dissolved oxygen profile and a single eDNA sample (when necessary) was collected at the deepest station.

Water body name	Code	Sampling station number									
		1	2	3	4	5	6	7	8	9	10
Upper Stillwater Reservoir	UST	13 T 323092 E 4434755 N	13 T 322867 E 4434646 N	13 T 322491 E 4434576 N							
Upper Twin Lake	UTL	13 S 381950 E 4326566 N	13 S 381366 E 4326086 N	13 S 381856 E 4327059 N							
Willow Creek Reservoir	WCR	13 T 419609 E 4444619 N	13 T 419178 E 4444549 N	13 T 418599 E 4444447 N							
Yamcolo Reservoir	YAM	13 T 324261 E 4435259 N	13 T 324664 E 4435503 N	13 T 325038 E 4435638 N	13 T 325142 E 4435803 N	13 T 324301 E 4435443 N					

<sup>1</sup>Stations (n=15) from Martinez et al. (2010).

<sup>2</sup>Zooplankton and water chemistry stations on Dillon followed station notation from Martinez et al. (2010).

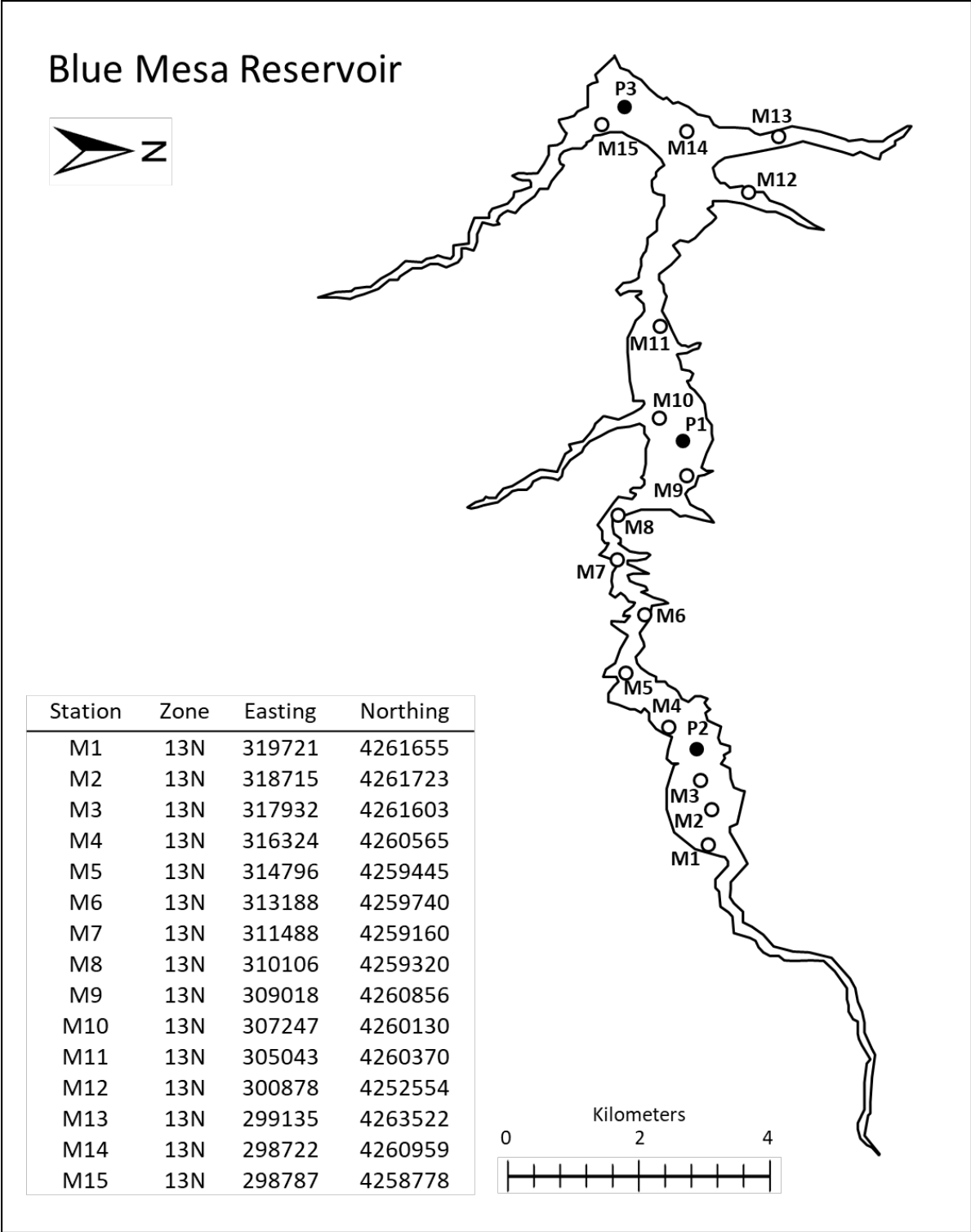


Figure A1.1. Locations of sampling stations on Blue Mesa Reservoir (NAD83 datum).



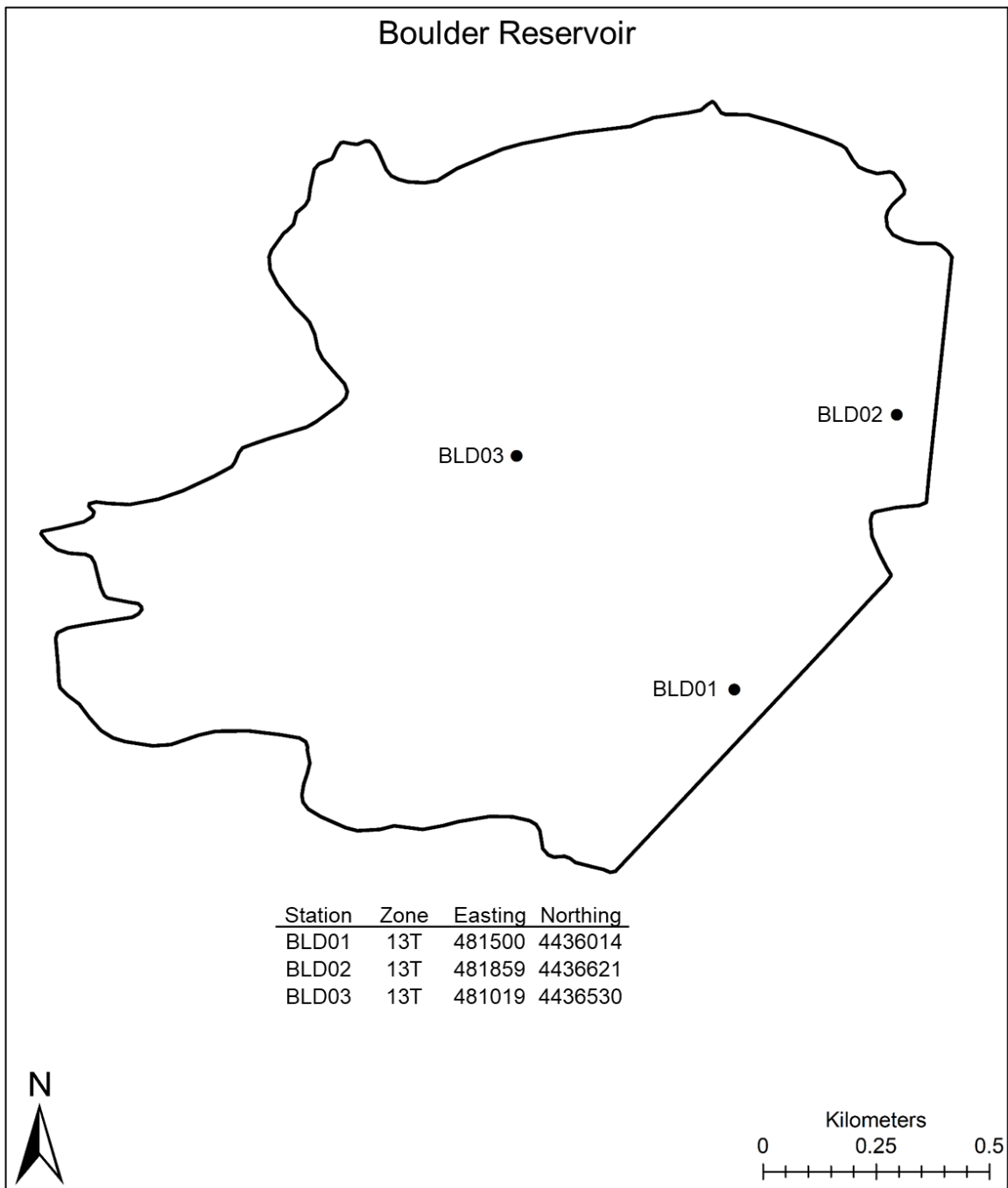


Figure A1.2. Locations of sampling stations on Boulder Reservoir (NAD83 datum).

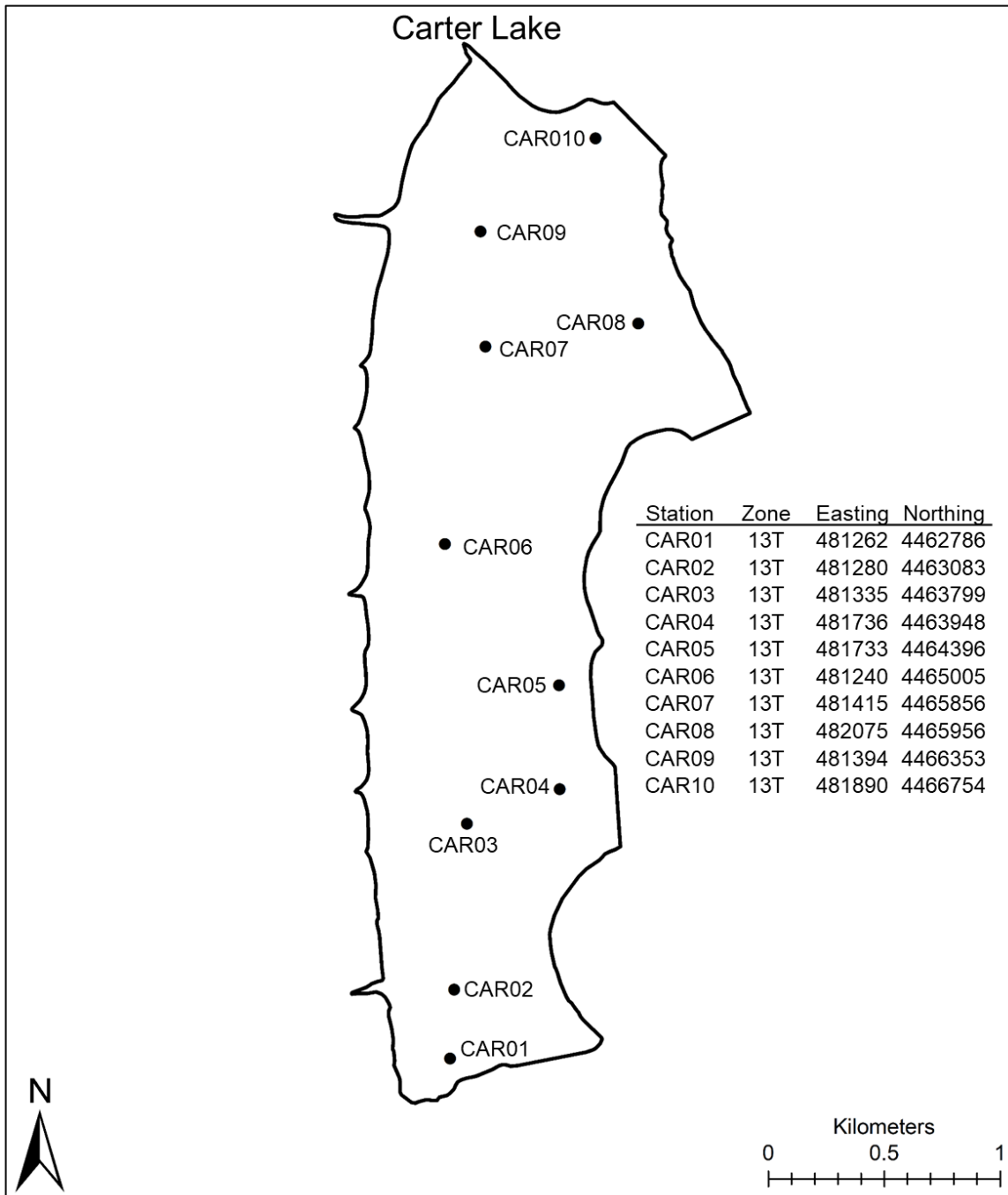


Figure A1.3. Locations of sampling stations on Carter Lake (NAD83 datum).

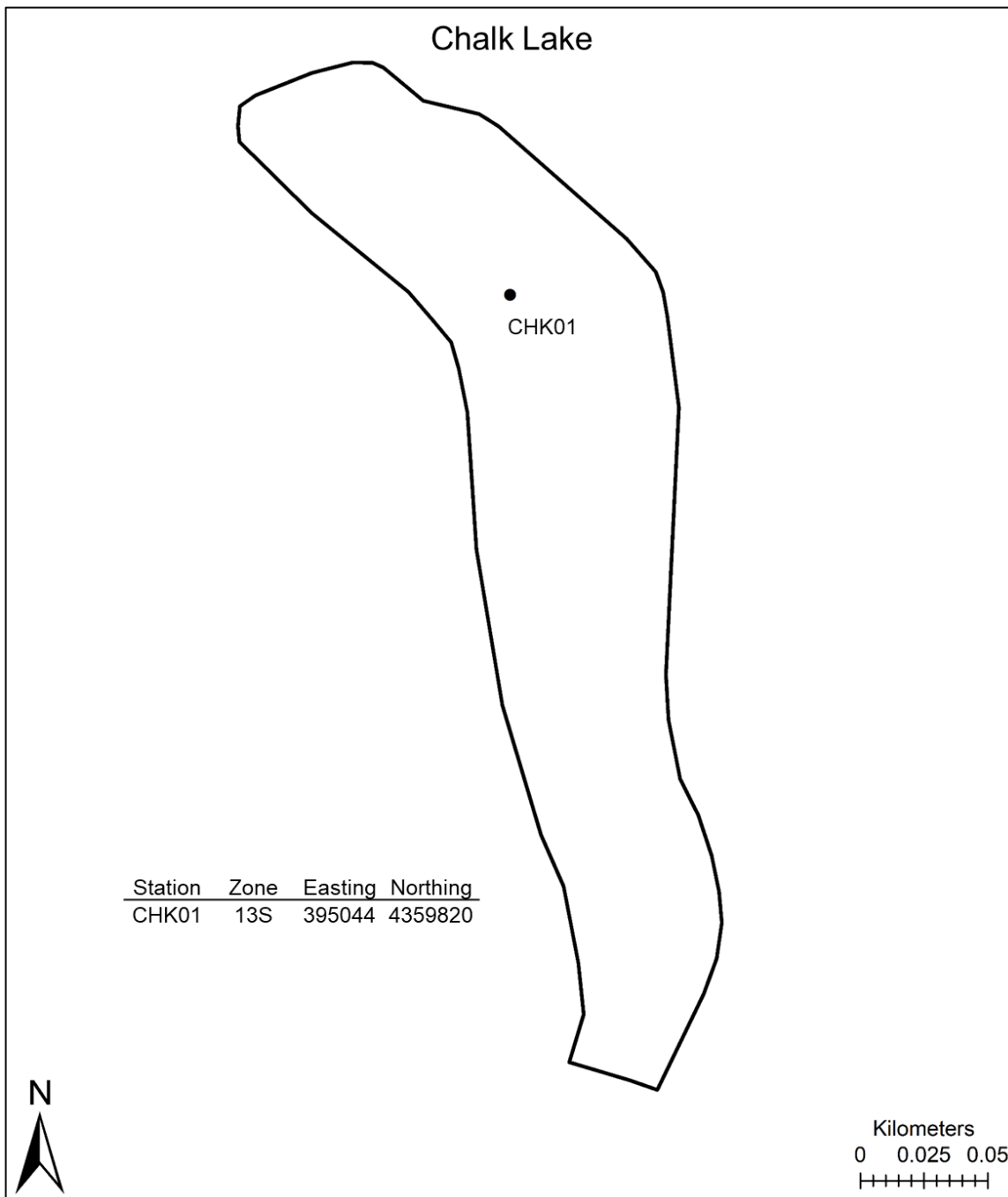


Figure A1.4. Locations of sampling stations on Chalk Lake (NAD83 datum).

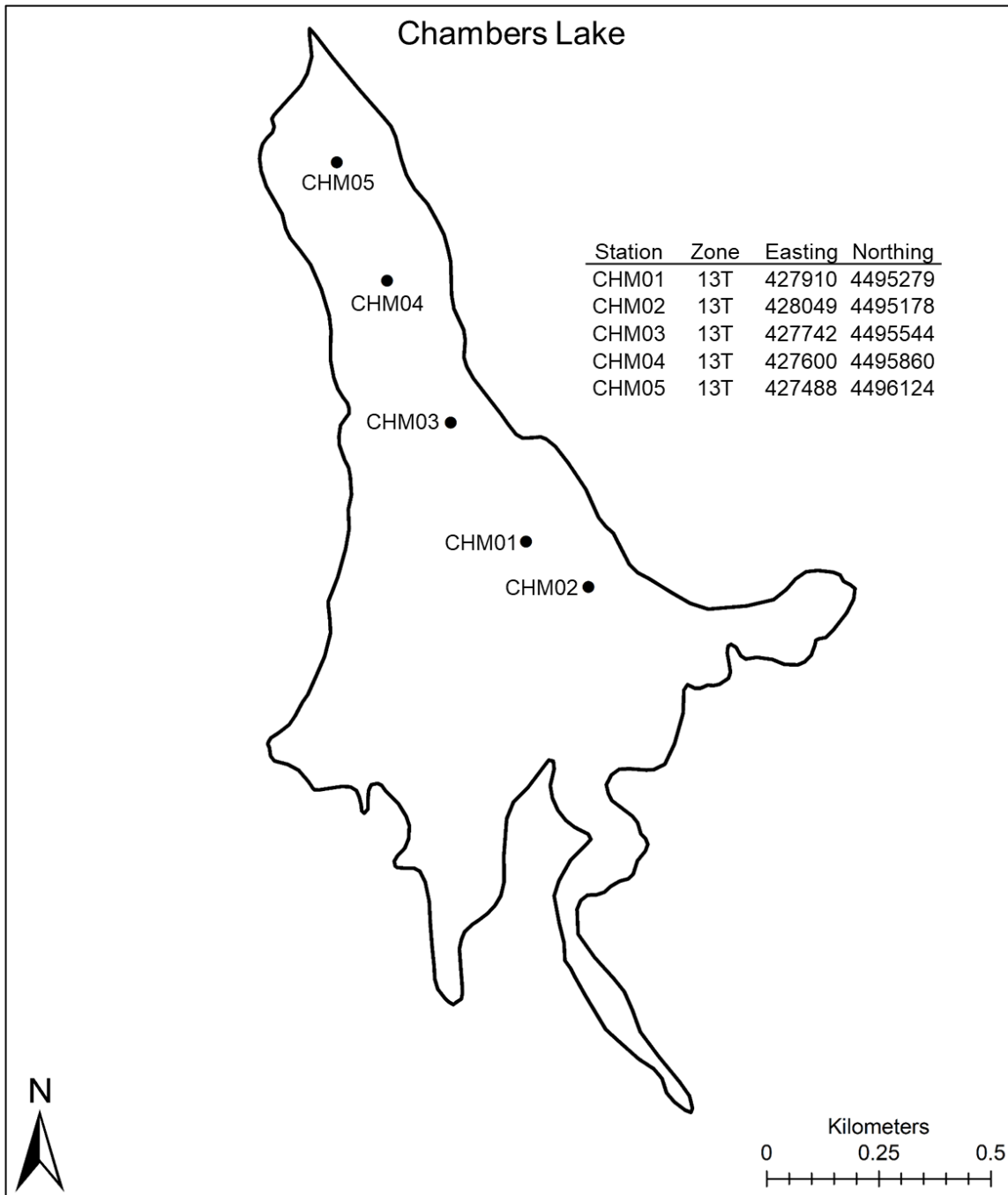


Figure A1.5. Locations of sampling stations on Chambers Lake (NAD83 datum).

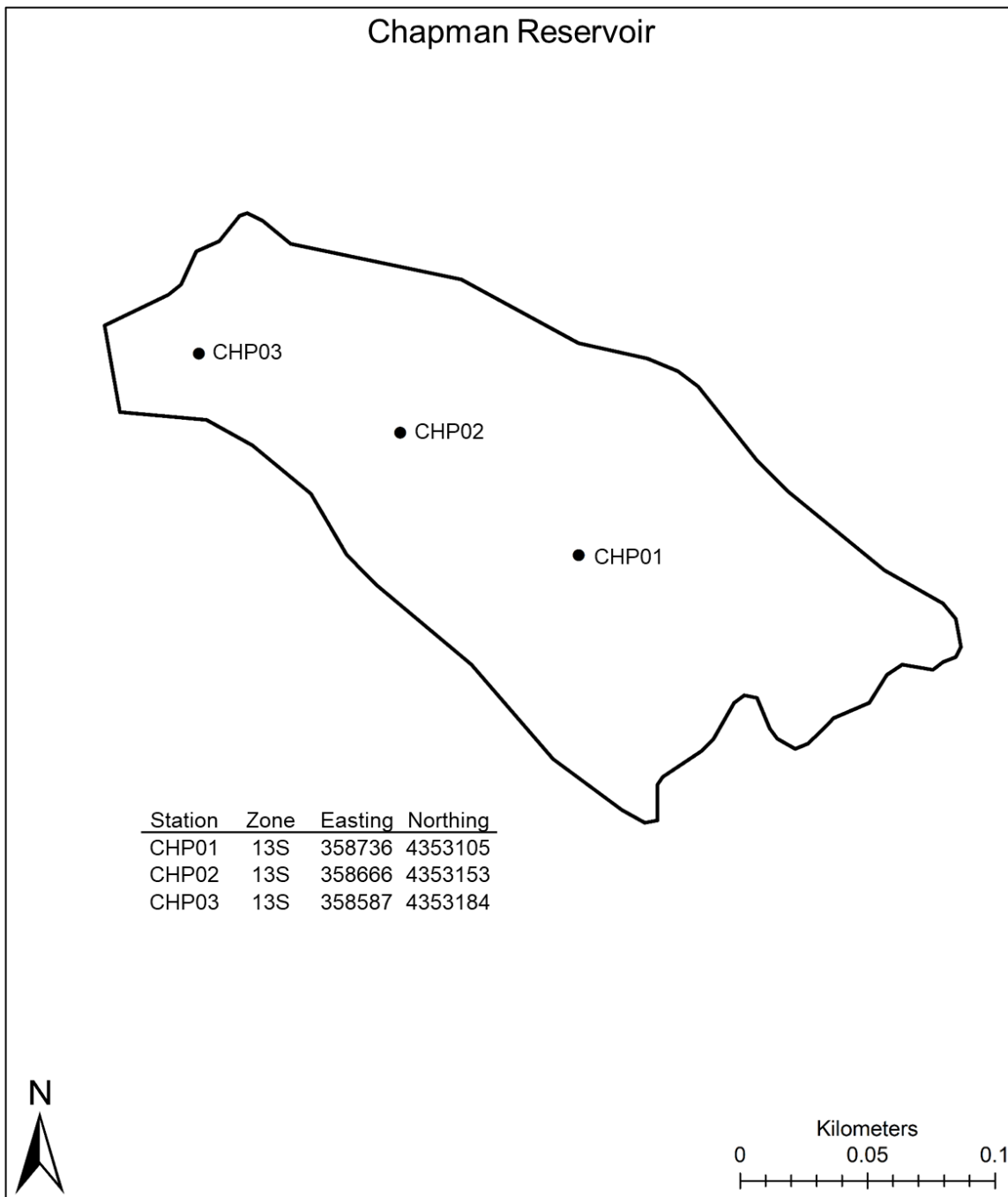


Figure A1.6. Locations of sampling stations on Chapman Reservoir (NAD83 datum).

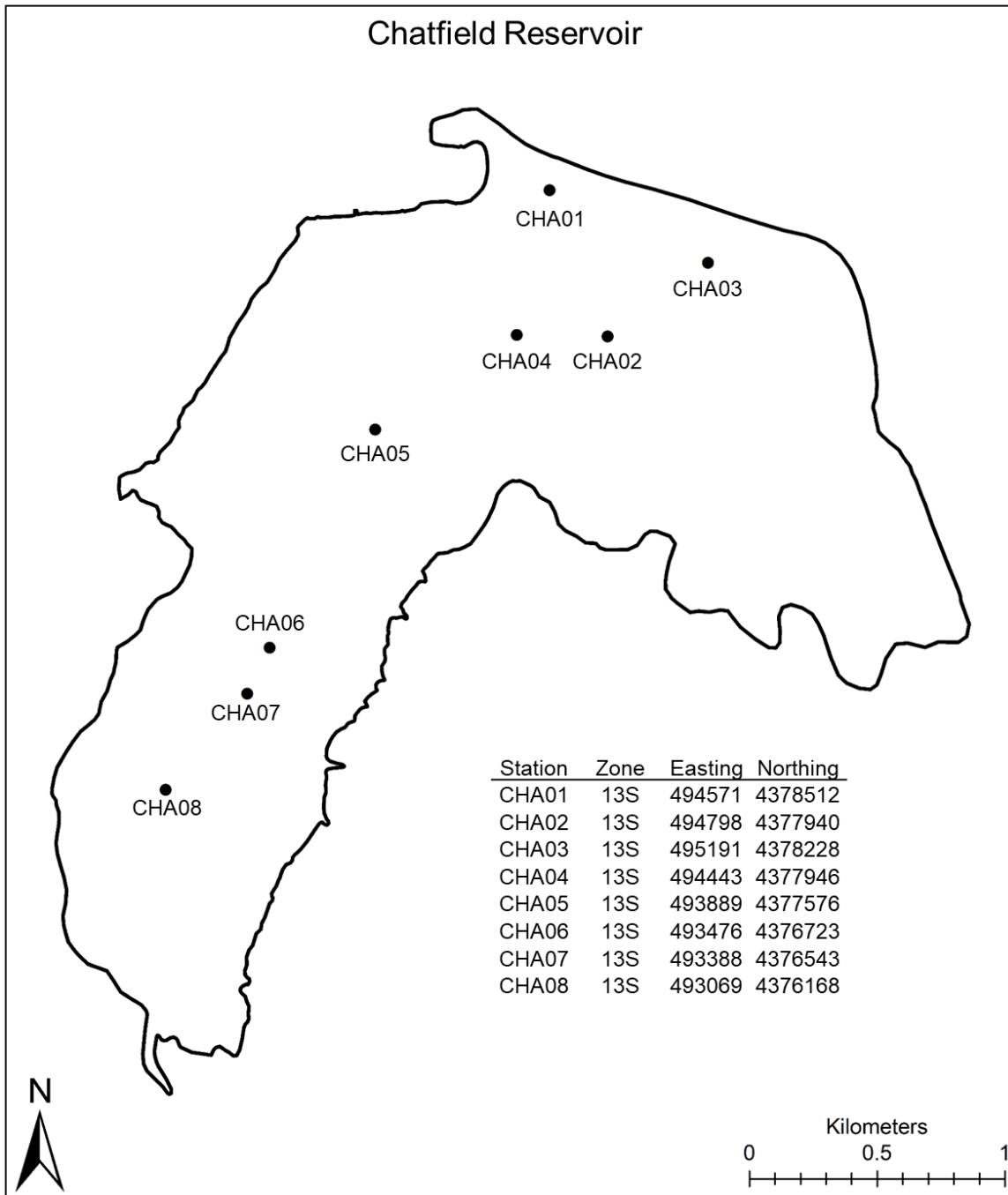


Figure A1.7. Locations of sampling stations on Chatfield Reservoir (NAD83 datum).

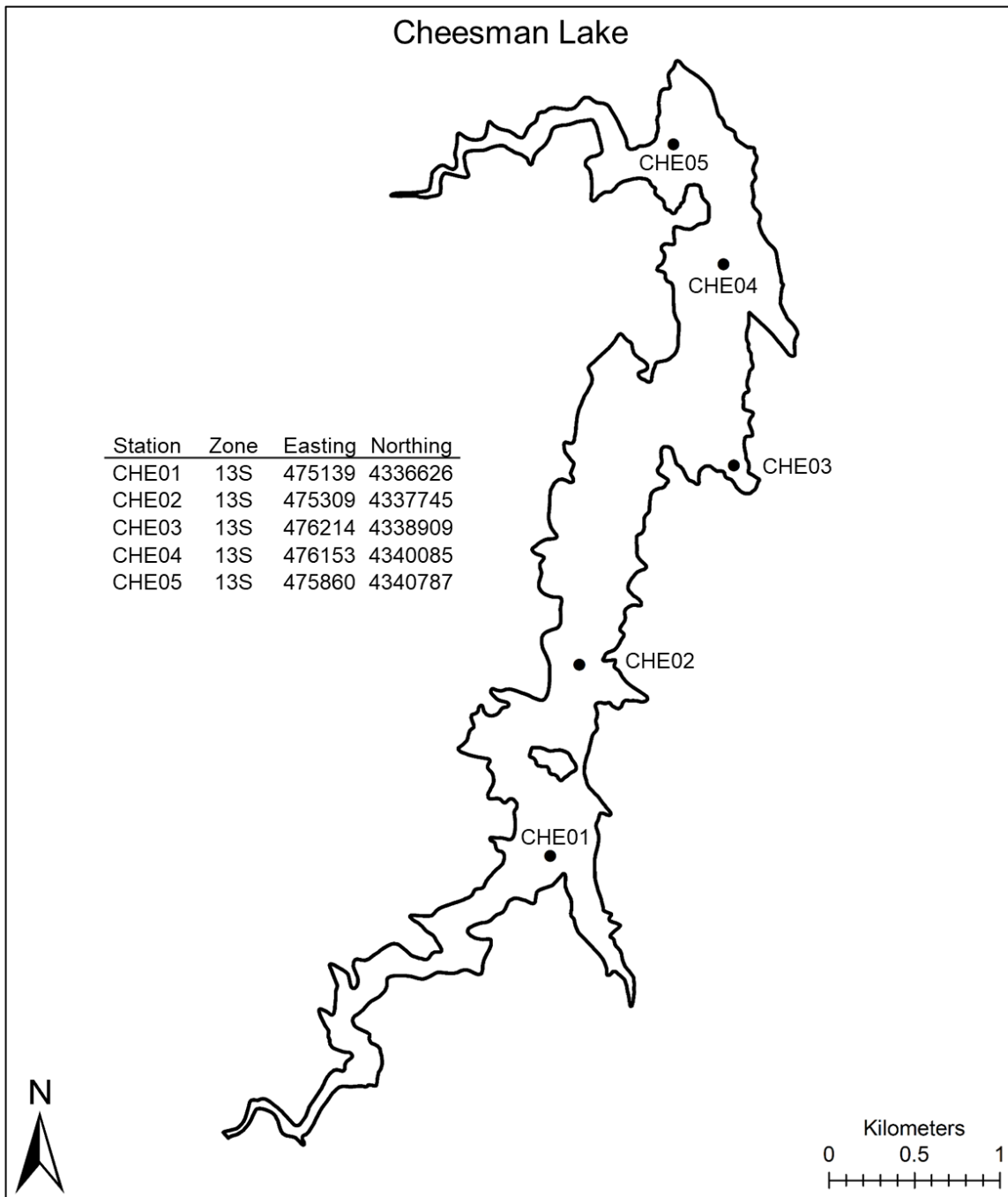


Figure A1.8. Locations of sampling stations on Cheesman Lake (NAD83 datum).

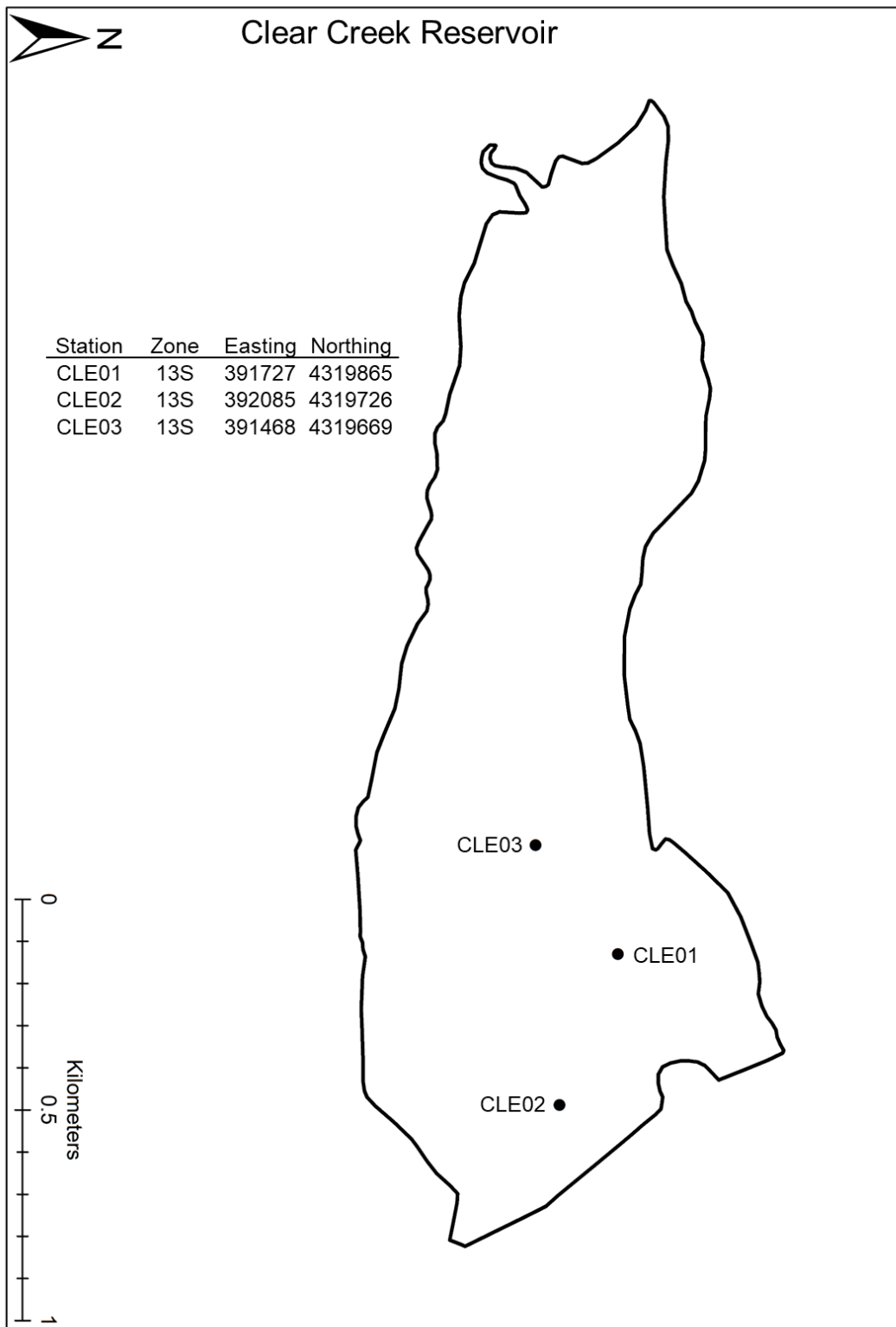


Figure A1.9. Locations of sampling stations on Clear Creek Reservoir (NAD83 datum).



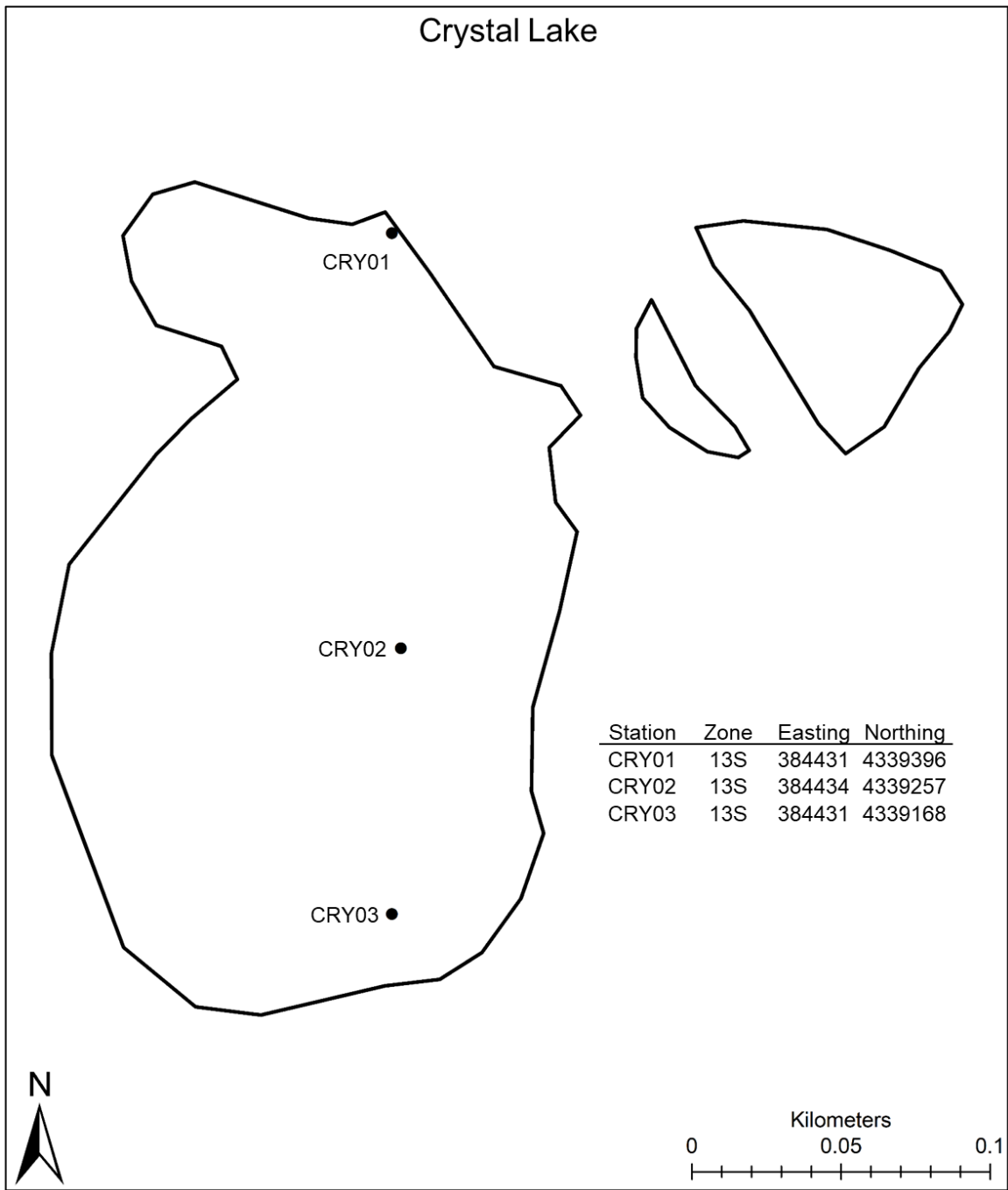


Figure A1.10. Locations of sampling stations on Crystal Lake (NAD83 datum).

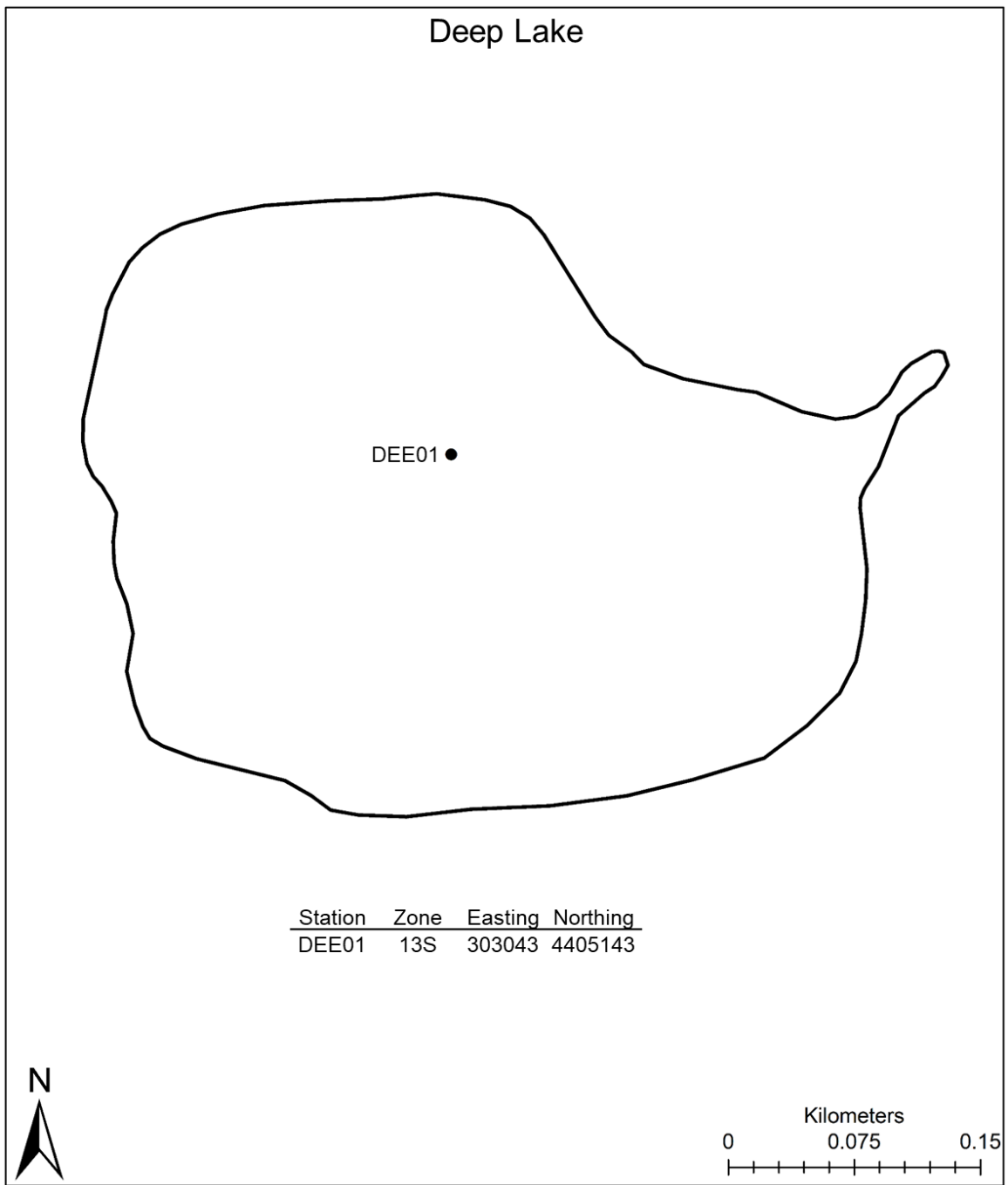


Figure A1.11. Locations of sampling stations on Deep Lake (NAD83 datum).

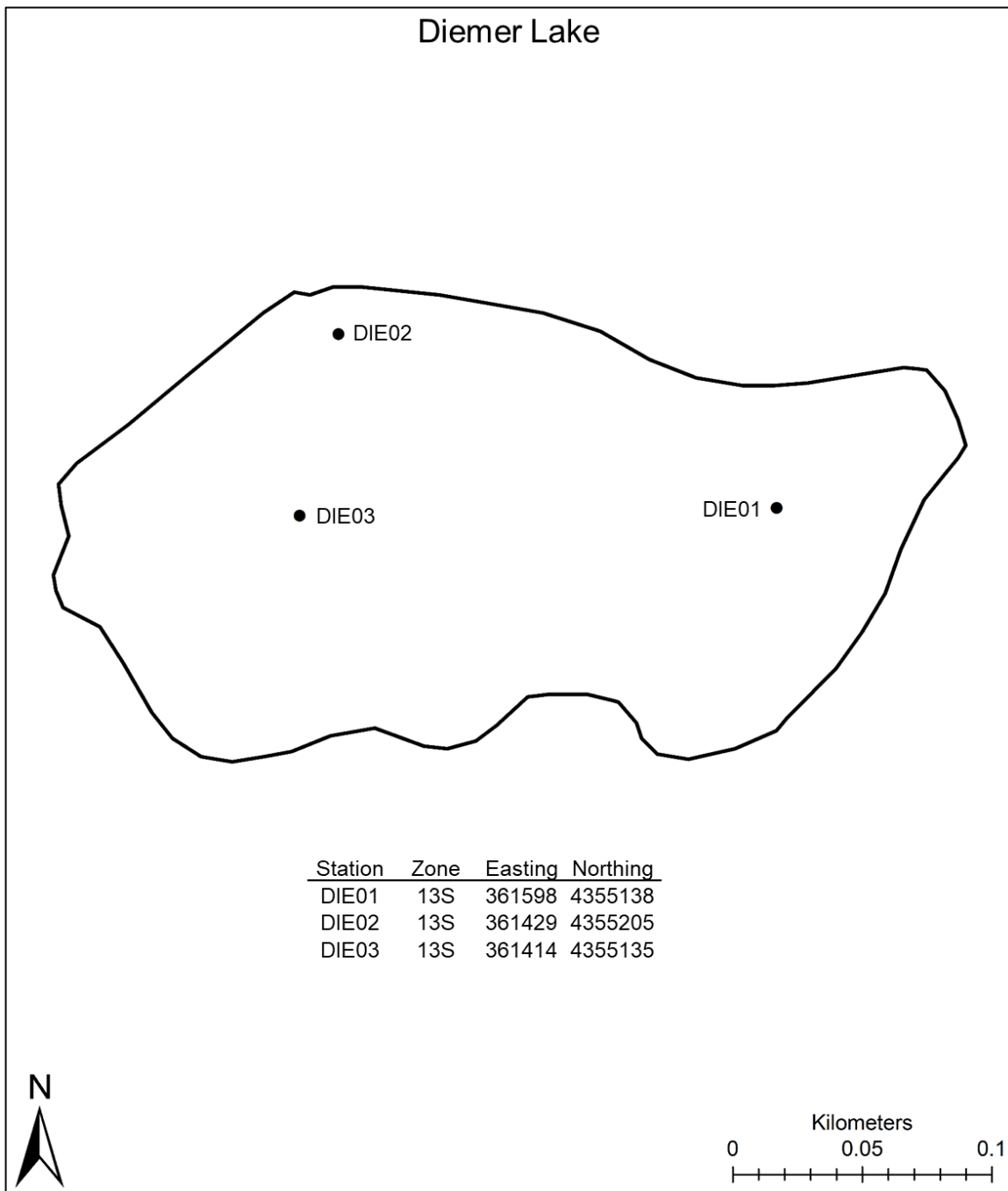


Figure A1.12. Locations of sampling stations on Diemer Lake (NAD83 datum).

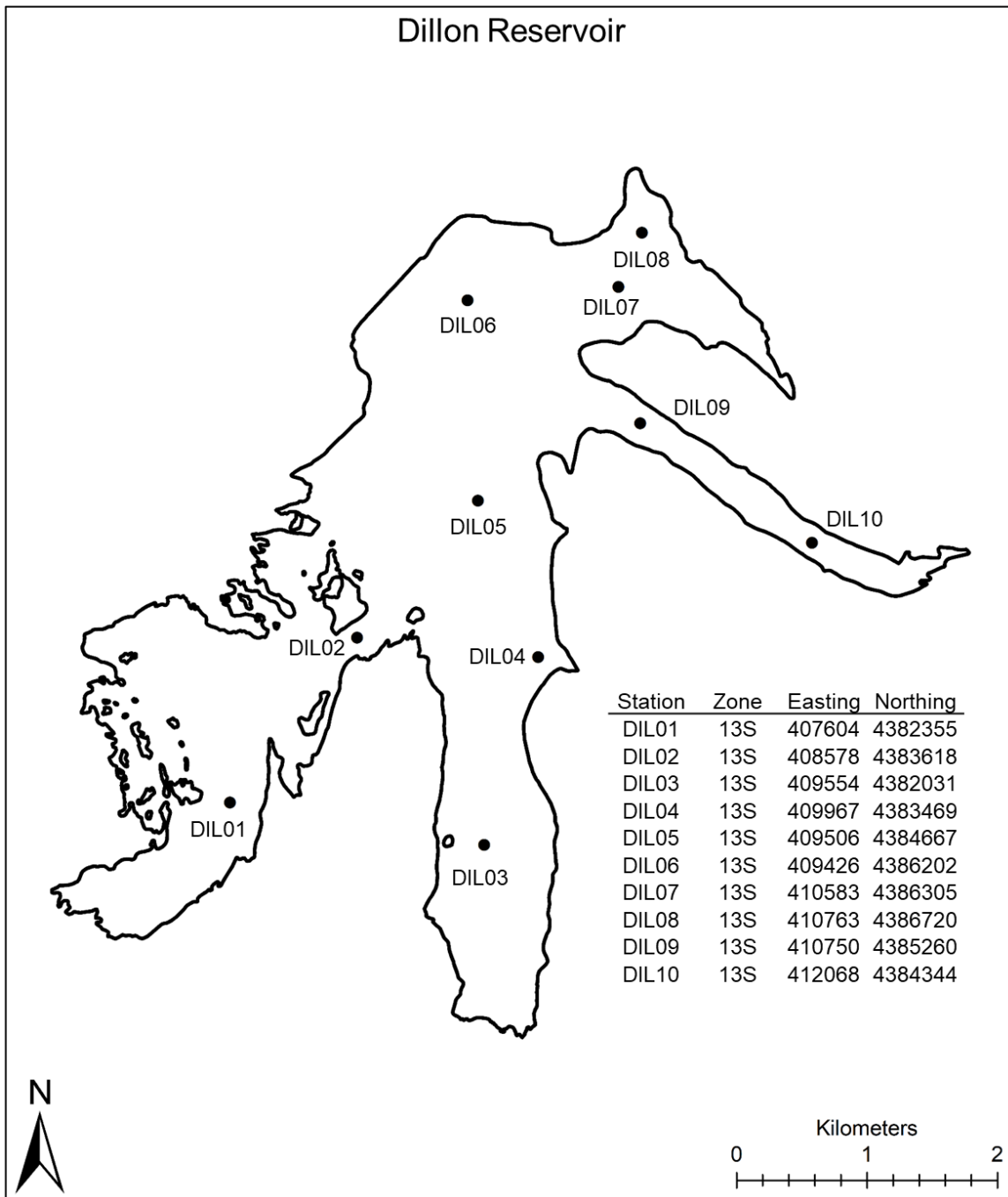


Figure A1.13. Locations of sampling stations on Dillon Reservoir (NAD83 datum).

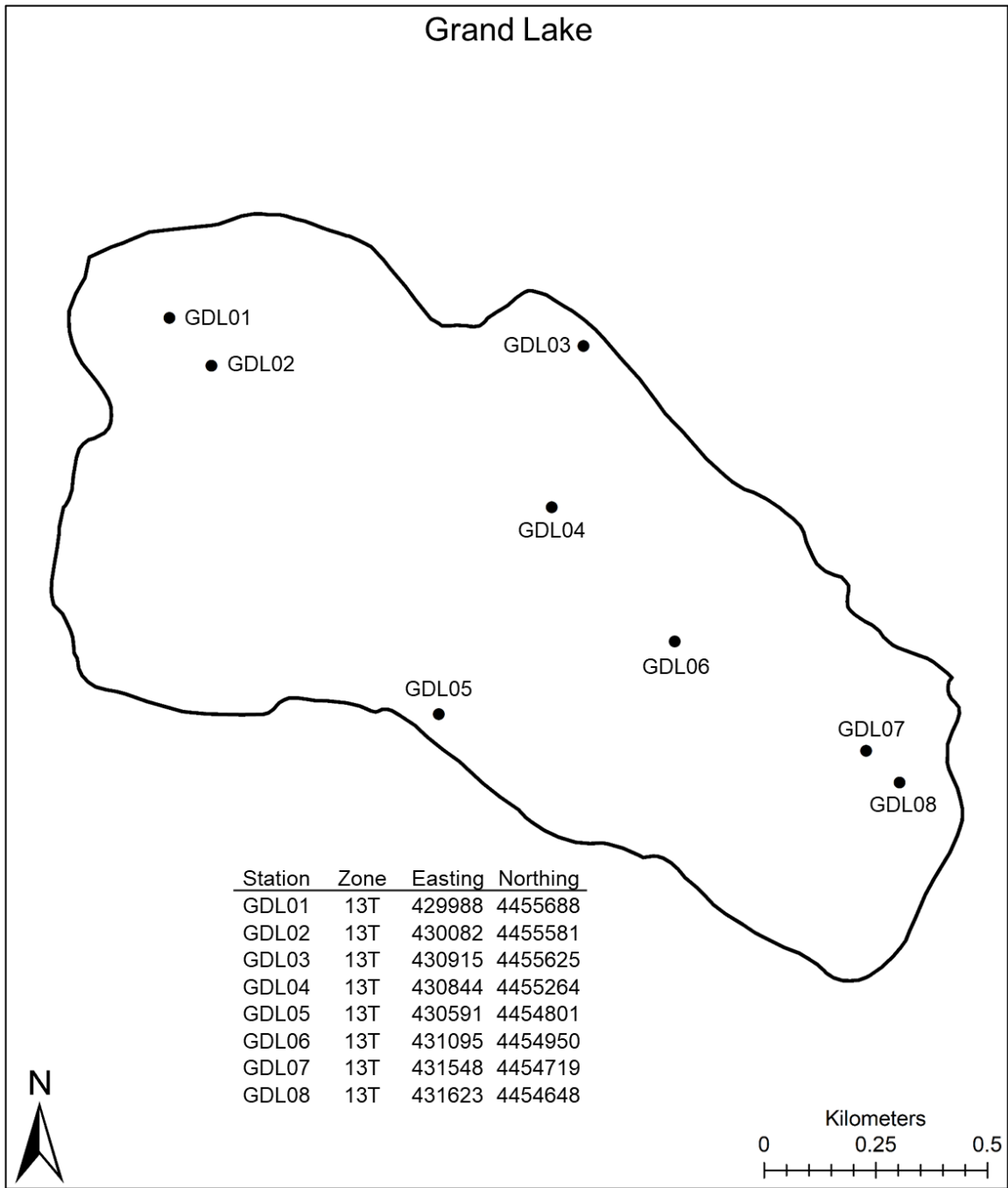


Figure A1.14. Locations of sampling stations on Grand Lake (NAD83 datum).

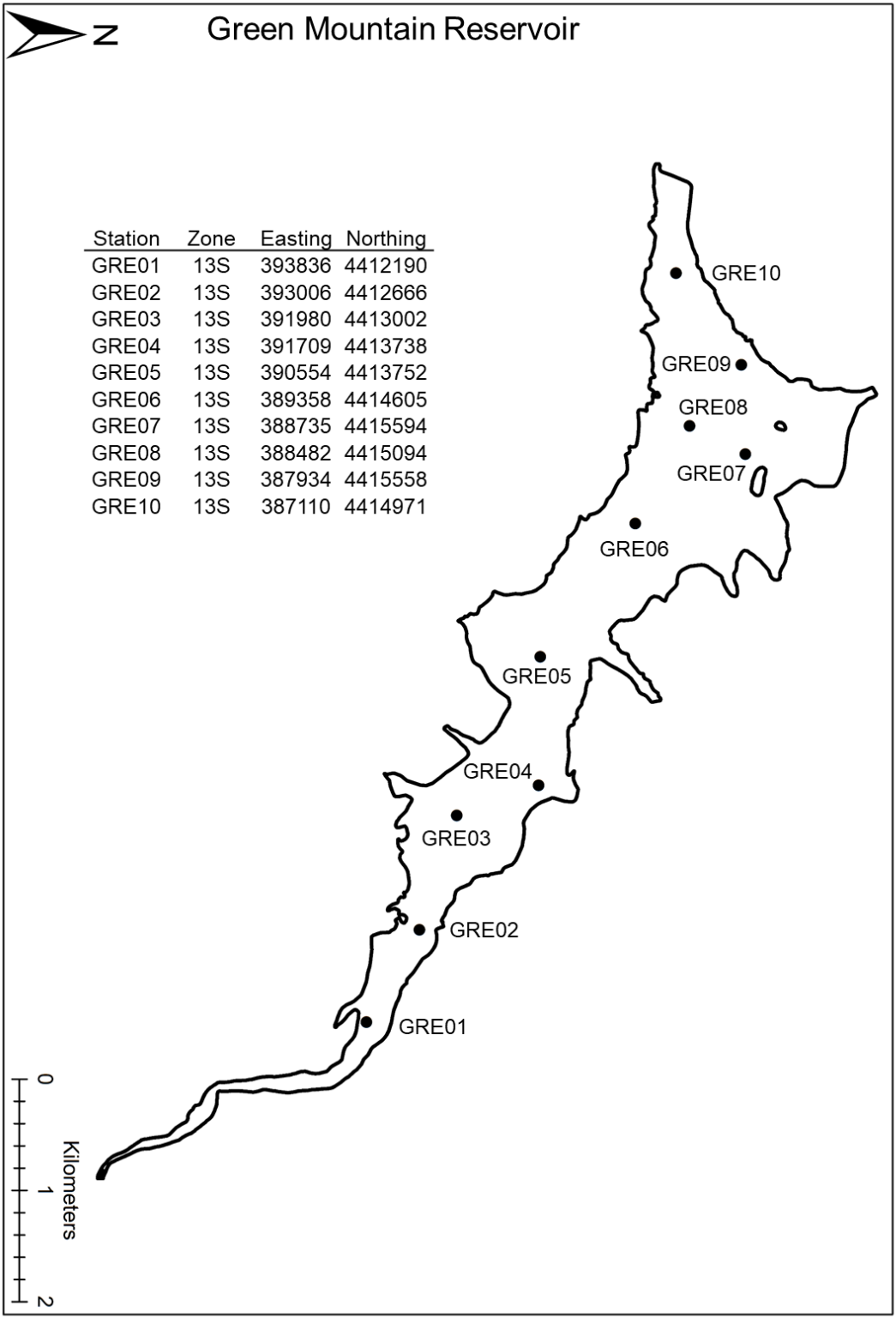


Figure A1.15. Locations of sampling stations on Green Mountain Reservoir (NAD83 datum).

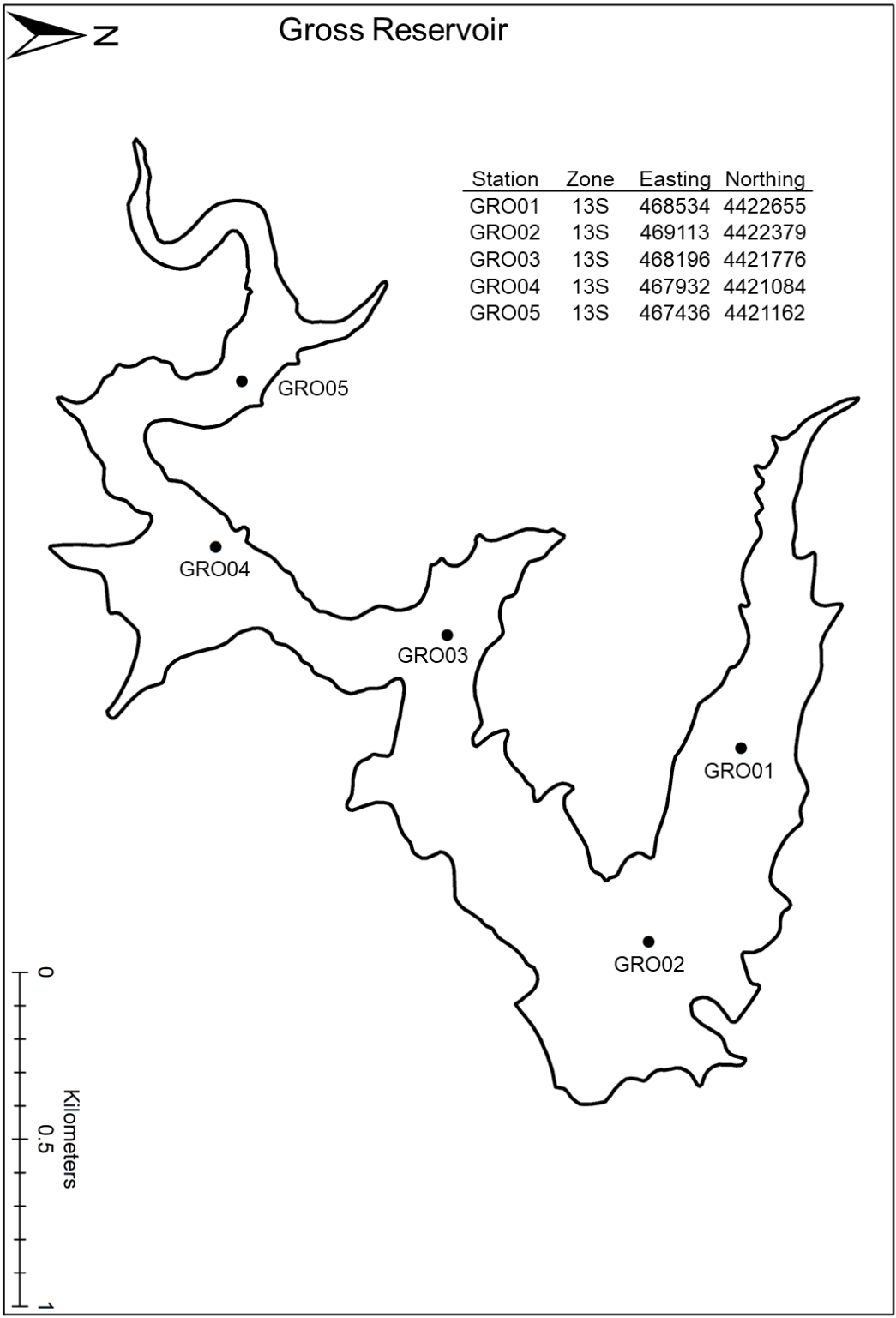


Figure A1.16. Locations of sampling stations on Gross Reservoir (NAD83 datum).

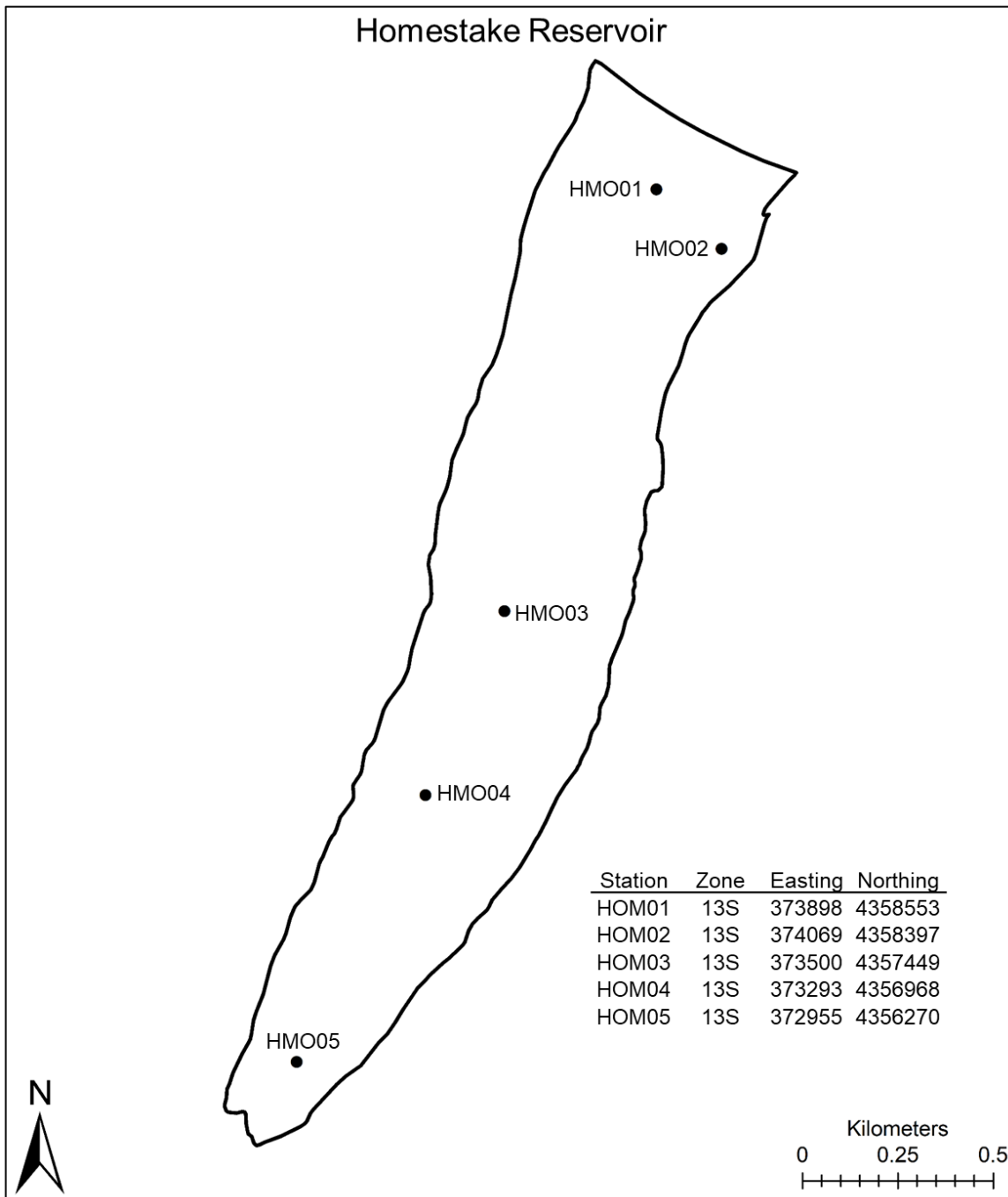


Figure A1.17. Locations of sampling stations on Homestake Reservoir (NAD83 datum).



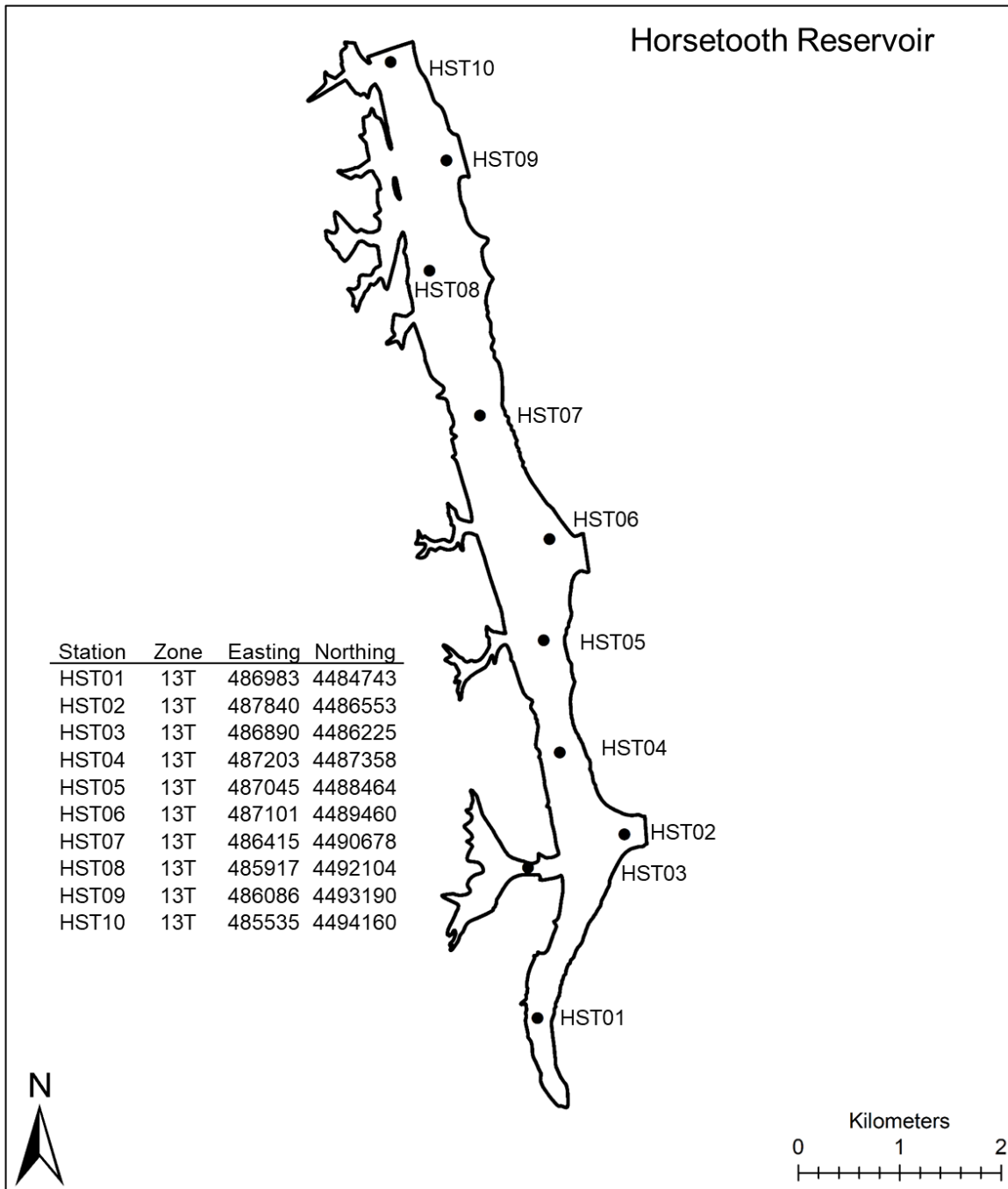


Figure A1.18. Locations of sampling stations on Horsetooth Reservoir (NAD83 datum).

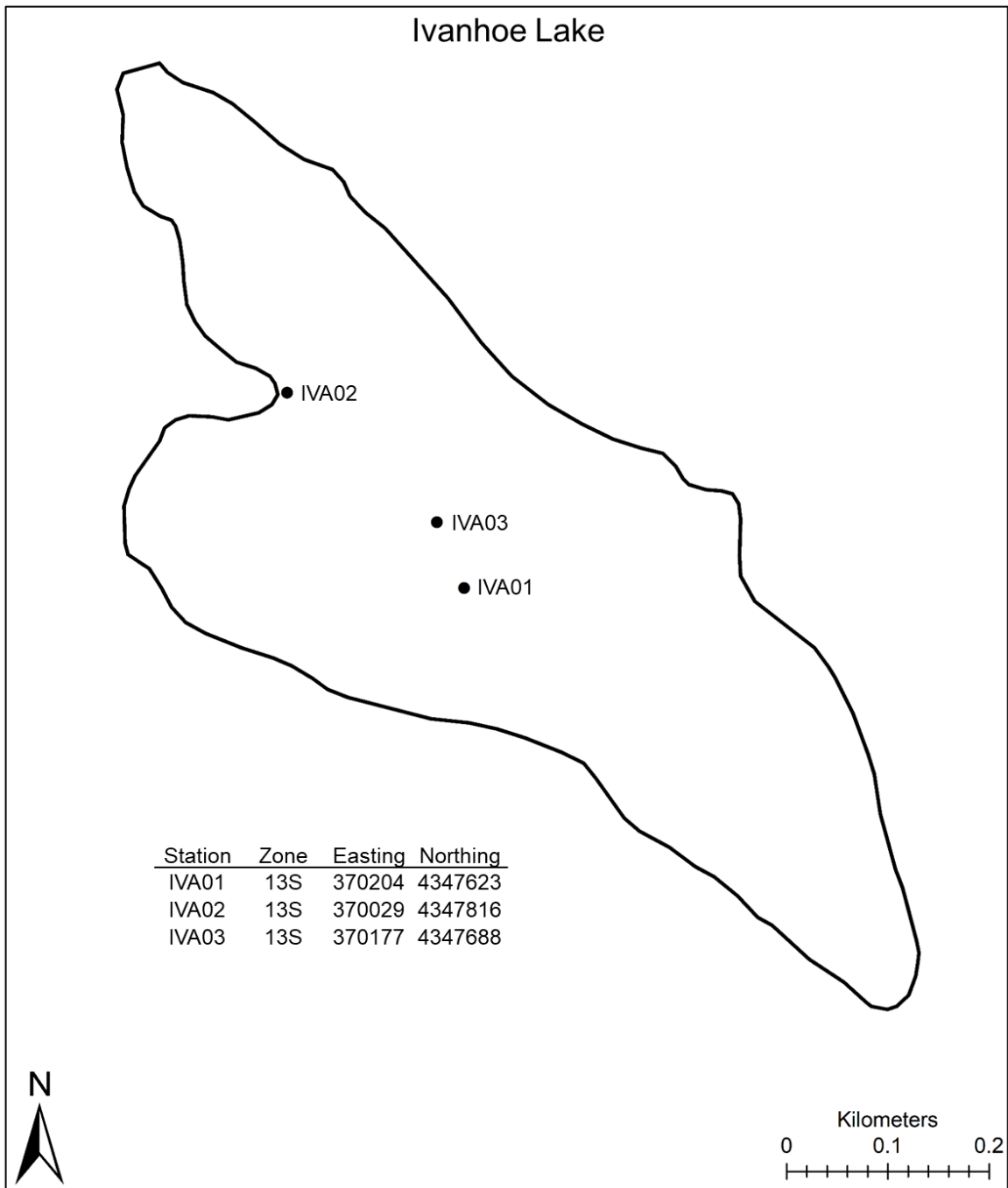


Figure A1.19. Locations of sampling stations on Ivanhoe Lake (NAD83 datum).

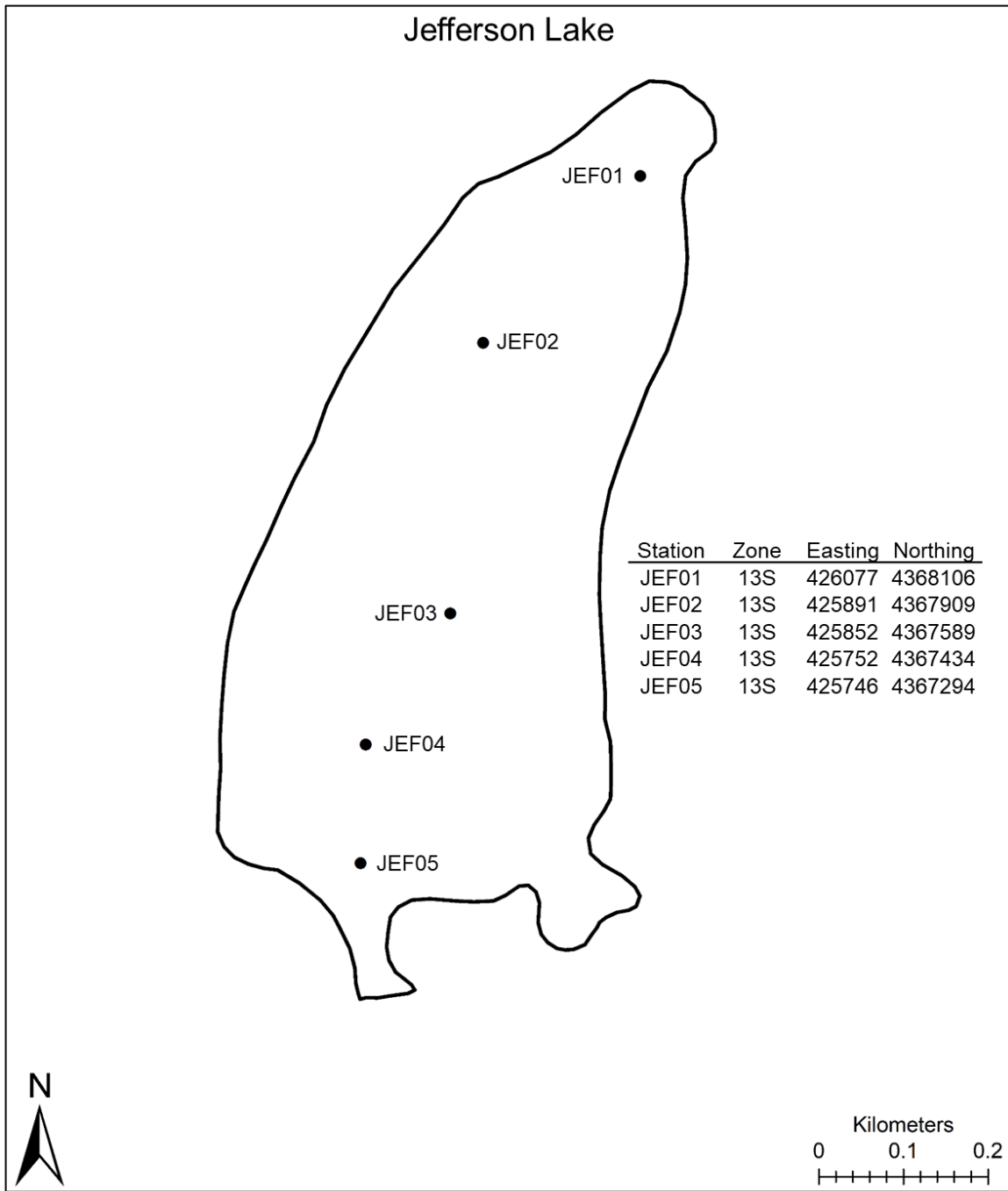


Figure A1.20. Locations of sampling stations on Jefferson Lake (NAD83 datum).

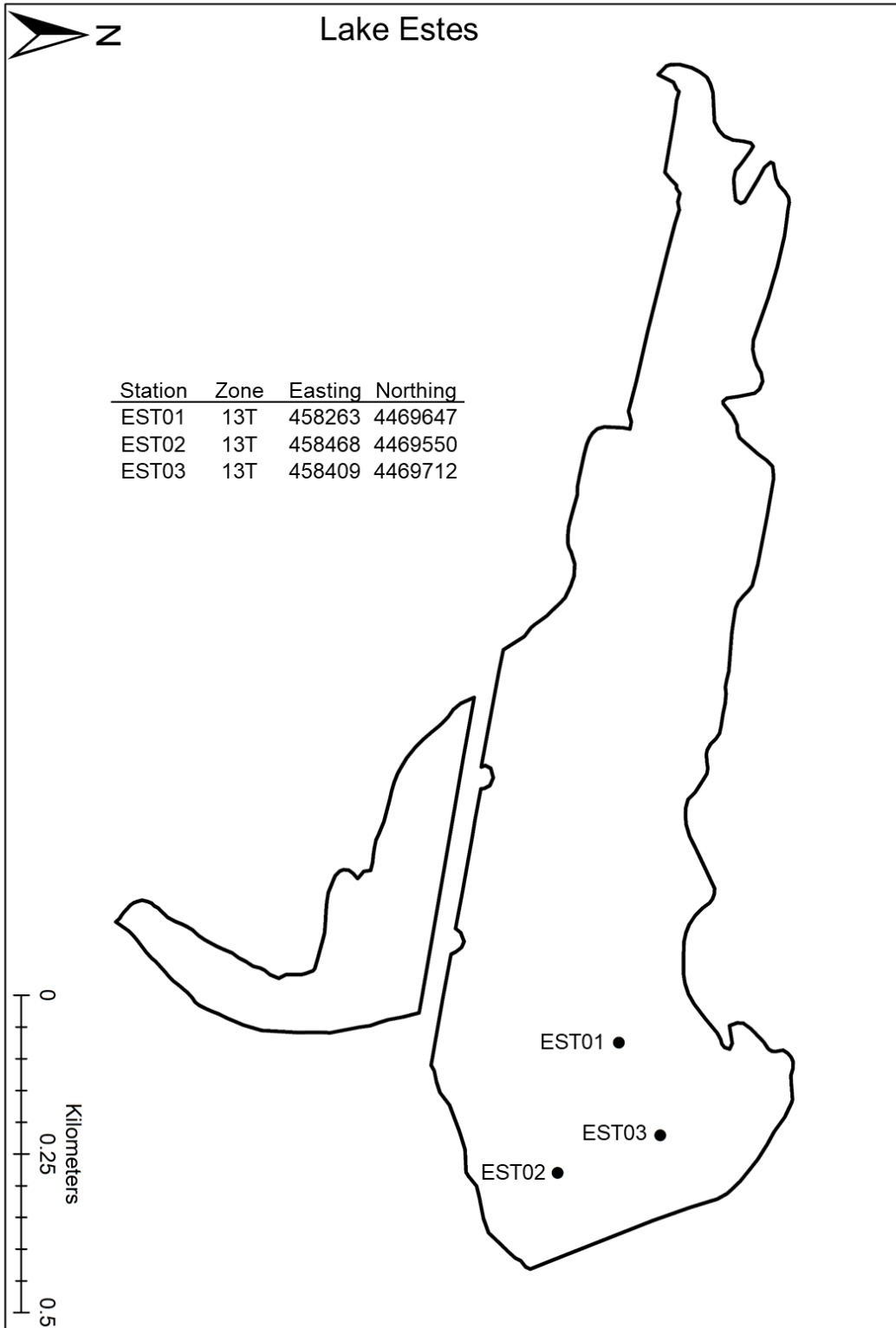


Figure A1.21. Locations of sampling stations on Lake Estes (NAD83 datum).

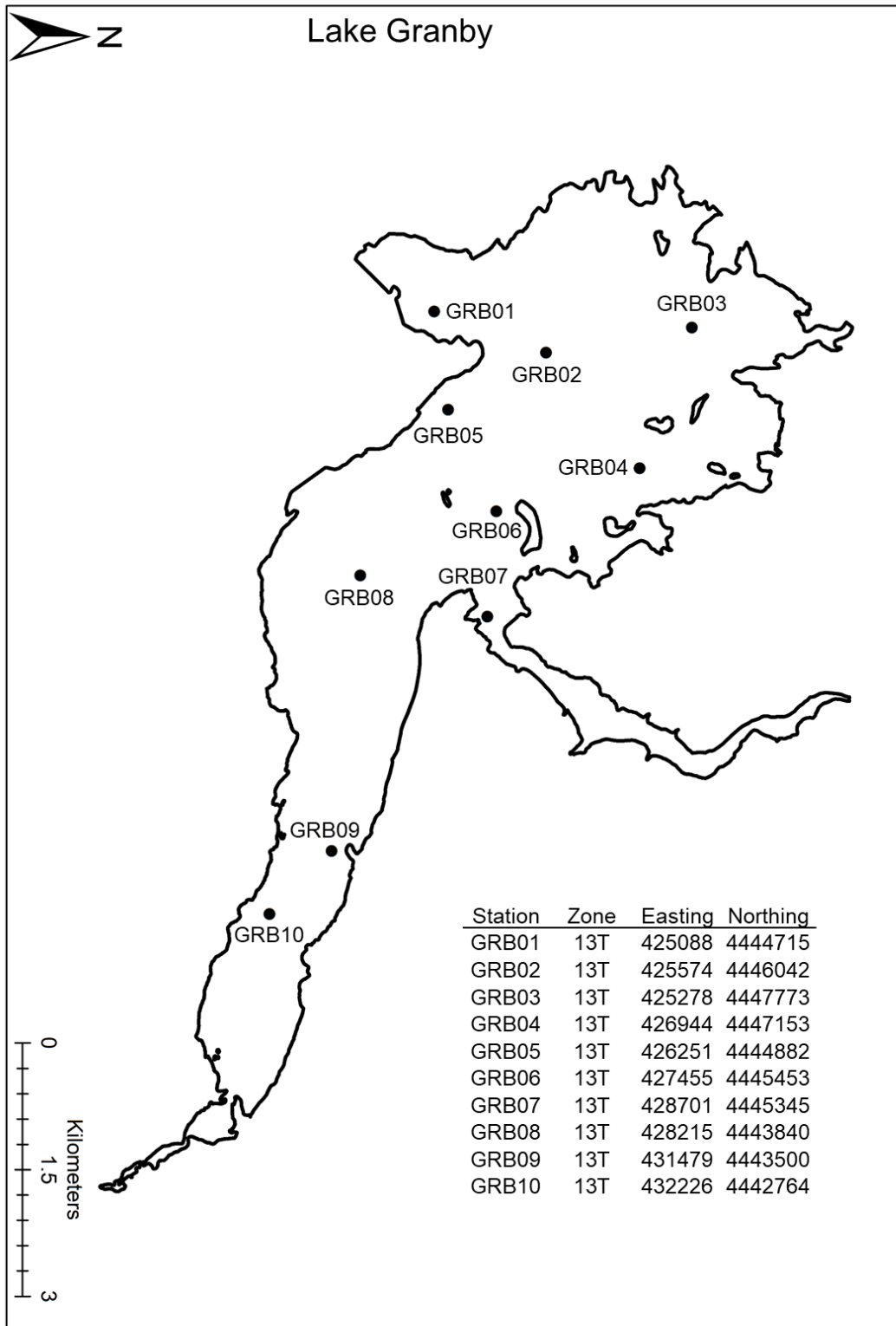


Figure A1.22. Locations of sampling stations on Lake Granby (NAD83 datum).

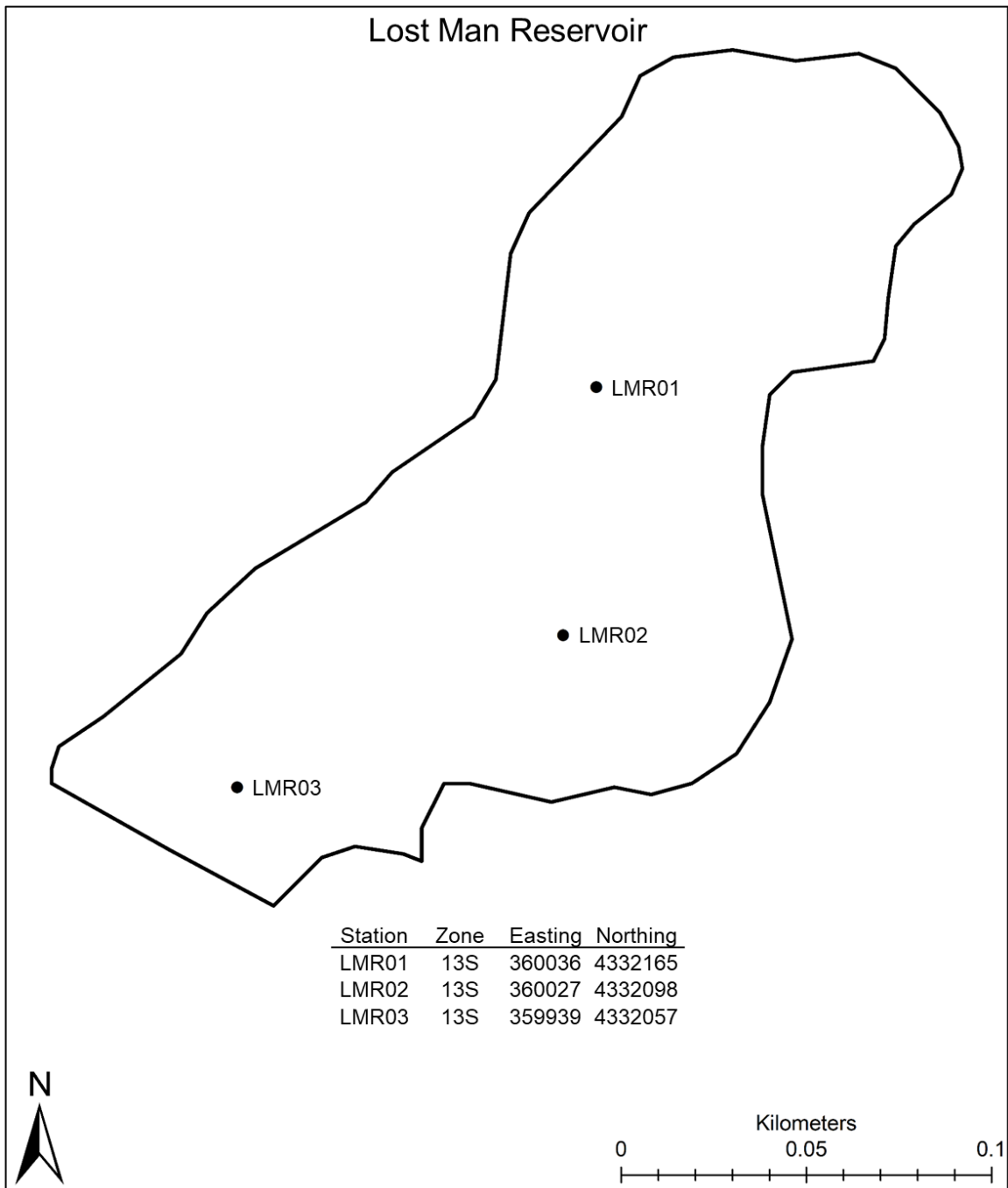


Figure A1.23. Locations of sampling stations on Lost Man Reservoir (NAD83 datum).

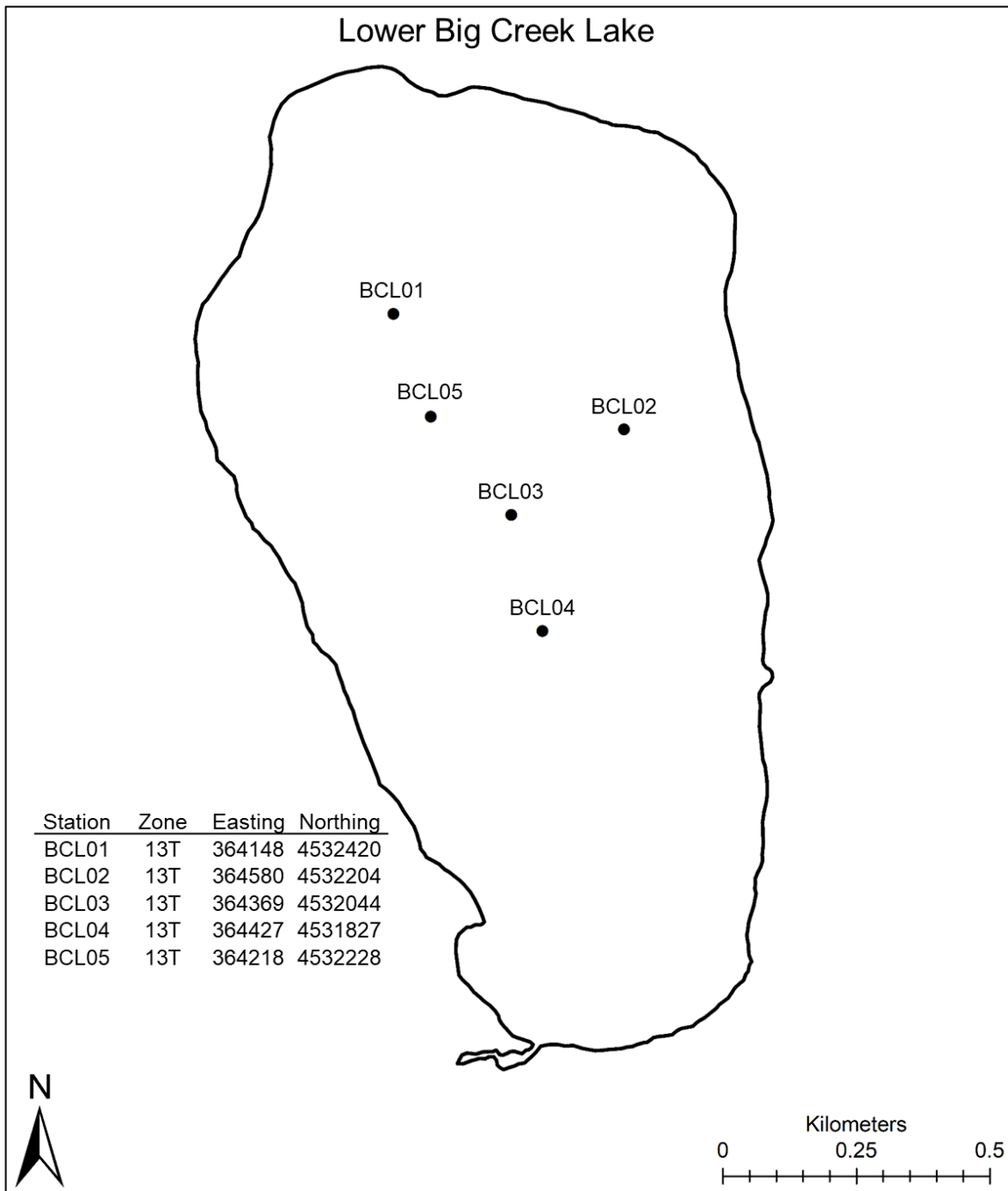


Figure A1.24. Locations of sampling stations on Lower Big Creek Lake (NAD83 datum).

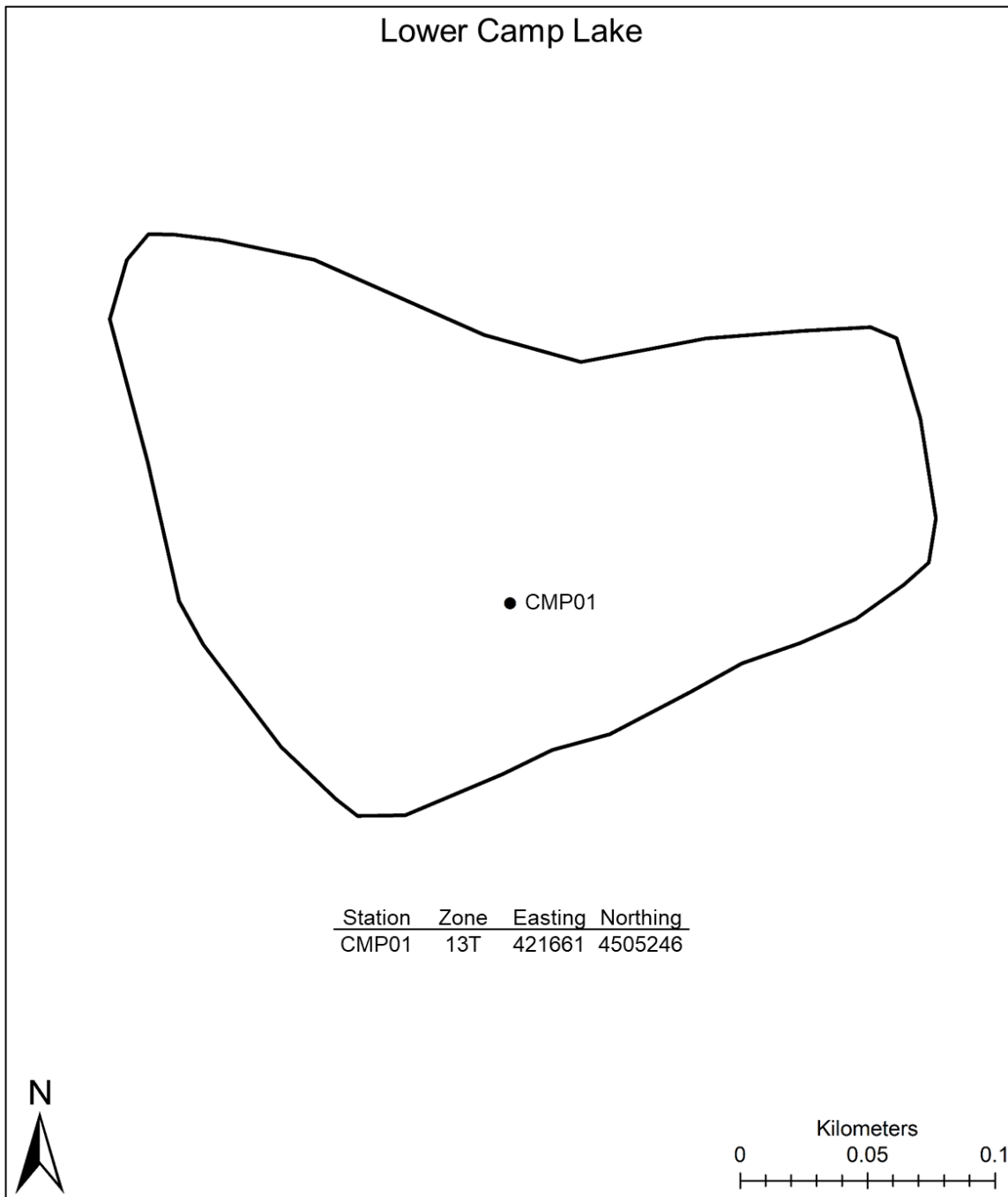


Figure A1.25. Locations of sampling stations on Lower Camp Lake (NAD83 datum).



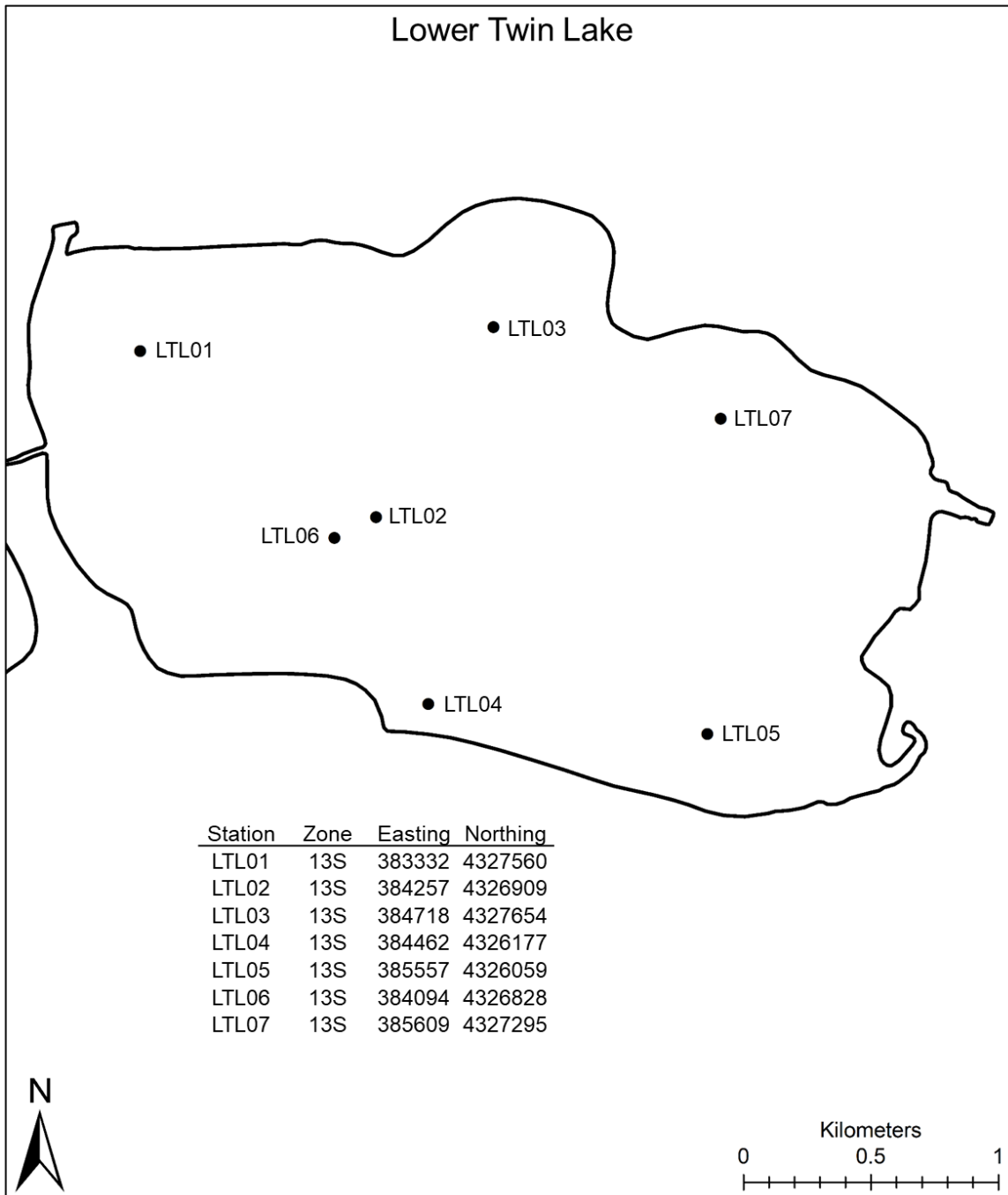


Figure A1.26. Locations of sampling stations on Lower Twin Lake (NAD83 datum).

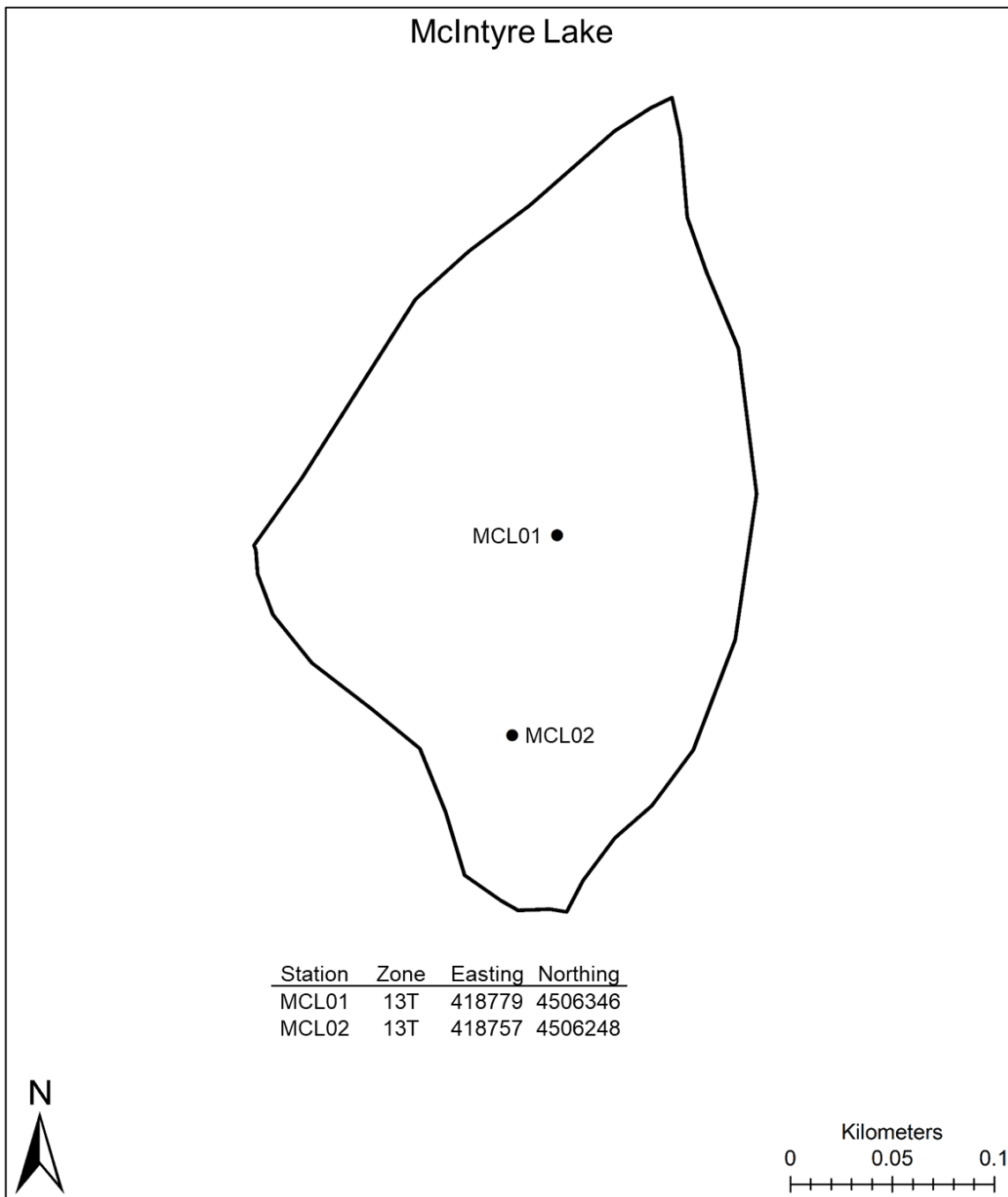


Figure A1.27. Locations of sampling stations on McIntyre Lake (NAD83 datum).

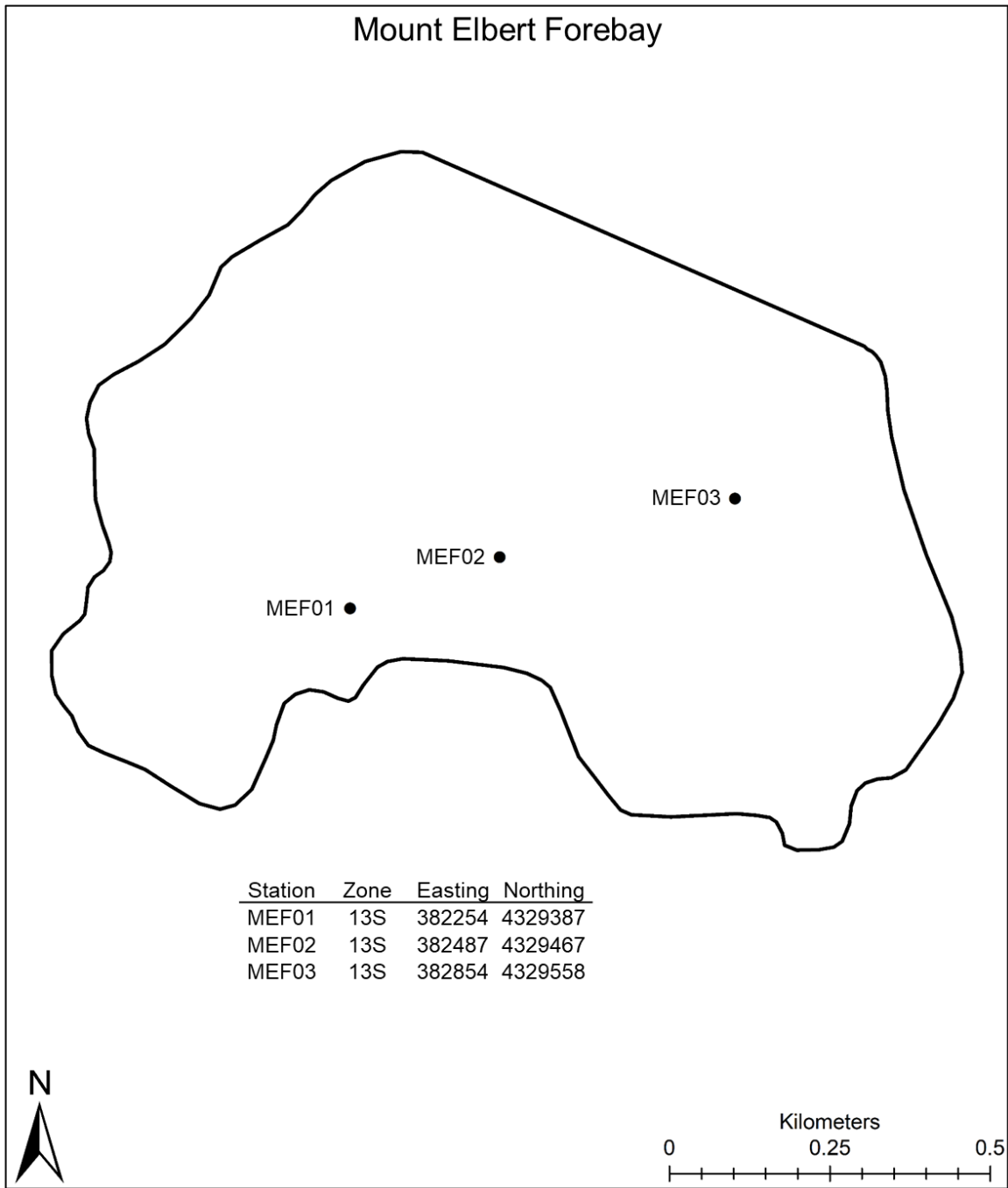


Figure A1.28. Locations of sampling stations on Mount Elbert Forebay (NAD83 datum).

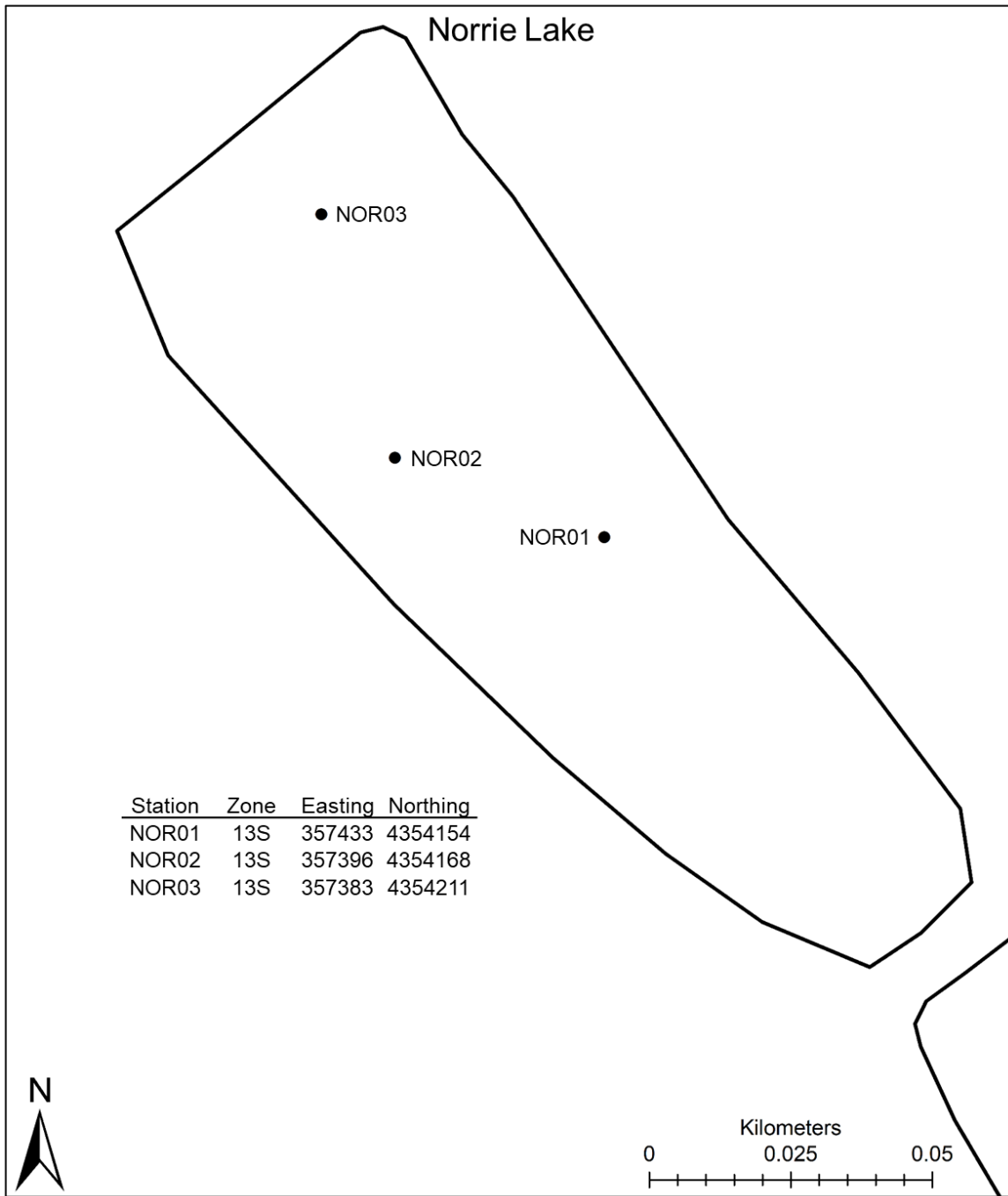


Figure A1.29. Locations of sampling stations on Norrie Lake (NAD83 datum).

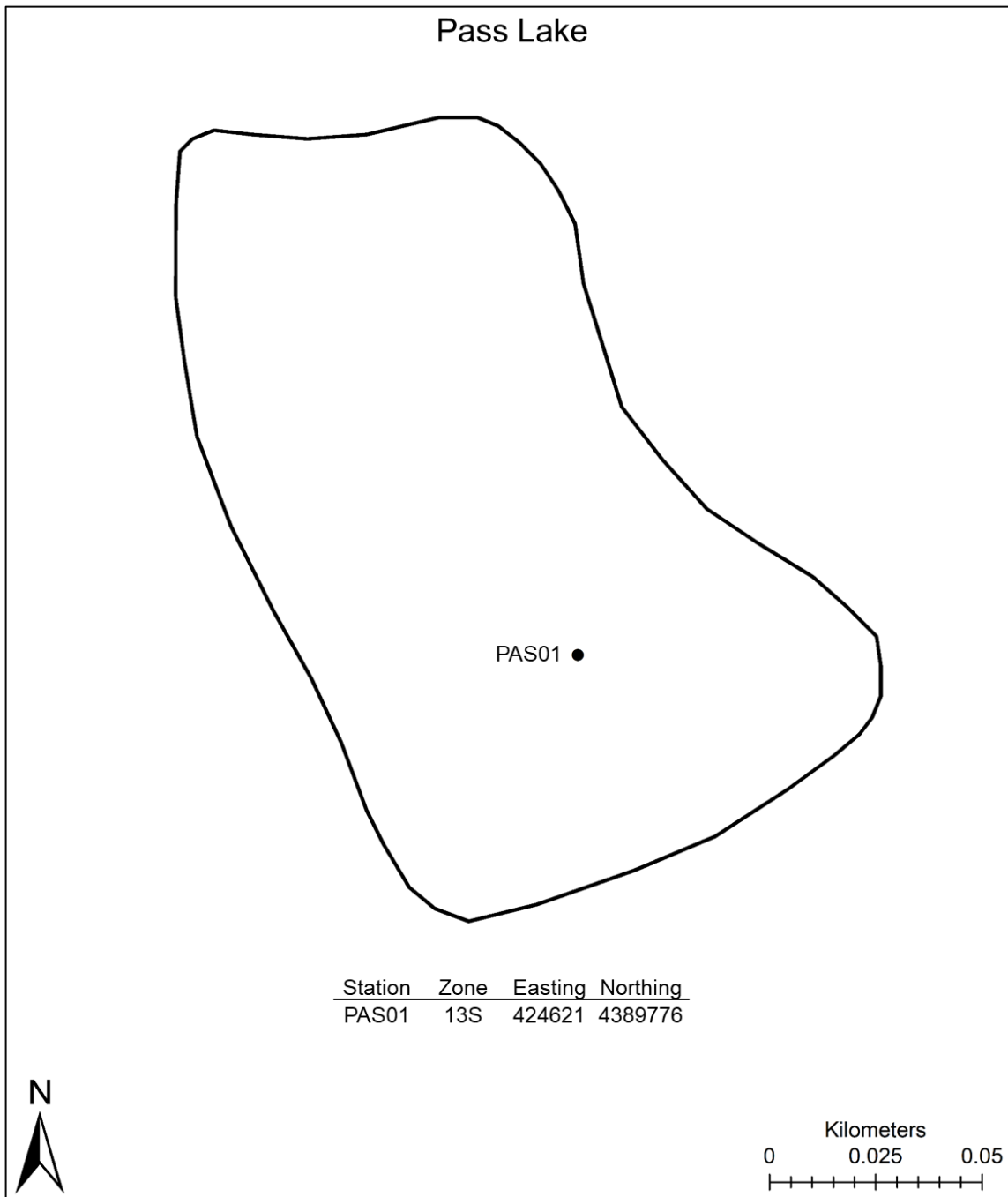


Figure A1.30. Locations of sampling stations on Pass Lake (NAD83 datum).

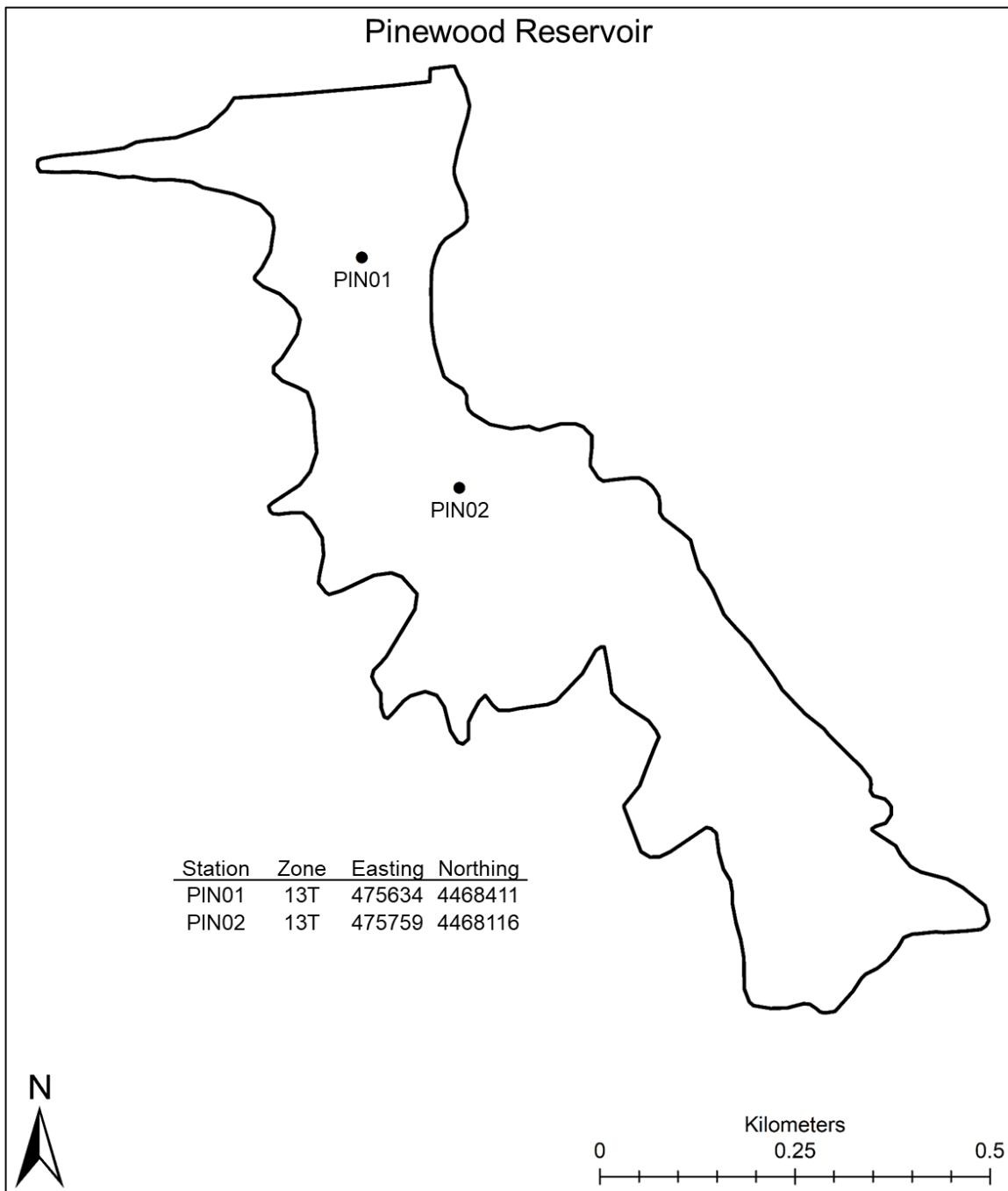


Figure A1.31. Locations of sampling stations on Pinewood Reservoir (NAD83 datum).

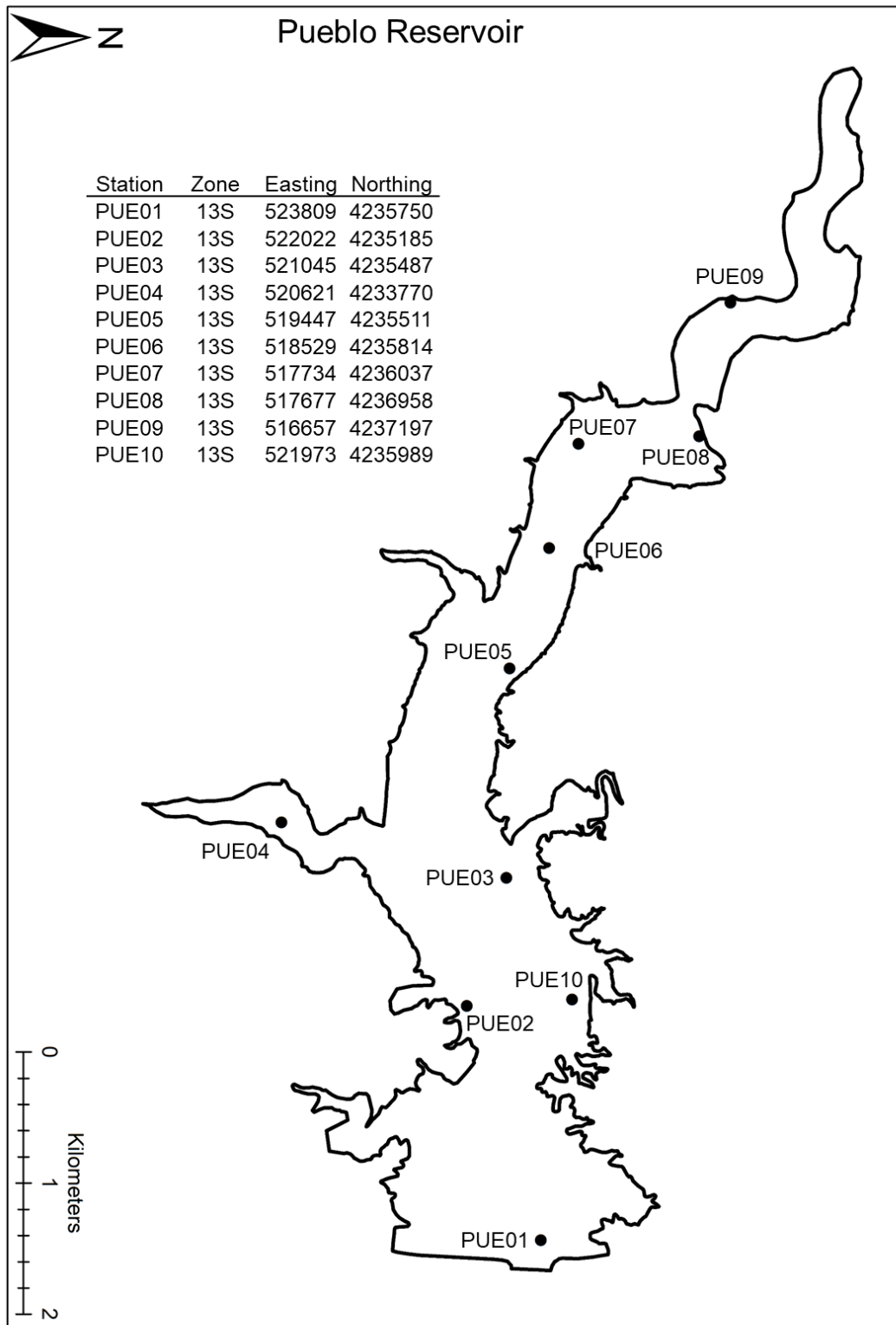


Figure A1.32. Locations of sampling stations on Pueblo Reservoir (NAD83 datum).

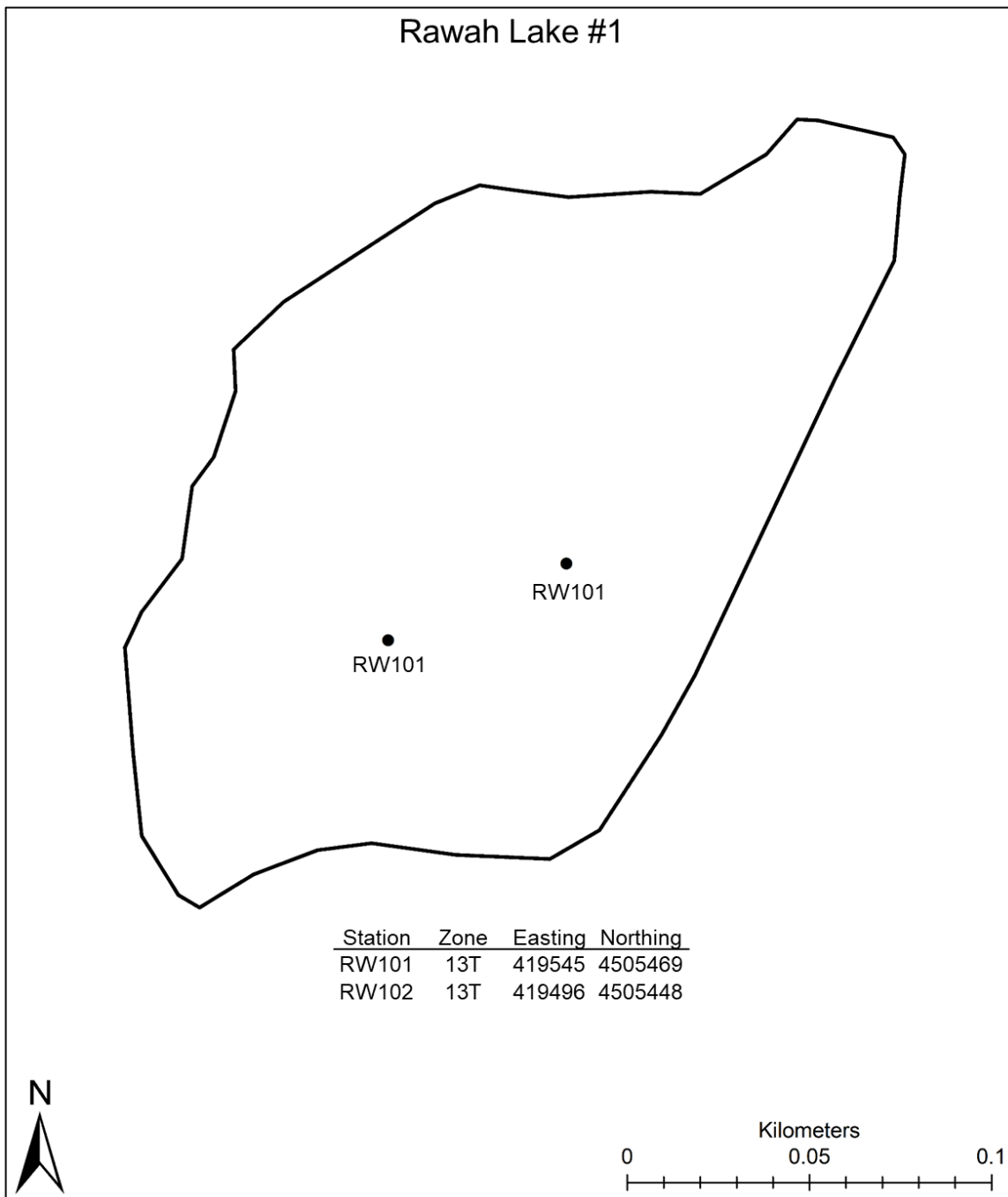


Figure A1.33. Locations of sampling stations on Rawah Lake #1 (NAD83 datum).



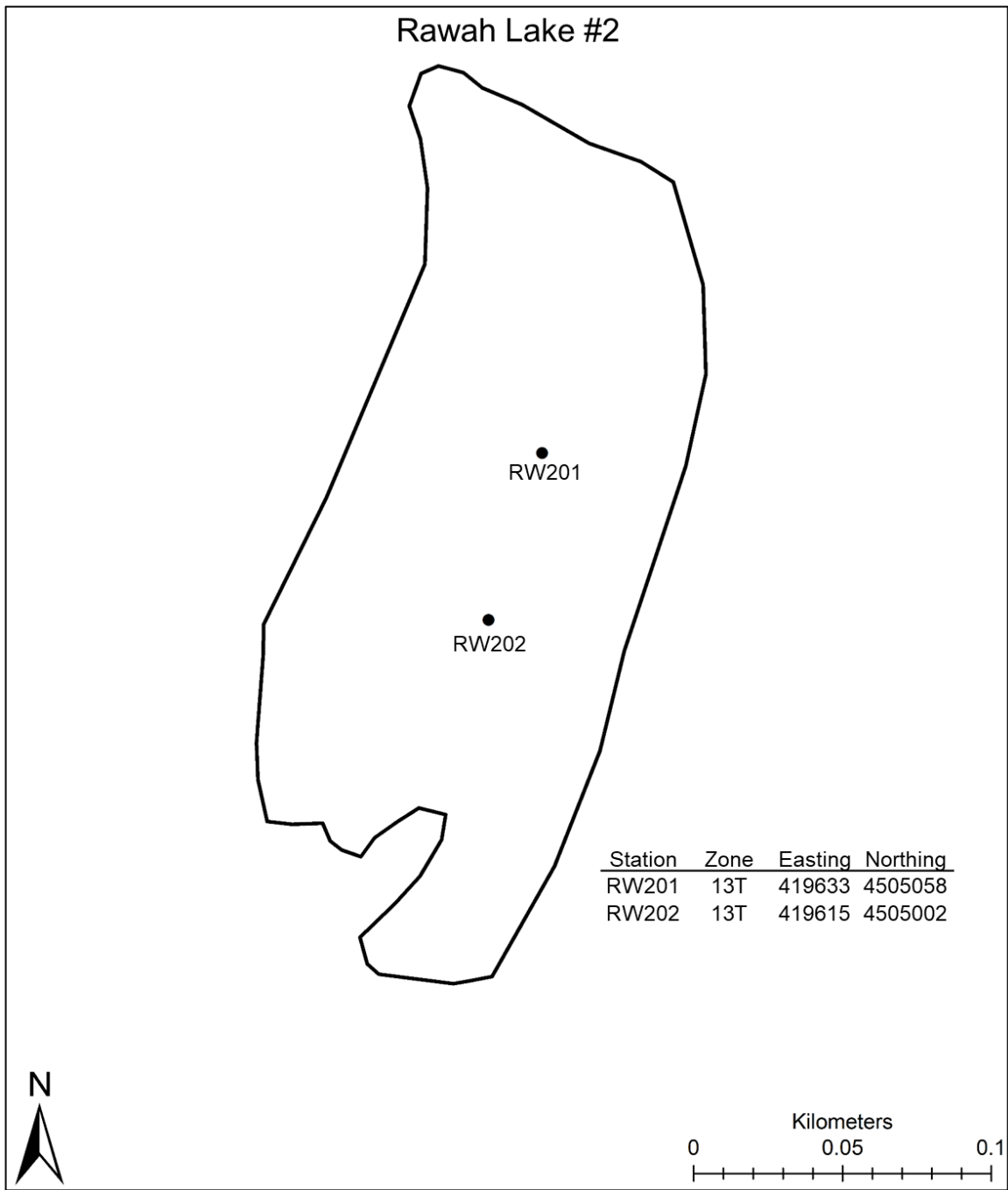


Figure A1.34. Locations of sampling stations on Rawah Lake #12 (NAD83 datum).

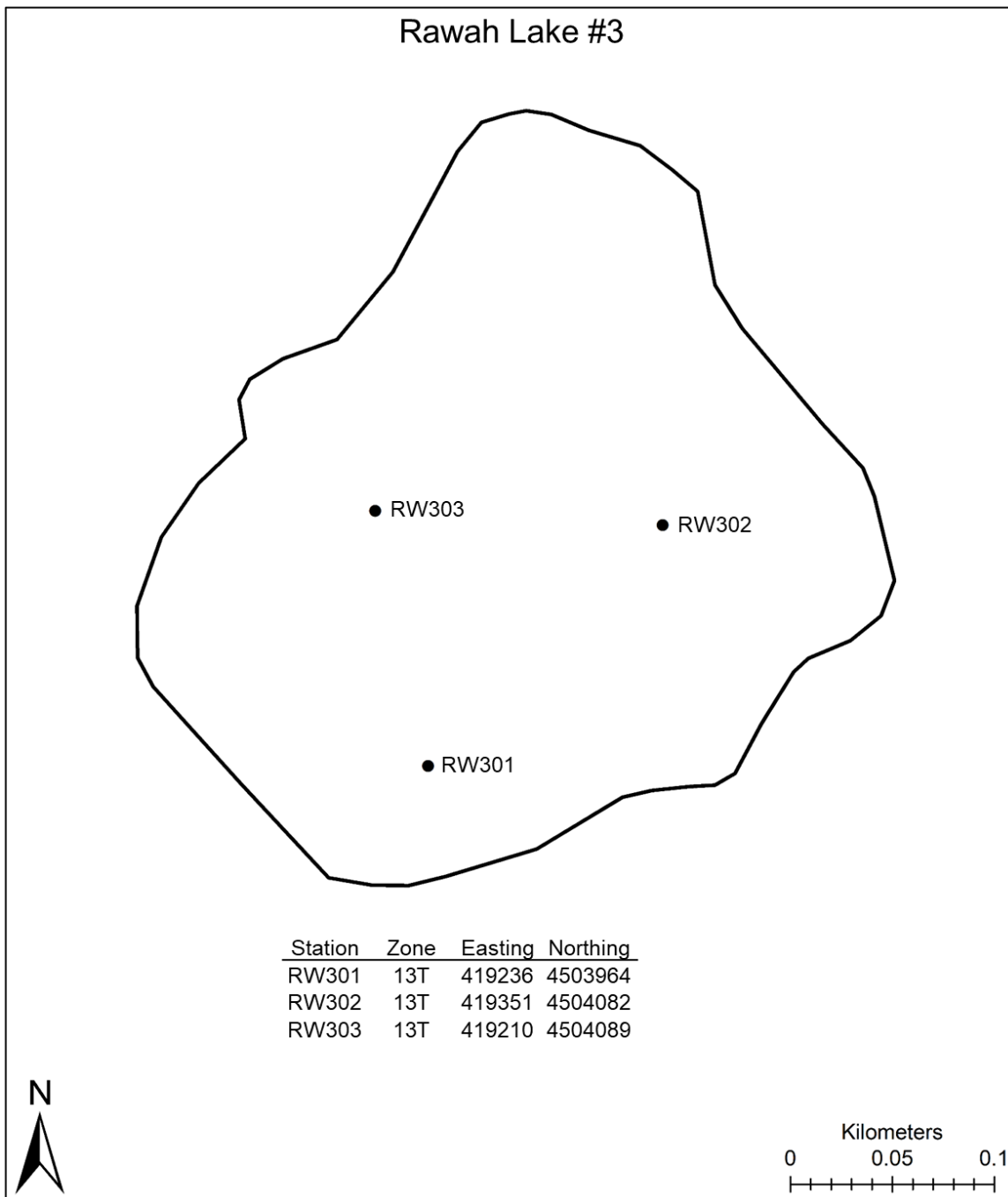


Figure A1.35. Locations of sampling stations on Rawah Lake #3 (NAD83 datum).

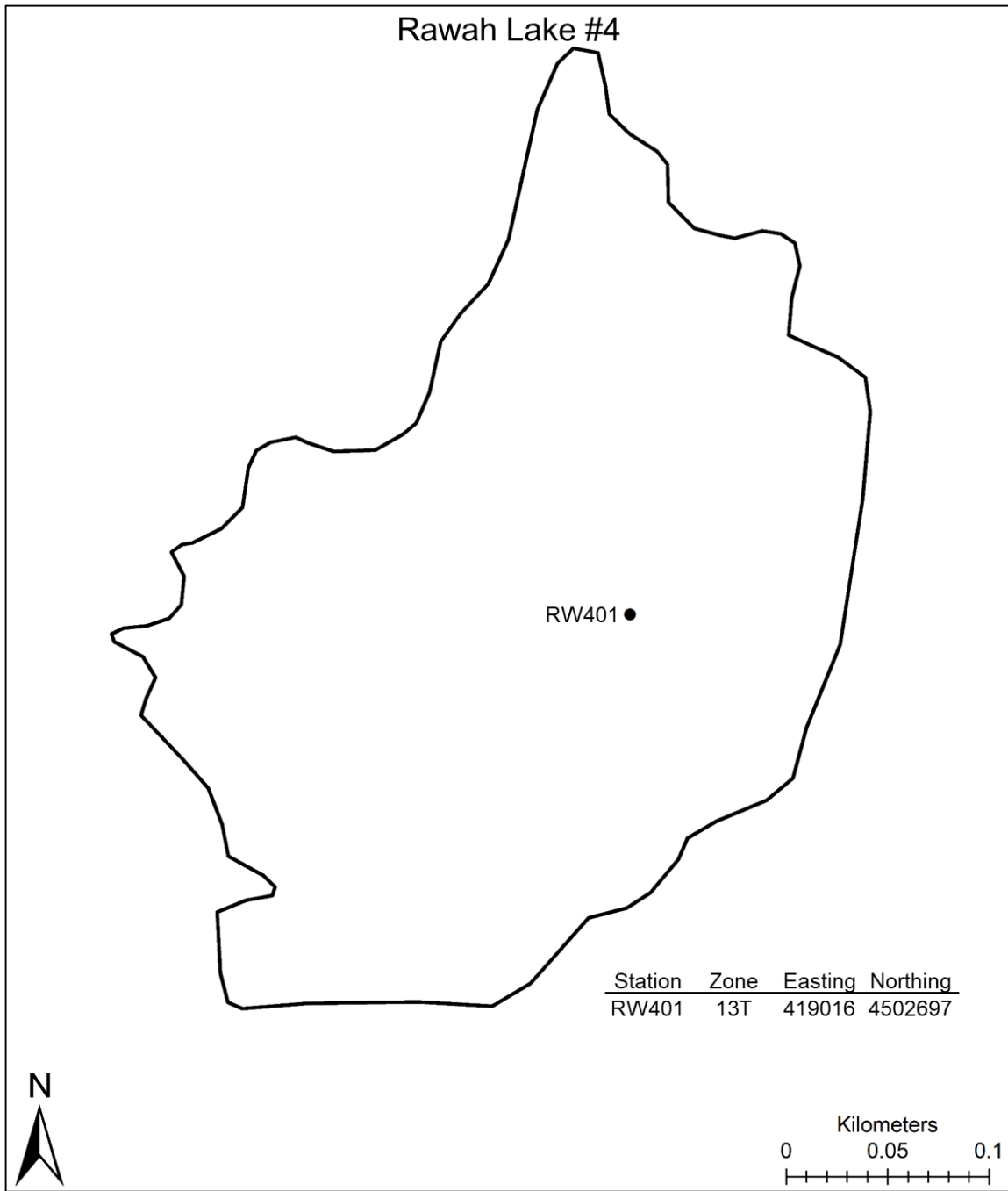


Figure A1.36. Locations of sampling stations on Rawah Lake #4 (NAD83 datum).

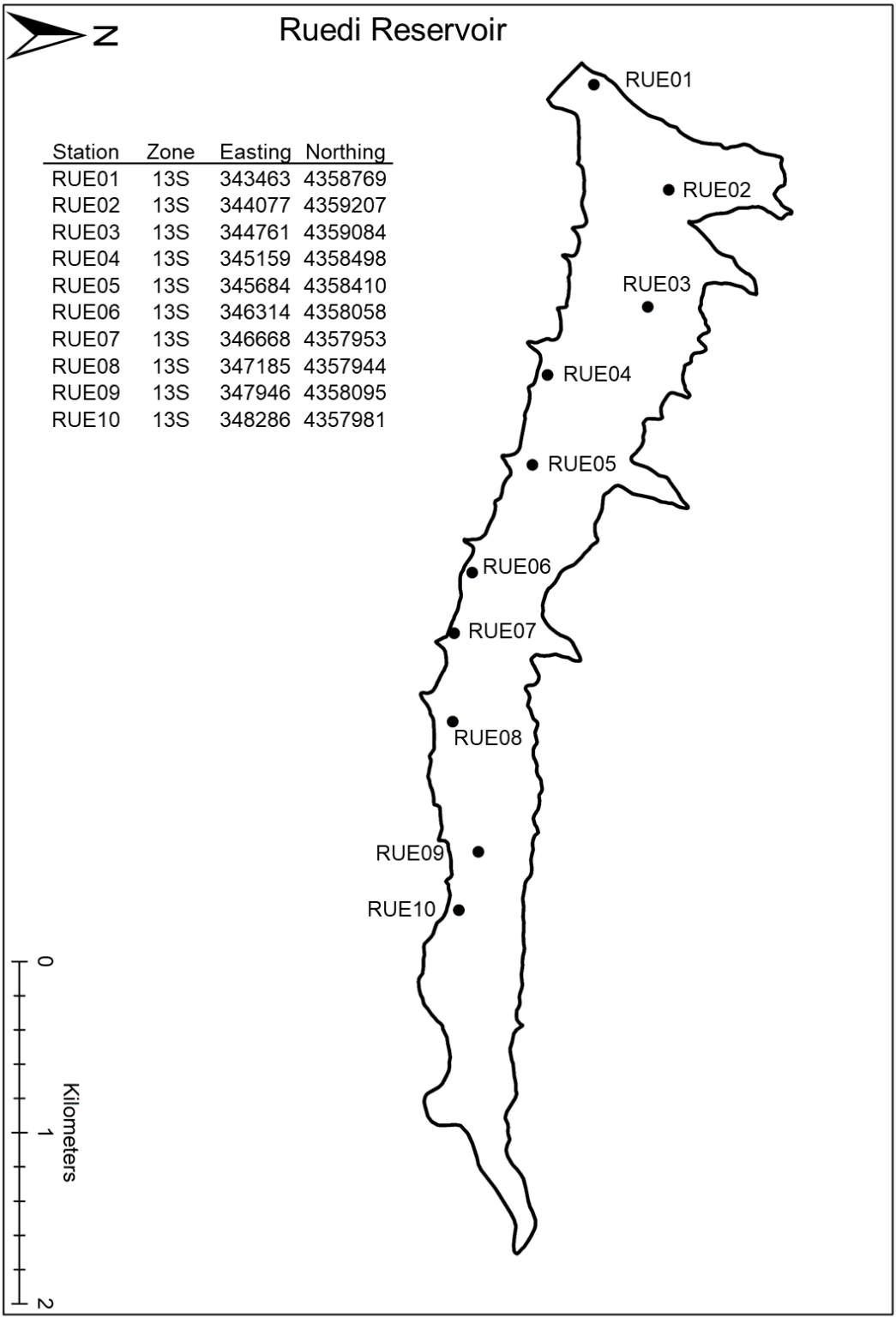


Figure A1.37. Locations of sampling stations on Ruedi Reservoir (NAD83 datum).

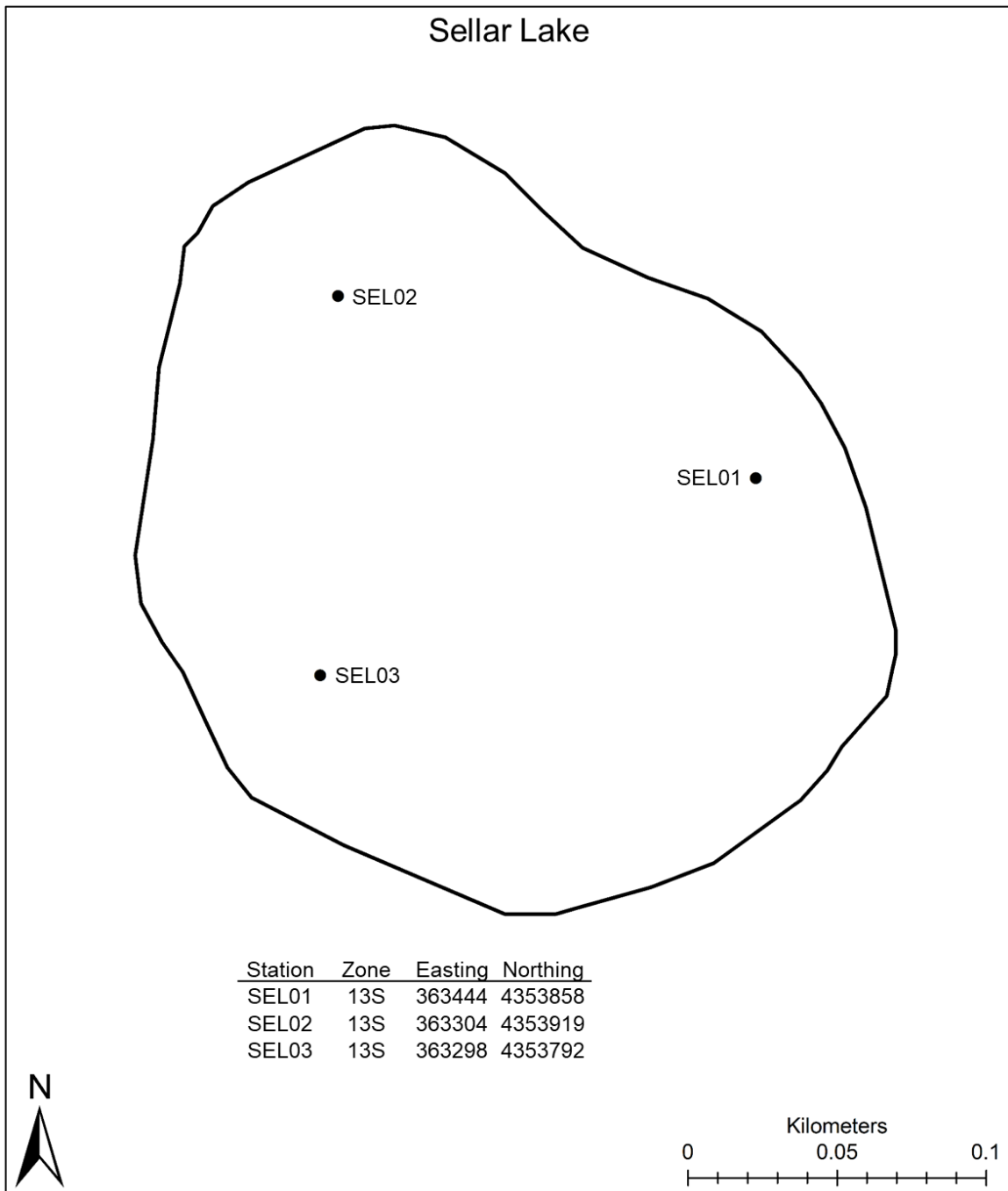


Figure A1.38. Locations of sampling stations on Sellar Lake (NAD83 datum).

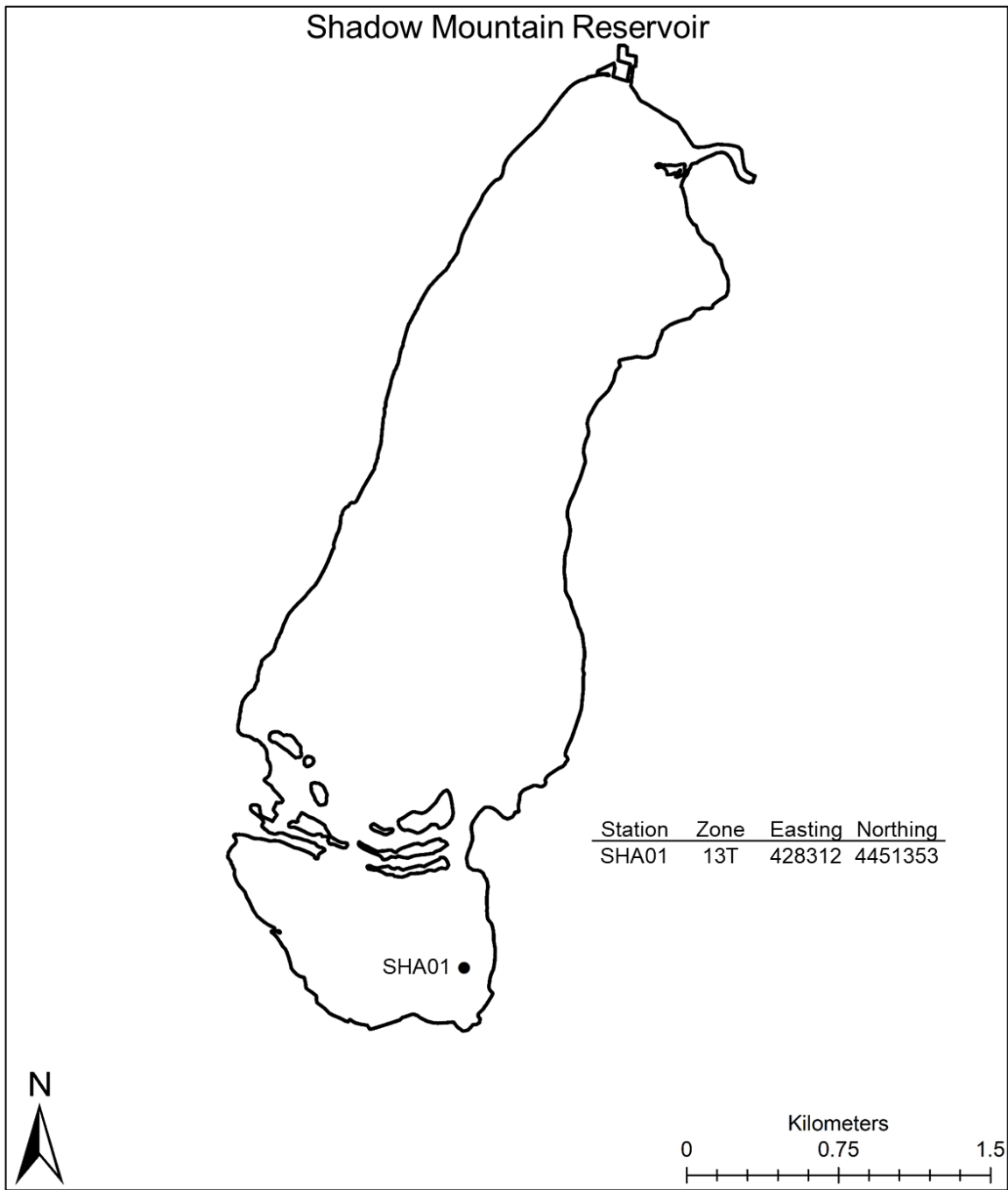


Figure A1.39. Locations of sampling stations on Shadow Mountain Reservoir (NAD83 datum).

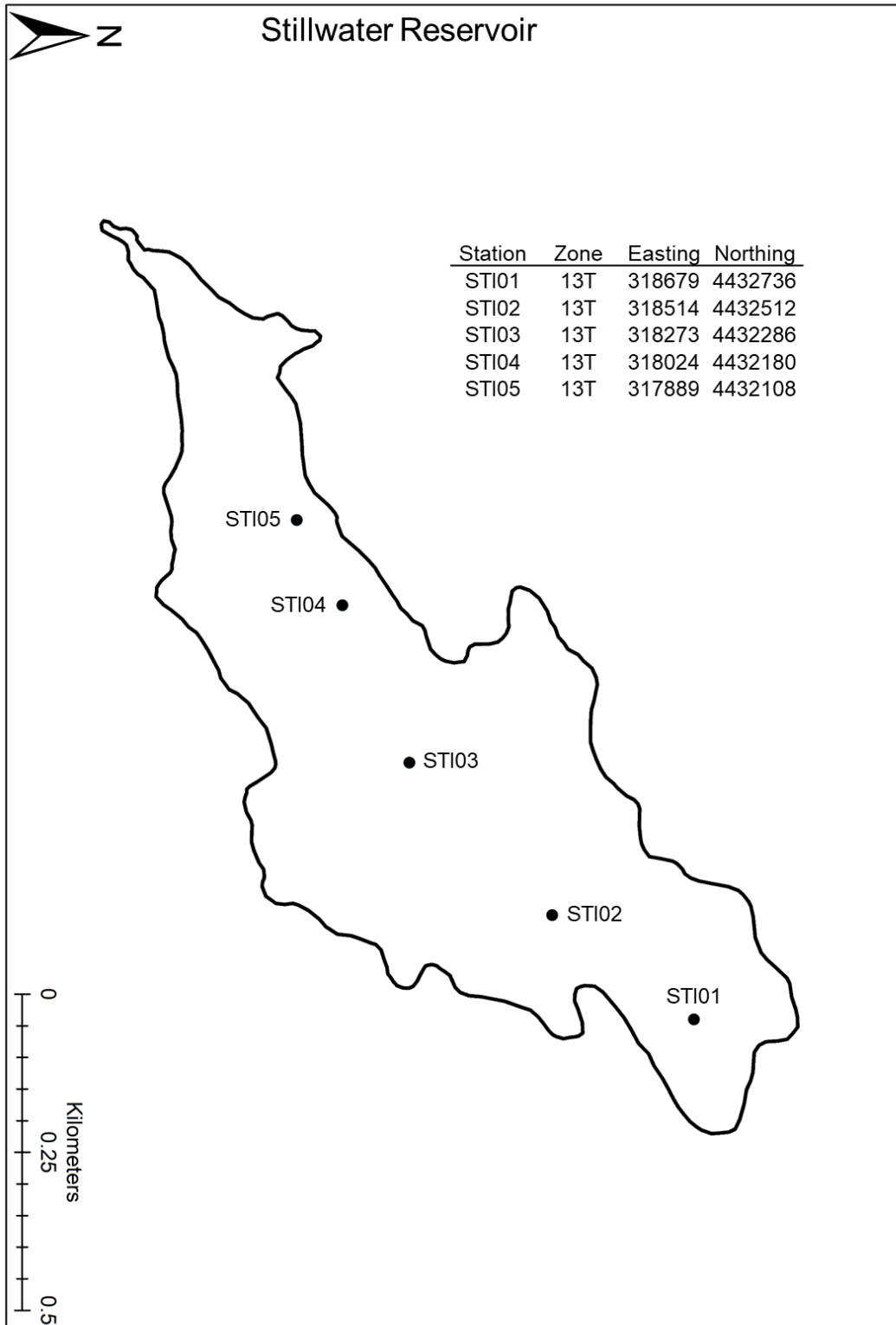


Figure A1.40. Locations of sampling stations on Stillwater Reservoir(NAD83 datum).

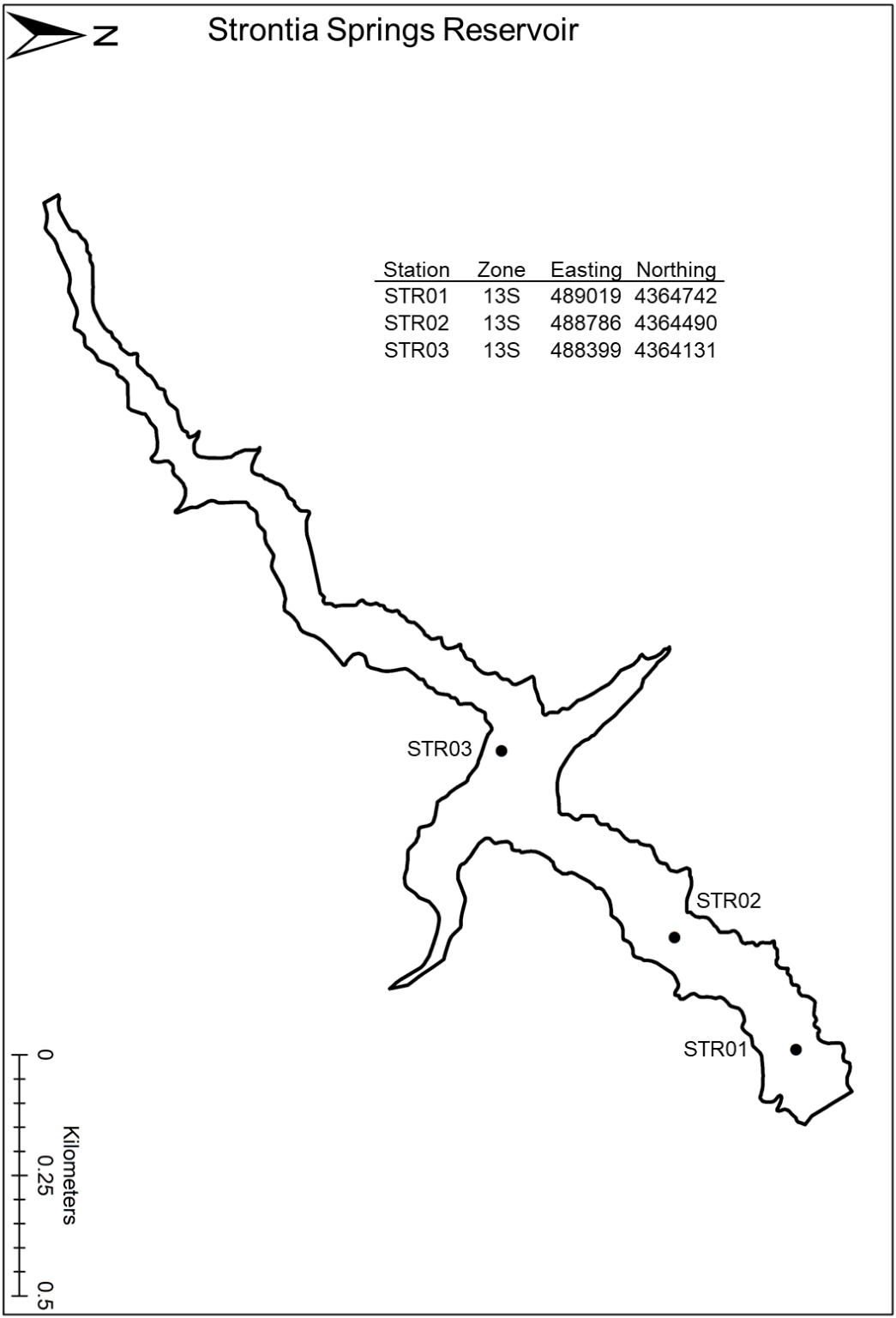


Figure A1.41. Locations of sampling stations on Strontia Springs Reservoir (NAD83 datum).



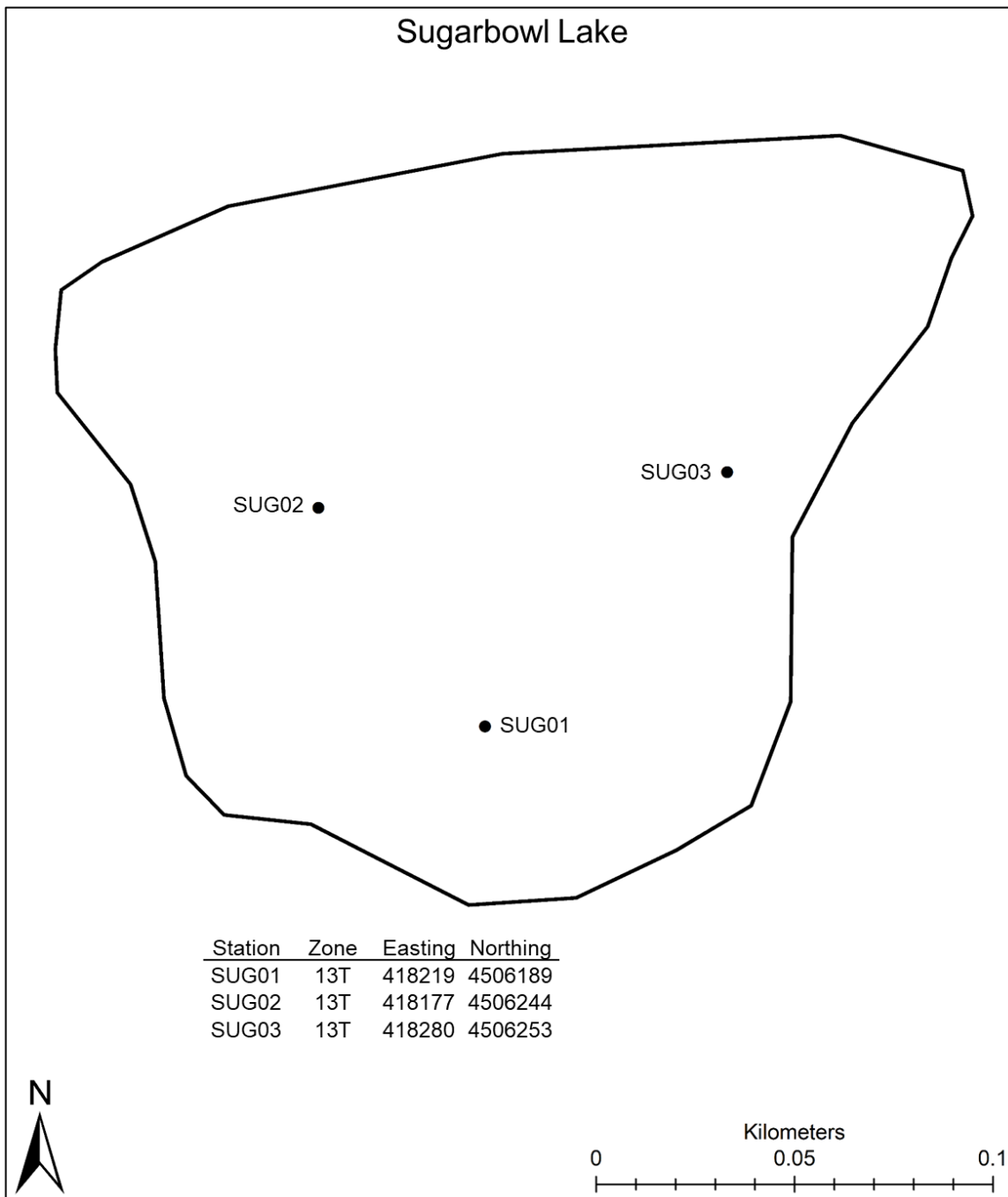


Figure A1.42. Locations of sampling stations on Sugarbowl Lake (NAD83 datum).

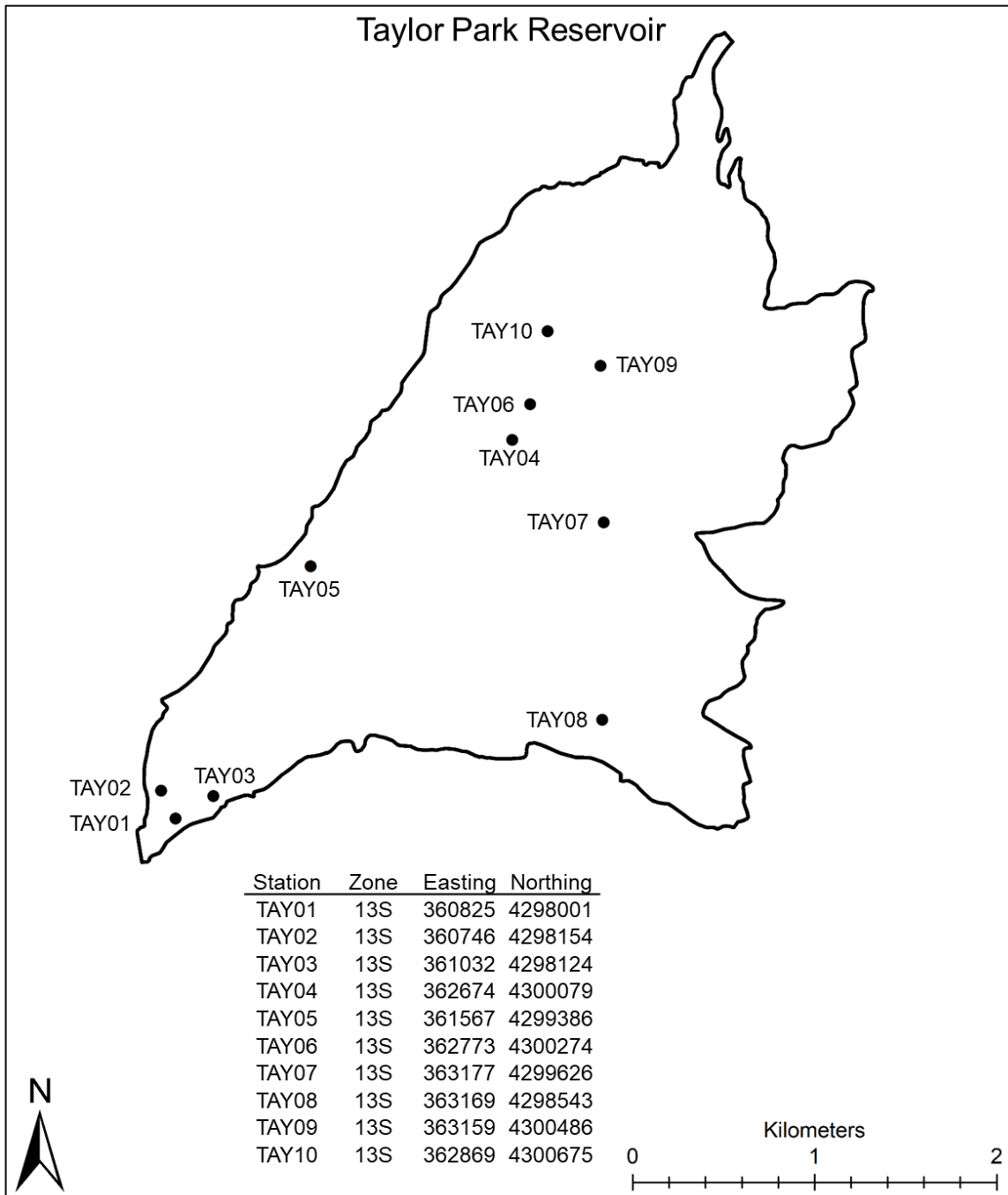


Figure A1.43. Locations of sampling stations on Taylor Park Reservoir (NAD83 datum).

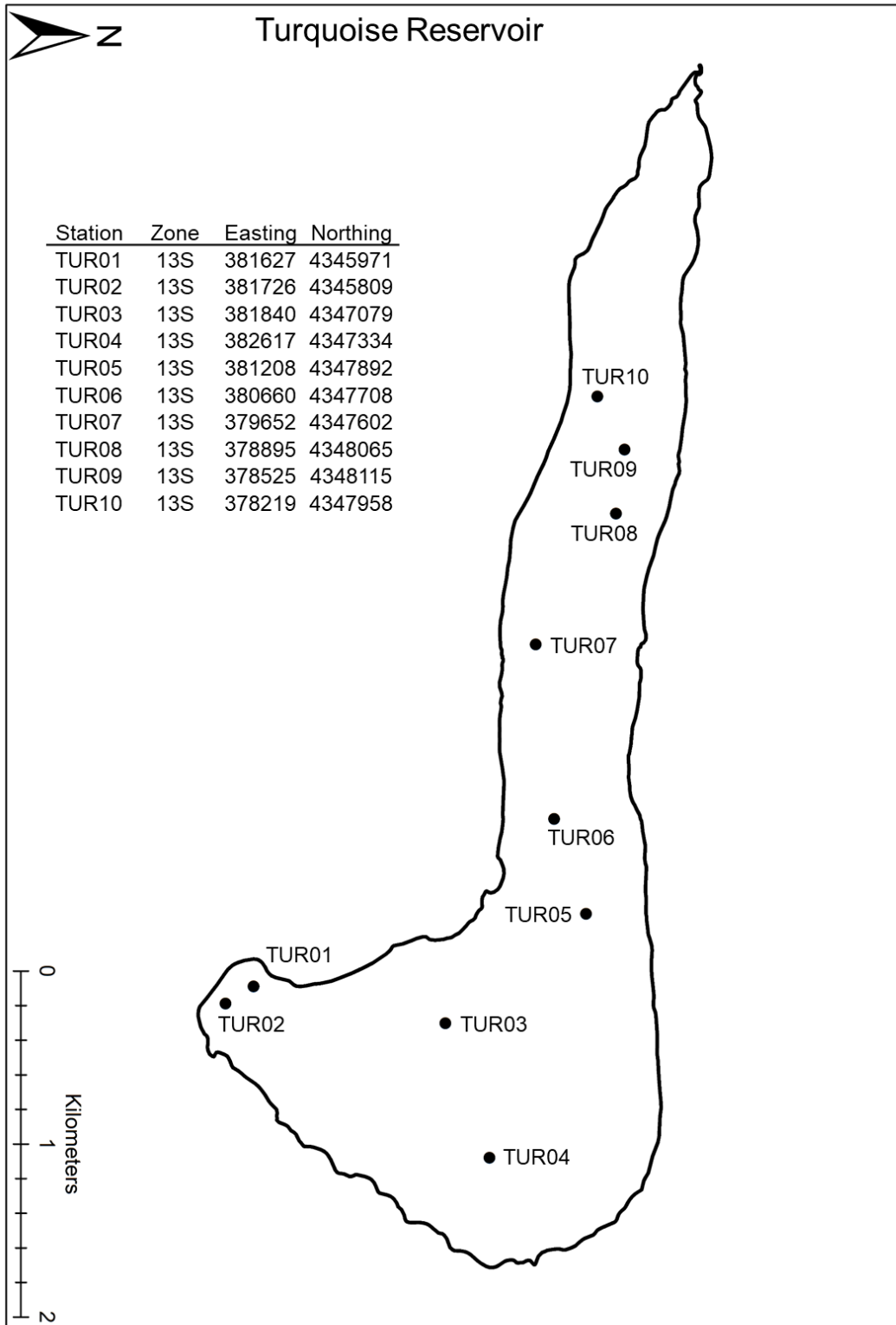


Figure A1.44. Locations of sampling stations on Turquoise Reservoir (NAD83 datum).

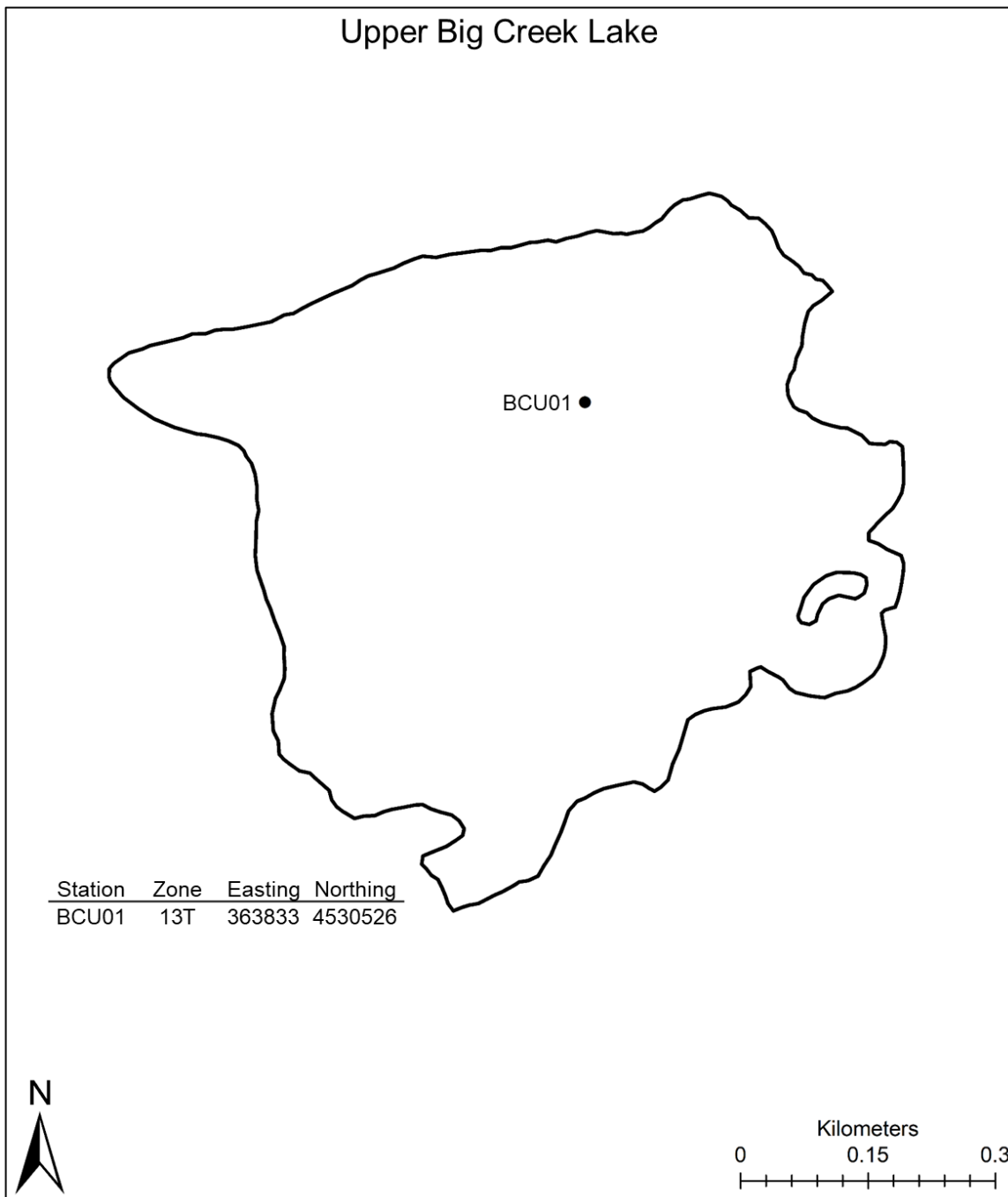


Figure A1.45. Locations of sampling stations on Upper Big Creek Lake (NAD83 datum).

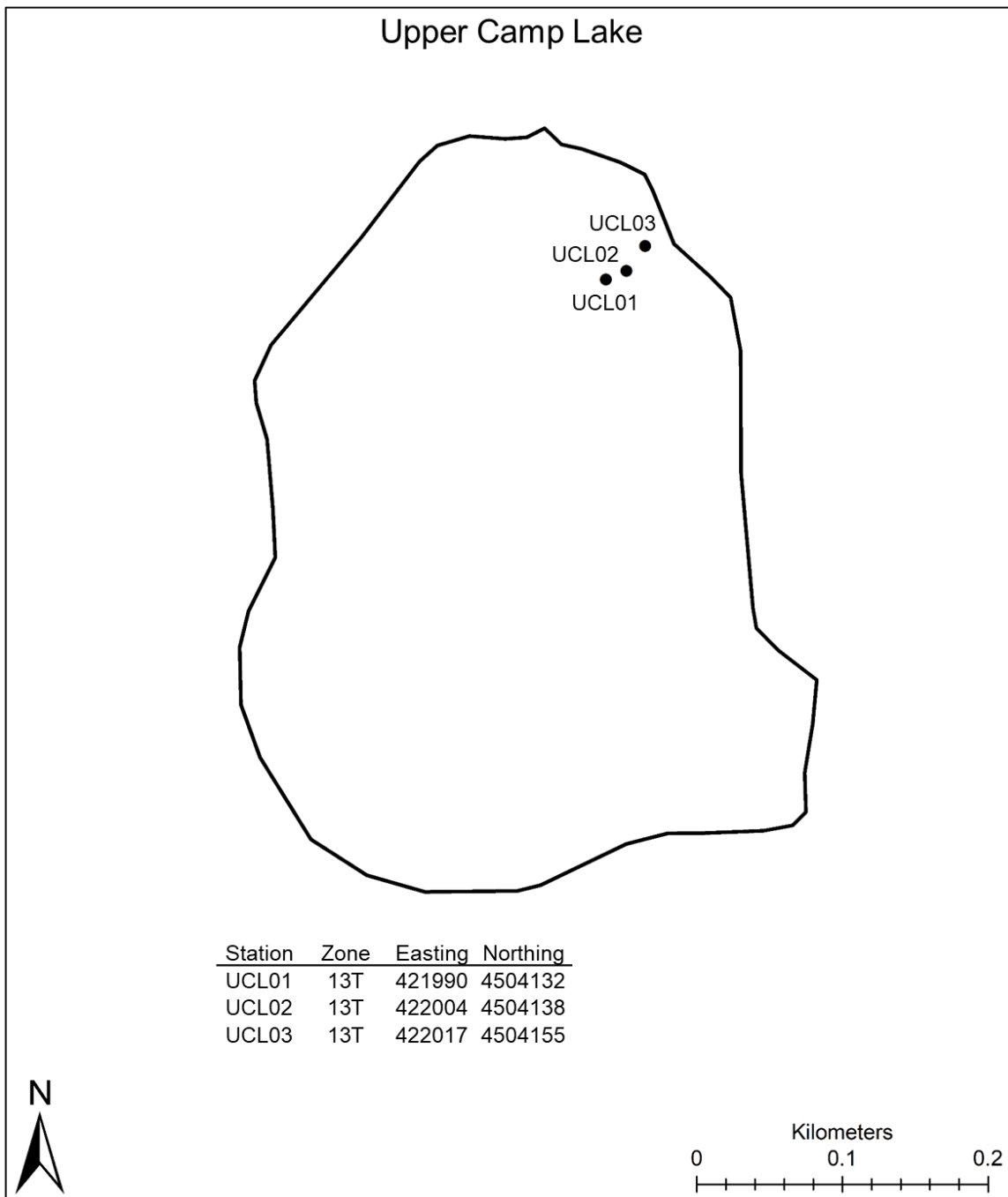


Figure A1.46. Locations of sampling stations on Upper Camp Lake (NAD83 datum).



Figure A1.47. Locations of sampling stations on Upper Stillwater Reservoir (NAD83 datum).

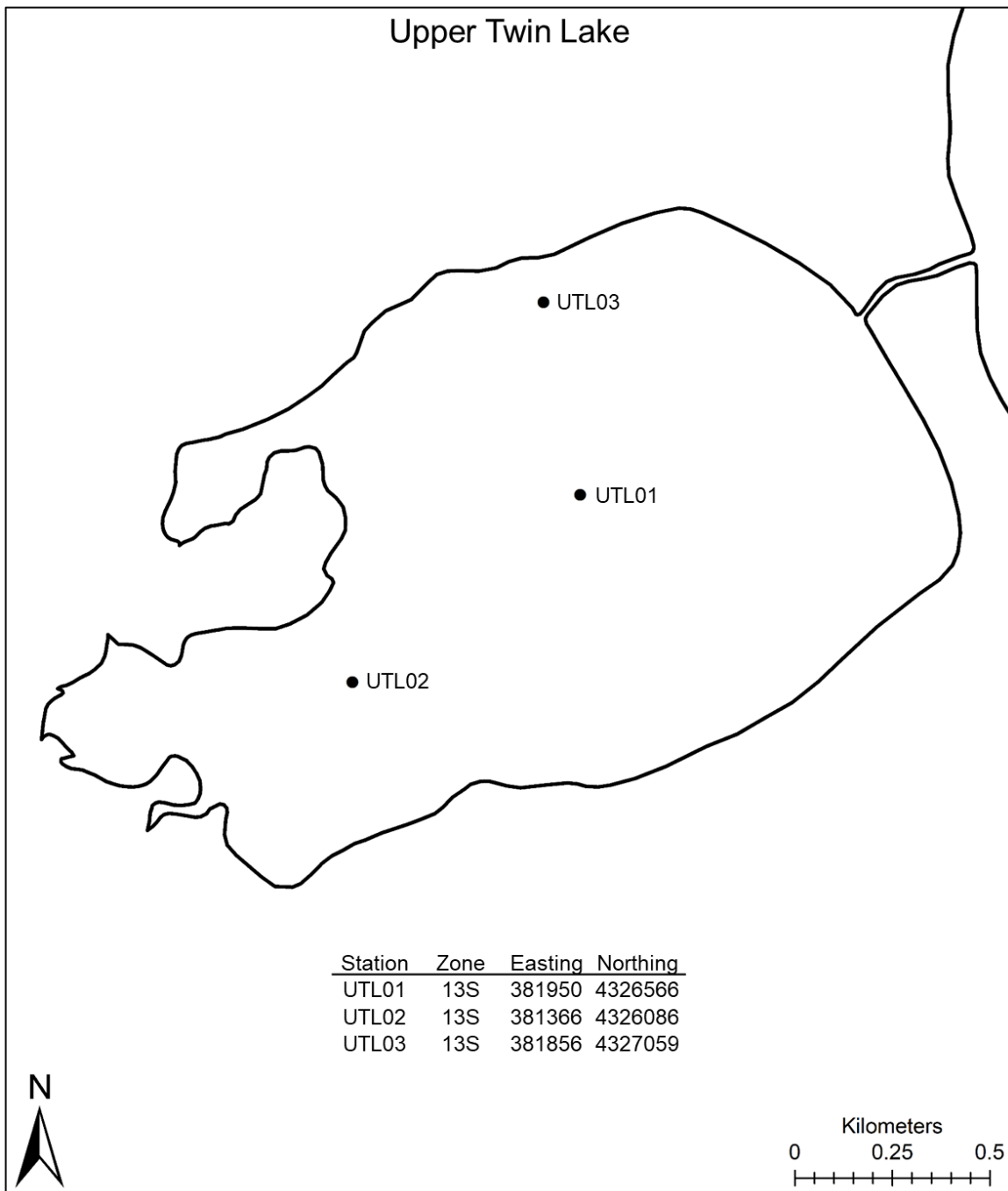


Figure A1.48. Locations of sampling stations on Upper Twin Lake (NAD83 datum).

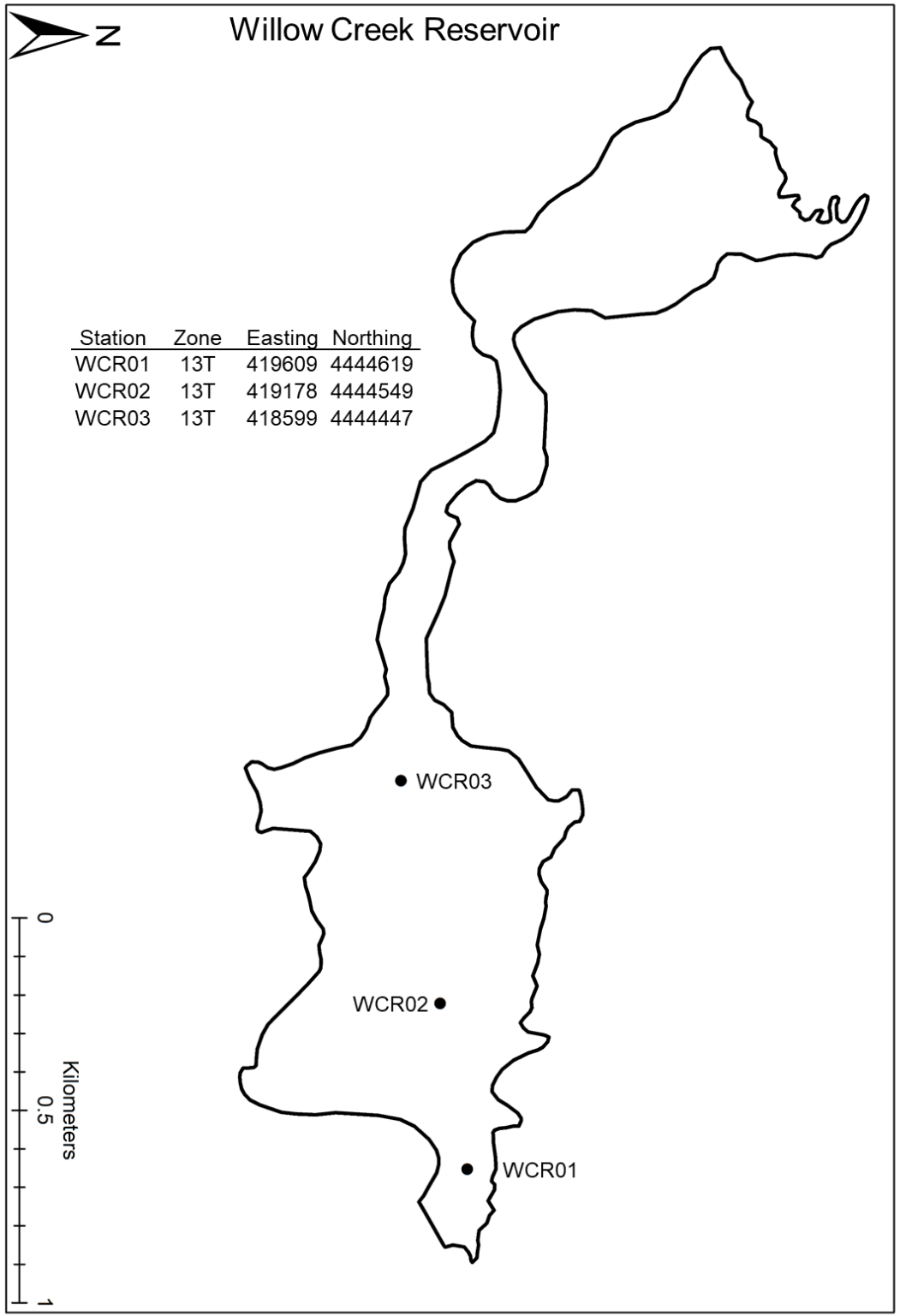


Figure A1.49. Locations of sampling stations on Willow Creek Reservoir (NAD83 datum).



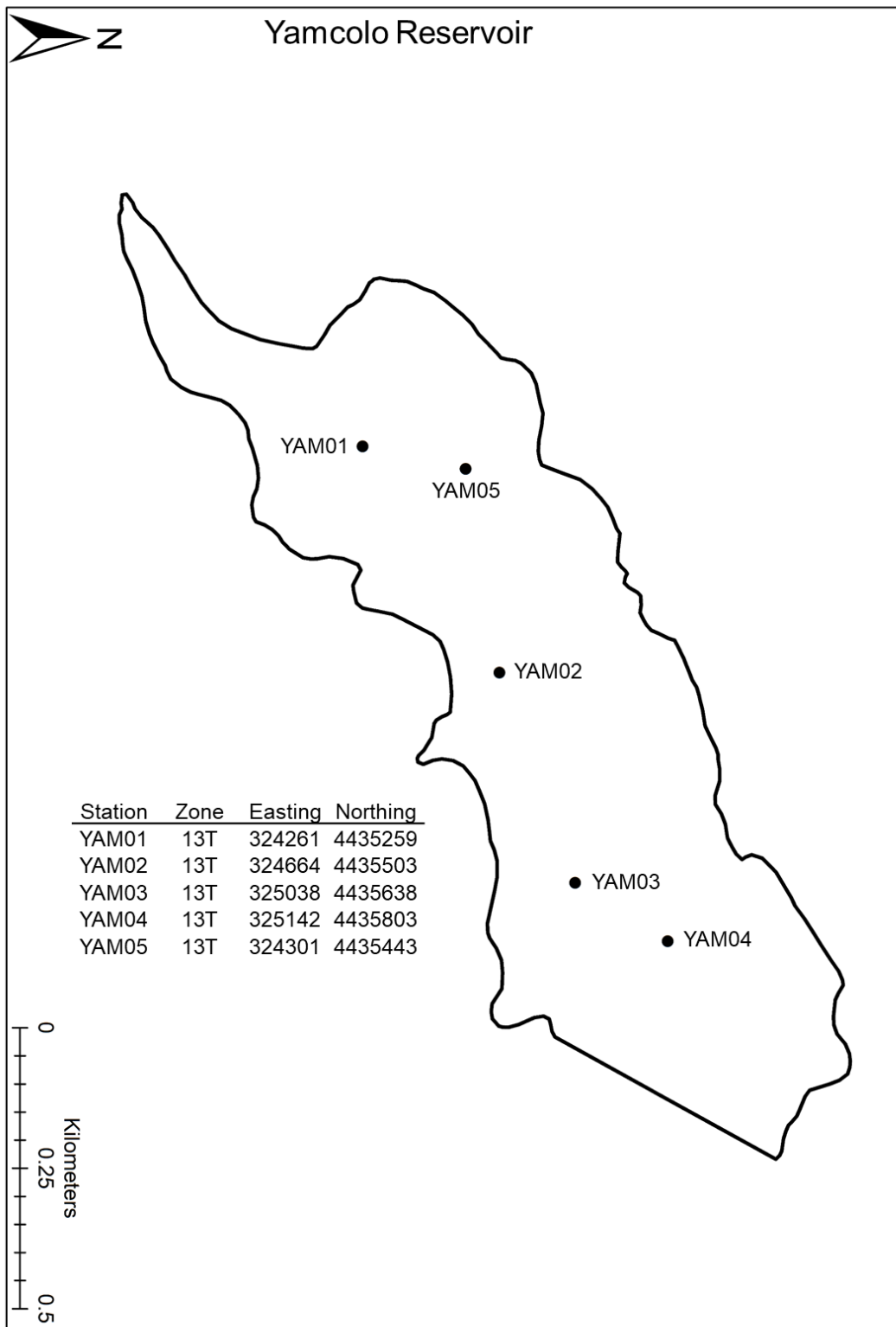


Figure A1.50. Locations of sampling stations on Yamcolo Reservoir (NAD83 datum).

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## **Appendix 2 - Summary of sampling**

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Table A2.1. Summary of sampling conducted during 2010-2019. An “X” indicates samples/measurements taken.

Water body	Date sampled	<i>Mysis</i> net	eDNA	Temp-DO	Cond. (µS/cm)	Turb. (NTU)	Secchi (m)	pH	TDS	Salinity (units)	Zoop.
Blue Mesa Reservoir	08/01/11	X		X							X
Blue Mesa Reservoir	08/20/12										X
Blue Mesa Reservoir	08/11/16			X			X				X
Blue Mesa Reservoir	09/12/18	X		X	X		X	X	X		
Boulder Reservoir	07/10/18		X	X	X	X	X	X	X	X	X
Carter Lake	03/26/14	X		X	X		X				
Carter Lake	05/02/14	X		X	X		X				X
Carter Lake	05/28/14	X		X	X	X	X				X
Carter Lake	06/20/14	X		X	X	X	X				X
Carter Lake	07/24/14	X		X	X	X	X				X
Carter Lake	08/17/14	X		X	X	X					X
Carter Lake	09/24/14	X		X	X	X					X
Carter Lake	10/21/14	X		X	X	X					X
Carter Lake	11/23/14	X		X	X	X					X
Carter Lake	12/17/14	X		X	X	X					X
Carter Lake	01/21/15	X		X	X	X					X
Carter Lake	02/18/15	X		X	X	X	X	X	X	X	X
Carter Lake	03/20/15	X		X	X	X	X	X	X	X	X
Carter Lake	04/15/15	X			X						X
Carter Lake	05/14/15	X		X	X	X					X
Carter Lake	06/16/15	X		X	X	X					X
Carter Lake	07/17/15	X		X	X	X					X
Carter Lake	08/10/15	X		X	X	X	X				X
Carter Lake	09/11/15	X		X	X	X	X				X
Carter Lake	10/07/15	X		X	X	X	X				X
Carter Lake	11/10/15	X		X	X	X					X
Carter Lake	12/09/15	X		X	X	X	X	X	X	X	X
Carter Lake	03/08/16	X		X	X	X	X	X	X		X
Carter Lake	04/06/16	X		X	X	X	X	X			X
Carter Lake	05/04/16	X		X	X	X	X	X			X
Carter Lake	06/01/16	X		X	X	X	X	X			X

Table A2.1. Continued. Summary of sampling conducted during 2010-2019. An “X” indicates samples/measurements taken.

Water body	Date sampled	<i>Mysis</i> net	eDNA	Temp-DO	Cond. (µS/cm)	Turb. (NTU)	Secchi (m)	pH	TDS	Salinity (units)	Zoop.
Carter Lake	06/30/16			X	X	X	X	X			X
Carter Lake	08/02/16	X		X	X	X		X	X	X	X
Carter Lake	08/25/16	X		X	X	X		X	X	X	X
Carter Lake	09/29/16	X		X	X	X		X	X	X	X
Carter Lake	10/25/16	X		X	X	X		X	X	X	X
Carter Lake	11/28/16	X		X	X	X			X	X	X
Carter Lake	12/02/16		X								
Carter Lake	12/28/16	X		X	X	X	X	X	X	X	X
Carter Lake	01/24/17	X	X	X	X	X		X	X	X	X
Carter Lake	02/27/17	X		X	X	X		X	X	X	X
Carter Lake	03/21/17	X		X	X	X	X	X	X	X	X
Carter Lake	04/25/17	X		X	X	X		X	X	X	X
Carter Lake	05/23/17	X		X	X	X	X	X	X	X	X
Carter Lake	08/23/17	X		X	X	X	X	X	X	X	X
Carter Lake	08/08/18	X		X	X	X	X	X	X	X	X
Carter Lake	08/29/19	X		X	X	X	X	X	X	X	X
Chalk Lake	08/25/17		X	X	X	X		X	X	X	X
Chambers Lake	08/01/16	X		X	X	X		X	X	X	X
Chapman Reservoir	06/21/16		X	X	X	X	X	X			X
Chatfield Reservoir	04/14/15	X		X	X	X					X
Chatfield Reservoir	07/10/17		X	X	X	X	X	X	X	X	X
Cheesman Lake	05/29/14	X		X	X	X	X				X
Cheesman Lake	06/19/14		X								
Cheesman Lake	08/23/16		X	X	X	X	X	X	X	X	
Clear Creek Reservoir	09/21/14	X		X	X	X	X				X
Crystal Lake	06/22/16		X	X	X	X		X			X
Deep Lake	07/25/19		X	X	X	X	X	X	X	X	X
Diemer Lake	07/27/16		X	X	X	X	X	X	X	X	X
Diemer Lake	08/26/17		X	X	X	X		X	X	X	X
Dillon Reservoir	08/03/10			X			X				
Dillon Reservoir	09/08/10	X		X							

Table A2.1. Continued. Summary of sampling conducted during 2010-2019. An “X” indicates samples/measurements taken.

Water body	Date sampled	<i>Mysis</i> net	eDNA	Temp-DO	Cond. (µS/cm)	Turb. (NTU)	Secchi (m)	pH	TDS	Salinity (units)	Zoop.
Dillon Reservoir	06/14/11	X		X		X	X				
Dillon Reservoir	07/07/11	X		X	X	X	X				
Dillon Reservoir	08/05/11	X		X	X	X	X				
Dillon Reservoir	05/22/12	X		X	X	X	X				
Dillon Reservoir	06/16/12	X		X	X	X	X				
Dillon Reservoir	07/10/12	X		X		X	X				
Dillon Reservoir	08/18/12	X		X		X	X				
Dillon Reservoir	09/13/12	X		X		X					
Dillon Reservoir	06/25/13			X	X	X	X				
Dillon Reservoir	07/10/13			X	X	X	X				
Dillon Reservoir	08/06/13	X		X	X	X	X				
Dillon Reservoir	09/04/13			X	X	X	X				
Dillon Reservoir	10/20/13			X	X	X	X				
Dillon Reservoir	05/26/14	X		X	X	X	X				Y
Dillon Reservoir	05/26/14	X		X	X	X	X				X
Dillon Reservoir	06/18/14		X								
Dillon Reservoir	06/23/14	X		X	X	X	X				
Dillon Reservoir	06/28/14										X
Dillon Reservoir	07/20/14	X									
Dillon Reservoir	07/21/14	X		X	X	X	X				X
Dillon Reservoir	08/18/14	X		X	X	X	X				X
Dillon Reservoir	09/20/14	X		X	X	X	X				X
Dillon Reservoir	10/19/14	X		X	X	X	X				X
Dillon Reservoir	11/22/14	X		X	X	X	X				X
Dillon Reservoir	08/12/15	X		X	X	X	X				X
Dillon Reservoir	08/03/16	X		X	X	X		X	X	X	X
Dillon Reservoir	08/24/17	X		X	X	X		X	X	X	X
Dillon Reservoir	08/09/18	X		X	X	X	X	X	X	X	X
Dillon Reservoir	09/23/19	X		X	X	X	X	X	X	X	X
Eleven Mile Reservoir	07/09/14	X	X	X	X	X	X				X
Eleven Mile Reservoir	08/24/16			X	X	X	X	X	X	X	

Table A2.1. Continued. Summary of sampling conducted during 2010-2019. An “X” indicates samples/measurements taken.

Water body	Date sampled	<i>Mysis</i> net	eDNA	Temp-DO	Cond. (µS/cm)	Turb. (NTU)	Secchi (m)	pH	TDS	Salinity (units)	Zoop.
Flatiron Reservoir	08/27/18				X	X		X	X	X	
Grand Lake	08/07/13	X									
Grand Lake	08/22/14	X		X	X		X				X
Green Mountain Reservoir	07/23/14	X		X	X	X	X				X
Gross Reservoir	05/30/14	X		X	X	X	X				X
Homestake Reservoir	08/10/18	X	X	X	X	X	X	X	X	X	X
Horsetooth Reservoir	06/15/15			X	X	X	X				X
Horsetooth Reservoir	07/13/15	X		X	X	X	X				X
Horsetooth Reservoir	06/08/16	X		X	X	X	X	X			X
Horsetooth Reservoir	05/22/17			X	X	X	X	X	X	X	X
Horsetooth Reservoir	08/22/17	X	X	X	X	X	X	X	X	X	X
Horsetooth Reservoir	09/05/18	X		X	X	X	X	X	X	X	X
Ivanhoe Lake	07/28/16		X	X	X	X	X	X	X	X	X
Jefferson Lake	08/11/15	X		X	X	X	X				X
Jefferson Lake	06/17/18	X		X	X	X	X	X	X	X	X
Jefferson Lake	07/14/18	X		X	X	X	X	X	X	X	X
Jefferson Lake	08/11/18	X		X	X	X	X	X	X	X	X
Jefferson Lake	09/06/18	X		X	X	X	X	X	X	X	X
Jefferson Lake	10/04/18	X		X	X	X	X	X	X	X	X
Lake Estes	05/31/14	X		X	X	X	X				X
Lake Estes	08/27/18			X	X	X	X	X	X	X	X
Lake Granby	08/30/11	X		X			X				X
Lake Granby	09/18/12	X		X			X				X
Lake Granby	09/05/13	X									X
Lake Granby	08/21/14	X		X	X		X				X
Lake Granby	08/13/15	X		X	X	X		X			X
Lake Granby	09/07/16	X		X	X		X	X			X
Lake Granby	09/18/17	X		X	X		X	X			X
Lake Granby	09/12/18	X		X	X		X	X			X
Lake Granby	09/25/19	X		X	X		X	X	X	X	X
Lost Man Reservoir	06/22/16		X	X	X	X					X

Table A2.1. Continued. Summary of sampling conducted during 2010-2019. An “X” indicates samples/measurements taken.

Water body	Date sampled	<i>Mysis</i> net	eDNA	Temp-DO	Cond. (µS/cm)	Turb. (NTU)	Secchi (m)	pH	TDS	Salinity (units)	Zoop.
Lower Big Creek Lake	09/09/15	X		X	X	X	X				X
Lower Big Creek Lake	09/04/18	X		X	X	X	X	X	X	X	X
Lower Big Creek Lake	07/24/19			X	X	X	X	X	X	X	X
Lower Camp Lake	07/07/16		X	X	X	X	X	X			X
Lower Twin Lake	05/27/14	X		X	X	X	X				X
Lower Twin Lake	06/22/14	X		X	X	X	X				
Lower Twin Lake	07/22/14	X		X	X	X					X
Lower Twin Lake	08/19/14	X		X	X	X	X				X
Lower Twin Lake	09/25/14	X		X	X	X					X
Lower Twin Lake	10/20/14	X		X	X	X	X				X
Lower Twin Lake	11/21/14	X		X	X	X	X				X
Mary's Lake	08/27/18				X	X		X	X	X	
McIntyre Lake	07/08/16		X	X	X	X	X	X			X
Mount Elbert Forebay	09/08/15	X		X	X	X					X
Mount Elbert Forebay	08/30/18				X	X	X	X	X	X	X
Norrie Lake	06/21/16		X	X	X	X	X	X			X
Pass Lake	08/12/15	X		X	X	X	X				
Pinewood Reservoir	05/01/14	X		X	X		X	X			X
Pueblo Reservoir	10/23/14	X		X	X	X	X				X
Pueblo Reservoir	07/10/17		X	X	X	X	X	X	X	X	X
Rawah #1	07/07/16		X	X	X	X		X			X
Rawah #2	07/09/16		X	X	X	X		X			X
Rawah #3	07/09/16		X	X	X	X	X	X			X
Rawah #4	07/09/16		X	X	X	X		X			X
Ruedi Reservoir	06/25/14	X		X	X	X	X				X
Sellar Lake	07/27/16		X	X	X	X	X	X	X	X	X
Shadow Mountain Reservoir	08/22/14	X		X	X		X				X
Stillwater Reservoir	07/16/15	X	X	X	X	X	X				X
Strontia Springs Reservoir	07/13/18	X	X	X	X	X	X	X	X	X	X
Sugarbowl Lake	07/08/16		X	X	X	X	X	X			X
Taylor Park Reservoir	08/19/12	X		X			X				X

Table A2.1. Continued. Summary of sampling conducted during 2010-2019. An “X” indicates samples/measurements taken.

Water body	Date sampled	<i>Mysis</i> net	eDNA	Temp-DO	Cond. (µS/cm)	Turb. (NTU)	Secchi (m)	pH	TDS	Salinity (units)	Zoop.
Taylor Park Reservoir	08/11/13	X									X
Taylor Park Reservoir	06/26/14	X		X	X	X	X				X
Taylor Park Reservoir	08/22/17	X		X	X		X	X			X
Taylor Park Reservoir	09/11/18	X		X	X		X				X
Taylor Park Reservoir	09/26/19	X		X	X		X	X	X	X	X
Turquoise Lake	06/21/14	X		X	X	X	X				
Turquoise Lake	09/21/14			X	X	X	X				X
Upper Big Creek Lake	07/24/19	X		X	X	X	X	X	X	X	X
Upper Camp Lake	09/04/14	X	X	X	X	X					X
Upper Camp Lake	07/06/16		X	X	X	X					X
Upper Stillwater Reservoir	07/15/15	X	X	X	X	X	X				X
Upper Twin Lake	06/22/14	X		X	X	X	X				
Upper Twin Lake	07/22/14	X		X	X	X					X
Willow Creek Reservoir	08/23/14	X		X	X	X					X
Yamcolo Reservoir	07/14/15	X	X	X	X	X					X
Yamcolo Reservoir	08/29/18			X	X	X	X	X	X	X	X



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## Appendix 3 - Temperature and dissolved oxygen profile data

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Table A3.1. Temperature (Temp., °C) and dissolved oxygen (D.O., mg/L) profiles measured at station P3 (Sapinero), P1 (Cebolla) and P2 (Iola) on 08/01/11 at Blue Mesa Reservoir, Gunnison County.

Blue Mesa Reservoir						
Depth (m)	P3		P1		P2	
	Temp.	D.O.	Temp.	D.O.	Temp.	D.O.
0	20.8	7.2	21.0	6.9	20.9	6.5
1	20.5	7.8	21.0	6.9	20.6	7.2
2	20.3	7.7	20.8	7.0	20.5	7.7
3	20.0	7.7	20.9	7.0	20.5	7.9
4	19.9	7.7	20.7	7.0	20.4	8.2
5	19.8	7.5	20.6	6.9	20.3	8.2
6	19.3	7.1	20.5	6.9	20.3	8.2
7	18.4	6.9	20.4	6.8	19.8	8.2
8	17.0	6.5	18.3	6.4	18.5	8.0
9	16.0	6.5	16.8	6.0	16.9	7.7
10	15.6	7.0	15.9	6.0	16.1	7.6
11	15.1	7.0	15.6	6.0	15.9	7.4
12	14.6	6.8	15.1	6.1	15.5	7.3
13	14.2	6.7	14.6	6.1	15.1	7.2
14	14.0	6.9	14.3	6.5	14.6	7.2
15	13.8	6.9	13.9	6.4	14.3	7.2
16	13.6	6.9	13.9	6.0	14.0	7.1
17	13.5	6.9	13.9	5.9	13.7	7.1
18	13.3	6.8	14.1	6.7	13.5	6.9
19	13.1	6.8			13.4	6.6
20	12.9	6.9			13.2	6.4
21						
22						
23						
24						
25	12.1	7.2			12.4	5.9
26						
27						
28						
29						
30	11.5	6.8				
35	10.9	6.9				
40	9.9	7.0				
45	8.7	7.2				
50	7.8	7.2				
55	6.8	7.3				
60						

Table A3.2. Temperature (Temp., °C) and dissolved oxygen (D.O., mg/L) profiles measured at station P3 (Sapinero), P1 (Cebolla) and P2 (Iola) on 08/11/16 at Blue Mesa Reservoir, Gunnison County.

Blue Mesa Reservoir						
Depth (m)	P3		P1		P2	
	Temp.	D.O.	Temp.	D.O.	Temp.	D.O.
0	19.5	8.00	20.8	8.15	20.7	8.17
1	19.6	8.03	20.8	8.17	20.6	8.17
2	19.7	8.04	20.6	8.18	20.6	8.22
3	19.7	8.04	20.3	8.21	20.4	8.24
4	19.7	8.06	20.1	8.18	20.0	8.35
5	19.8	8.05	20.0	8.18	20.0	8.30
6	19.8	8.07	20.0	8.08	19.9	8.20
7	19.8	8.05	19.6	7.20	19.9	8.20
8	19.8	8.02	19.3	6.75	19.8	8.10
9	19.7	7.93	18.7	6.14	18.7	6.57
10	19.1	7.00	18.2	5.70	18.2	6.44
11	18.7	6.50	17.8	5.50	17.6	6.29
12	17.8	5.97	17.5	5.42	17.3	6.17
13	17.5	5.88	17.1	5.32	17.2	6.11
14	17.1	5.84	16.6	5.25	17.2	6.18
15	16.6	5.83	16.4	5.21	17.1	6.11
16	15.8	5.81	15.8	5.11	16.6	6.03
17	15.2	5.81	15.5	5.12	15.6	5.34
18	14.6	5.86	14.8	5.14	15.1	4.80
19	14.2	5.94	13.7	5.30	14.7	4.50
20	13.4	6.20	13.4	5.33	14.2	4.21
21	13.0	6.45	13.0	5.63	13.4	3.70
22	12.7	6.63	12.5	5.72	13.0	3.54
23	12.2	6.90	12.2	5.75	12.6	3.01
24	12.0	6.99	12.1	5.78	12.4	0.72
25	11.9	7.05	11.6	5.63		
26	11.6	7.13	11.5	5.69		
27	11.4	7.18	11.2	5.49		
28	11.2	7.20	11.1	5.45		
29	11.0	7.24	11.0	5.27		
30	10.8	7.26	10.8	5.23		
35	9.7	7.21	9.8	5.03		
40	8.4	6.97	8.3	4.00		
45	7.4	6.91	7.3	5.19		
50	6.9	7.02	6.8	5.36		
55	6.3	7.27	6.5	5.26		
60	6.0	7.51	6.4	2.66		

Table A3.3. Temperature (Temp., °C) and dissolved oxygen (D.O., mg/L) profiles measured at station P3 (Sapinero), and P1 (Cebolla) on 09/12/18 at Blue Mesa Reservoir, Gunnison County.

Depth (m)	Blue Mesa Reservoir			
	P3		P1	
	Temp.	D.O.	Temp.	D.O.
0	18.3	7.27	18.9	7.65
1	18.3	7.27	18.8	7.67
2	18.3	7.26	18.7	7.68
3	18.3	7.25	18.7	7.68
4	18.3	7.23	18.6	7.68
5	18.3	7.23	18.6	7.68
6	18.3	7.21	18.6	7.67
7	18.1	7.14	18.6	7.65
8	17.9	7.00	18.5	7.66
9	17.9	6.84	18.5	7.66
10	17.8	6.79	18.5	7.60
11	17.8	6.76	18.3	7.34
12	17.8	6.77	18.1	6.60
13	17.8	6.70	17.9	6.20
14	17.7	6.62	17.9	6.14
15	17.7	6.60	17.8	6.05
16	17.7	6.50	17.8	5.80
17	17.7	6.41	17.7	5.76
18	17.6	6.39	17.6	5.87
19	17.4	5.92	17.5	5.73
20	16.7	4.46	17.1	5.47
21			17.0	5.48
22			16.7	5.20
23			16.6	4.58
24			16.1	3.98
25	13.0	3.56	15.2	3.38
26			13.8	1.33
27			12.2	0.97
28			10.5	1.23
29			9.1	1.53
30	8.5	5.18	8.5	1.91
31				
32				
33				
34				
35	7.1	6.18	7.5	2.30
36				
37				
38				
39				
40	6.7	6.47		
45				
50				
55				
60				

Table A3.4. Temperature (Temp., °C) and dissolved oxygen (D.O., mg/L) profiles measured at station BLD01 on Boulder Reservoir, Boulder County, and station CAR07 on Carter Lake, Larimer County.

Boulder Reservoir			Carter Lake					
07/10/18			05/02/14			05/28/14		
Depth (m)	Temp.	D.O.	Depth (m)	Temp.	D.O.	Depth (m)	Temp.	D.O.
0	27.6	7.36	0	8.9	10.68	0	19.5	9.83
1	27.3	7.33	1	8.5	10.67	1	18.3	9.93
2	25.4	7.48	2	7.8	10.67	2	14.8	10.54
3	23.8	7.61	3	6.7	10.69	3	13.9	10.64
4	23.3	7.44	4	6.3	10.71	4	13.3	10.72
5	21.7	5.27	5	6.2	10.69	5	12.0	10.91
6	20.7	2.72	6	6.1	10.67	6	10.8	10.96
7	20.0	1.40	7	6.0	10.62	7	9.8	10.90
8			8	6.0	10.58	8	8.7	10.54
9			9	6.0	10.54	9	7.6	10.23
10			10	5.9	10.55	10	7.4	10.15
11			11	5.9	10.53	11	7.2	10.08
12			12	5.9	10.50	12	7.0	10.04
13			13	5.9	10.48	13	6.9	9.98
14			14	5.9	10.46	14	6.8	9.94
15			15	5.9	10.44	15	6.7	9.91
16			16	5.9	10.43	16	6.7	9.90
17			17	5.9	10.41	17	6.7	9.87
18			18	5.8	10.41	18	6.6	9.87
19			19	5.8	10.39	19	6.6	9.85
20			20	5.8	10.36	20	6.5	9.83
21			21	5.8	10.34	21	6.4	9.83
22			22	5.8	10.32	22	6.4	9.77
23			23	5.8	10.30	23	6.3	9.76
24			24	5.8	10.28	24	6.3	9.73
25			25	5.8	10.26	25	6.2	9.72
26			26	5.8	10.24	26	6.1	9.68
27			27	5.8	10.23	27	6.1	9.66
28			28	5.7	10.22	28	6.1	9.62
29			29	5.7	10.21	29	6.1	9.60
30			30	5.7	10.20	30	6.0	9.55
35			35	5.7	10.15	35	6.0	9.41
40			40	5.7	10.09	40	5.9	9.15
45			45	5.7	10.03	45	5.9	8.62
50			50			50	6.0	8.23
55			55			55		
60			60			60		

Table A3.5. Temperature (Temp., °C) and dissolved oxygen (D.O., mg/L) profiles measured at station CAR07 on Carter Lake, Larimer County.

Carter Lake											
06/20/14			07/24/14			08/17/14			09/24/14		
Depth (m)	Temp.	D.O.	Depth (m)	Temp.	D.O.	Depth (m)	Temp.	D.O.	Depth (m)	Temp.	D.O.
0	21.3	8.28	0	23.7	7.97	0	23.0	7.94	0	18.8	8.70
1	21.1	8.32	1	23.5	8.00	1	23.0	7.91	1	18.8	8.69
2	20.3	8.33	2	23.5	8.00	2	23.0	7.90	2	18.8	8.68
3	19.6	8.36	3	23.4	8.00	3	23.0	7.88	3	18.7	8.68
4	19.3	8.38	4	23.4	7.98	4	23.0	7.87	4	18.6	8.67
5	18.9	8.42	5	23.1	7.96	5	22.9	7.86	5	18.2	8.69
6	15.8	9.48	6	19.2	8.74	6	22.8	7.86	6	18.0	8.69
7	12.9	10.27	7	16.1	8.90	7	22.1	7.95	7	17.3	8.70
8	10.8	10.38	8	12.7	9.04	8	18.3	8.61	8	12.7	7.98
9	9.4	10.05	9	11.0	9.05	9	14.4	8.57	9	11.2	7.75
10	9.2	10.04	10	9.2	8.85	10	11.4	8.43	10	10.7	7.66
11	8.1	9.62	11	8.3	8.67	11	10.2	8.30	11	10.5	7.64
12	7.9	9.52	12	8.1	8.59	12	9.7	8.20	12	10.5	7.61
13	7.8	9.45	13	8.0	8.52	13	9.5	8.18	13	10.2	7.56
14	7.6	9.32	14	7.9	8.49	14	9.0	8.05	14	10.1	7.52
15	7.5	9.28	15	7.7	8.47	15	8.9	8.02	15	10.1	7.49
16	7.4	9.22	16	7.7	8.46	16	8.7	7.99	16	10.0	7.48
17	7.3	9.20	17	7.5	8.50	17	8.5	7.94	17	9.9	7.46
18	7.3	9.15	18	7.5	8.51	18	8.4	7.90	18	9.9	7.41
19	7.3	9.12	19	7.5	8.53	19	8.2	7.91	19	9.8	7.40
20	7.2	9.10	20	7.5	8.54	20	8.2	7.90	20	9.8	7.36
21	7.1	9.06	21	7.4	8.57	21	8.1	7.89	21	-	-
22	7.1	9.03	22	7.4	8.57	22	8.0	7.88	22	-	-
23	7.0	9.02	23	7.4	8.57	23	7.9	7.90	23	-	-
24	7.0	9.00	24	7.3	8.56	24	7.7	8.00	24	-	-
25	7.0	8.96	25	7.2	8.57	25	7.5	8.06	25	9.6	7.26
26	6.9	8.96	26	7.2	8.54	26	7.4	8.06	26	-	-
27	6.9	8.92	27	7.1	8.50	27	7.4	8.07	27	-	-
28	6.8	8.93	28	7.1	8.33	28	7.3	8.04	28	-	-
29	6.8	8.90	29	7.0	8.32	29	7.3	8.03	29	-	-
30	6.8	8.88	30	7.0	8.30	30	7.2	8.01	30	9.3	7.20
35	6.8	8.82	35	6.8	8.14	35	7.0	7.67	35	8.6	6.60
40	6.4	8.71	40	6.5	7.21	40	6.7	7.17	40	7.3	5.80
45	6.1	8.42	45	6.3	6.53	45	6.6	5.73	45	6.8	0.79
50	6.0	7.71	50			50			50		
55			55			55			55		
60			60			60			60		

Table A3.6. Temperature (Temp., °C) and dissolved oxygen (D.O., mg/L) profiles measured at station CAR07 on Carter Lake, Larimer County.

Carter Lake											
10/21/14			11/23/14			12/17/14			01/21/15		
Depth (m)	Temp.	D.O.	Depth (m)	Temp.	D.O.	Depth (m)	Temp.	D.O.	Depth (m)	Temp.	D.O.
0	15.2	9.13	0	7.5	9.24	0	6.1	9.73	0	2.9	11.46
1	15.1	9.17	1	7.6	8.90	1	6.1	9.73	1	2.9	11.42
2	14.8	9.17	2	7.7	8.79	2	6.1	9.73	2	2.9	11.37
3	14.5	9.21	3	7.8	8.72	3	6.1	9.69	3	3.0	11.33
4	14.2	9.22	4	7.8	8.68	4	6.1	9.68	4	3.0	11.28
5	14.1	9.23	5	7.8	8.66	5	6.0	9.66	5	3.0	11.26
6	14.0	9.17	6	7.8	8.64	6	6.0	9.64	6	3.0	11.23
7	13.8	8.97	7	7.8	8.61	7	6.0	9.61	7	3.0	11.20
8	13.6	8.82	8	7.8	8.60	8	6.0	9.58	8	3.0	11.17
9	13.5	8.65	9	7.8	8.58	9	6.0	9.57	9	3.0	11.13
10	13.2	8.25	10	7.8	8.57	10	6.0	9.56	10	3.0	11.09
11	12.4	7.69	11	7.8	8.56	11	6.0	9.54	11	3.0	11.06
12	12.1	7.44	12	7.8	8.54	12	6.0	9.52	12	3.1	11.04
13	11.3	7.19	13	7.9	8.50	13	6.0	9.50	13	3.1	10.99
14	10.9	7.06	14	7.9	8.47	14	6.0	9.49	14	3.1	10.95
15	10.6	7.00	15	7.9	8.45	15	6.0	9.48	15	3.1	10.93
16	10.4	6.97	16	7.9	8.44	16	6.0	9.47	16	3.1	10.91
17	10.2	6.99	17	7.9	8.42	17	6.0	9.45	17	3.1	10.89
18	10.1	7.02	18	7.9	8.40	18	6.0	9.44	18	3.1	10.86
19	10.0	7.03	19	7.9	8.39	19	6.0	9.42	19	3.1	10.84
20	10.0	7.01	20	7.9	8.37	20	5.9	9.44	20	3.1	10.82
21	9.9	6.97	21	7.9	8.36	21	5.9	9.43	21	3.1	10.80
22	9.8	6.91	22	7.9	8.35	22	5.9	9.43	22	3.1	10.77
23	9.6	6.80	23	7.9	8.34	23	5.9	9.43	23	3.1	10.75
24	9.5	6.79	24	7.9	8.33	24	5.9	9.42	24	3.1	10.73
25	9.4	6.71	25	7.9	8.32	25	5.9	9.41	25	3.1	10.71
26	9.3	6.71	26	7.9	8.31	26	5.9	9.40	26	3.1	10.69
27	9.2	6.64	27	7.9	8.31	27	5.9	9.38	27	3.1	10.67
28	9.0	6.54	28	7.9	8.30	28	5.9	9.37	28	3.1	10.64
29	9.0	6.34	29	7.9	8.30	29	5.9	9.35	29	3.1	10.63
30	8.9	6.30	30	7.9	8.29	30	5.9	9.33	30	3.1	10.61
35	8.4	5.65	35	7.9	8.23	35	5.9	9.31	35	3.1	10.53
40	8.1	4.98	40	7.9	8.17	40	5.8	9.23	40	3.2	10.41
45			45			45			45	3.2	10.32
50			50			50			50		
55			55			55			55		
60			60			60			60		

Table A3.7. Temperature (Temp., °C) and dissolved oxygen (D.O., mg/L) profiles measured at station CAR07 on Carter Lake, Larimer County.

Carter Lake											
02/18/15			03/20/15			05/14/15			06/16/15		
Depth (m)	Temp.	D.O.	Depth (m)	Temp.	D.O.	Depth (m)	Temp.	D.O.	Depth (m)	Temp.	D.O.
0	3.9	11.08	0	6.3	10.66	0	11.8	10.22	0	20.0	8.06
1	3.8	11.06	1	6.0	10.75	1	11.9	10.23	1	20.0	8.07
2	3.8	11.03	2	5.5	10.76	2	11.9	10.21	2	20.0	8.08
3	3.8	11.00	3	5.1	10.78	3	11.9	10.22	3	20.0	8.08
4	3.8	10.98	4	4.8	10.84	4	11.9	10.20	4	15.4	9.90
5	3.7	10.95	5	4.6	10.84	5	11.9	10.20	5	11.7	10.20
6	3.7	10.92	6	4.5	10.82	6	11.1	10.25	6	10.2	9.90
7	3.7	10.90	7	4.4	10.80	7	9.8	10.15	7	9.2	9.30
8	3.7	10.88	8	4.3	10.78	8	9.6	10.13	8	8.7	9.02
9	3.7	10.86	9	4.3	10.77	9	9.1	9.99	9	8.5	8.89
10	3.7	10.83	10	4.3	10.75	10	8.6	9.85	10	8.0	8.82
11	3.7	10.81	11	4.3	10.72	11	8.4	9.80	11	7.8	8.77
12	3.7	10.80	12	4.2	10.70	12	8.1	9.76	12	7.5	8.76
13	3.7	10.78	13	4.2	10.69	13	7.9	9.73	13	7.2	8.78
14	3.7	10.75	14	4.2	10.67	14	7.5	9.67	14	7.0	8.82
15	3.7	10.73	15	4.2	10.64	15	7.1	9.65	15	6.9	8.85
16	3.7	10.71	16	4.2	10.62	16	6.9	9.64	16	6.8	8.88
17	3.7	10.68	17	4.2	10.59	17	6.7	9.64	17	6.7	8.87
18	3.7	10.66	18	4.2	10.57	18	6.7	9.61	18	6.6	8.88
19	3.7	10.65	19	4.2	10.55	19	6.6	9.60	19	6.5	8.88
20	3.7	10.63	20	4.1	10.54	20	6.5	9.58	20	6.5	8.89
21	3.7	10.61	21	4.1	10.54	21	6.5	9.55	21	6.4	8.90
22	3.7	10.59	22	4.1	10.52	22	6.4	9.52	22	6.4	8.91
23	3.7	10.57	23	4.1	10.50	23	6.3	9.52	23	6.3	8.89
24	3.7	10.55	24	4.1	10.49	24	6.3	9.48	24	6.3	8.88
25	3.7	10.56	25	4.1	10.47	25	6.3	9.47	25	6.2	8.89
26	3.6	10.54	26	4.1	10.45	26	6.2	9.45	26	6.2	8.88
27	3.6	10.53	27	4.1	10.44	27	6.2	9.46	27	6.2	8.88
28	3.6	10.51	28	4.1	10.42	28	6.1	9.43	28	6.1	8.88
29	3.6	10.49	29	4.1	10.40	29	6.0	9.41	29	6.0	8.89
30	3.6	10.48	30	4.1	10.37	30	6.0	9.38	30	6.0	8.80
35	3.6	10.39	35	4.1	10.36	35	5.9	9.33	35	5.9	8.75
40	3.6	10.32	40	4.1	10.20	40	5.9	9.22	40	5.8	8.25
45	3.6	10.25	45	4.1	10.13	45	5.8	9.10	45	5.8	7.85
50	3.6	10.25	50	4.1	9.38	50	5.6	8.80	50	5.8	5.37
55			55			55			55		
60			60			60			60		



Table A3.8. Temperature (Temp., °C) and dissolved oxygen (D.O., mg/L) profiles measured at station CAR07 on Carter Lake, Larimer County.

Carter Lake											
07/17/15			08/10/15			09/11/15			10/07/15		
Depth (m)	Temp.	D.O.	Depth (m)	Temp.	D.O.	Depth (m)	Temp.	D.O.	Depth (m)	Temp.	D.O.
0	21.3	8.07	0	22.7	7.58	0	21.9	7.67	0	17.1	8.27
1	21.5	8.05	1	22.8	7.59	1	21.4	7.75	1	17.1	8.28
2	21.5	8.01	2	22.8	7.60	2	21.1	7.78	2	17.1	8.27
3	21.5	8.01	3	22.8	7.60	3	20.8	7.83	3	17.1	8.27
4	21.5	7.97	4	22.8	7.61	4	20.5	7.81	4	17.0	8.23
5	21.4	7.93	5	22.8	7.61	5	20.2	7.79	5	16.7	8.23
6	18.3	8.36	6	22.8	7.61	6	19.0	7.73	6	16.7	8.22
7	12.0	8.78	7	19.3	8.54	7	16.0	8.04	7	14.7	7.76
8	10.6	7.61	8	14.0	8.74	8	13.8	7.92	8	11.3	7.46
9	9.6	8.50	9	11.6	8.37	9	11.1	7.62	9	9.5	7.21
10	8.9	8.42	10	10.4	7.96	10	9.1	7.43	10	8.8	7.23
11	8.7	8.38	11	9.7	7.81	11	8.5	7.56	11	8.4	7.32
12	8.5	8.36	12	9.0	7.76	12	8.2	7.69	12	8.0	7.50
13	8.4	8.34	13	8.6	7.74	13	8.0	7.78	13	7.9	7.56
14	8.3	8.32	14	8.4	7.75	14	7.8	7.81	14	7.8	7.56
15	8.2	8.32	15	8.2	7.79	15	7.7	7.82	15	7.7	7.47
16	8.0	8.31	16	8.1	7.82	16	7.7	7.78	16	7.6	7.36
17	7.9	8.31	17	8.0	7.86	17	7.5	7.47	17	7.4	7.23
18	7.9	8.33	18	7.9	7.89	18	7.4	7.47	18	7.4	7.11
19	7.8	8.32	19	7.8	7.90	19	7.3	7.57	19	7.3	7.00
20	7.8	8.30	20	7.7	7.89	20	7.3	7.55	20	7.2	6.84
21	7.7	8.30	21	7.6	7.88	21	7.2	7.54	21	7.2	6.70
22	7.7	8.27	22	7.5	7.89	22	7.1	7.79	22	7.1	6.61
23	7.6	8.25	23	7.3	7.80	23	7.1	7.74	23	7.0	6.66
24	7.5	8.24	24	7.3	7.78	24	7.0	7.60	24	7.0	6.63
25	7.4	8.22	25	7.2	7.79	25	7.0	7.64	25	6.9	6.57
26	7.3	8.23	26	7.1	7.77	26	6.9	7.27	26	6.9	6.48
27	7.3	8.21	27	7.0	7.77	27	6.8	7.26	27	6.8	6.42
28	7.3	8.19	28	7.0	7.68	28	6.8	7.24	28	6.8	6.22
29	7.2	8.20	29	7.0	7.58	29	6.7	7.06	29	6.7	5.92
30	7.2	8.15	30	6.9	7.53	30	6.7	6.92	30	6.6	4.76
35	6.9	8.01	35	6.6	7.32	35	6.4	5.62	35		
40	6.5	7.85	40	6.4	6.61	40			40		
45	6.1	7.34	45	6.3	5.50	45			45		
50	6.0	5.95	50			50			50		
55			55			55			55		
60			60			60			60		

Table A3.9. Temperature (Temp., °C) and dissolved oxygen (D.O., mg/L) profiles measured at station CAR07 on Carter Lake, Larimer County.

Carter Lake											
11/10/15			12/09/15			03/08/16			04/06/16		
Depth (m)	Temp.	D.O.	Depth (m)	Temp.	D.O.	Depth (m)	Temp.	D.O.	Depth (m)	Temp.	D.O.
0	10.8	9.10	0	5.9	9.52	0	3.8	10.96	0	6.7	11.04
1	10.7	9.12	1	5.7	9.54	1	3.6	11.04	1	6.7	11.03
2	10.5	9.13	2	5.7	9.54	2	3.6	11.06	2	6.1	11.05
3	10.1	9.15	3	5.6	9.53	3	3.6	11.06	3	5.8	11.01
4	10.0	9.15	4	5.5	9.53	4	3.6	11.04	4	5.3	11.05
5	10.0	9.11	5	5.4	9.55	5	3.5	11.06	5	5.2	11.04
6	9.9	9.06	6	5.4	9.55	6	3.5	11.04	6	5.2	11.00
7	9.9	9.04	7	5.3	9.56	7	3.5	11.03	7	5.1	11.01
8	9.9	9.03	8	5.3	9.55	8	3.5	11.01	8	5.0	11.01
9	9.8	9.01	9	5.3	9.53	9	3.5	10.99	9	5.0	10.99
10	9.8	9.03	10	5.3	9.52	10	3.5	10.97	10	5.0	10.97
11	9.7	8.99	11	5.3	9.51	11	3.5	10.95	11	4.9	10.97
12	8.1	6.80	12	5.3	9.51	12	3.5	10.94	12	4.9	10.96
13	7.7	6.44	13	5.2	9.53	13	3.5	10.92	13	4.9	10.93
14	7.7	6.34	14	5.2	9.51	14	3.5	10.91	14	4.9	10.91
15	7.5	6.36	15	5.2	9.50	15	3.5	10.89	15	4.9	10.90
16	7.4	6.36	16	5.2	9.49	16	3.5	10.87	16	4.9	10.88
17	7.3	6.25	17	5.2	9.48	17	3.5	10.86	17	4.8	10.88
18	7.2	6.08	18	5.2	9.49	18	3.5	10.86	18	4.8	10.86
19	7.2	6.07	19	5.2	9.47	19	3.5	10.84	19	4.8	10.84
20	7.2	6.01	20	5.2	9.46	20	3.5	10.83	20	4.8	10.83
21	7.1	5.83	21	5.2	9.46	21	3.5	10.81	21	4.8	10.81
22	7.1	5.80	22	5.2	9.44	22	3.5	10.80	22	4.8	10.79
23	7.0	5.79	23	5.2	9.44	23	3.5	10.78	23	4.8	10.79
24	7.0	5.47	24	5.2	9.42	24	3.5	10.77	24	4.8	10.76
25	7.0	5.36	25	5.2	9.40	25	3.5	10.74	25	4.8	10.74
26	6.9	5.04	26	5.2	9.40	26	3.5	10.73	26	4.8	10.72
27	6.9	4.88	27	5.2	9.41	27	3.5	10.71	27	4.8	10.70
28	6.8	4.44	28	5.2	9.39	28	3.5	10.69	28	4.8	10.68
29	6.8	4.35	29	5.2	9.38	29	3.5	10.67	29	4.8	10.67
30	6.8	4.24	30	5.2	9.38	30	3.5	10.65	30	4.7	10.69
35			35			35	3.5	10.57	35	4.7	10.62
40			40			40	3.5	10.51	40	4.7	10.53
45			45			45	3.5	10.26	45	4.6	10.44
50			50			50			50	4.4	10.31
55			55			55			55		
60			60			60			60		

Table A3.10. Temperature (Temp., °C) and dissolved oxygen (D.O., mg/L) profiles measured at station CAR07 on Carter Lake, Larimer County.

Carter Lake											
05/04/16			06/01/16			06/30/16			08/02/16		
Depth (m)	Temp.	D.O.	Depth (m)	Temp.	D.O.	Depth (m)	Temp.	D.O.	Depth (m)	Temp.	D.O.
0	11.4	10.81	0	15.9	9.39	0	22.9	7.81	0	22.9	7.70
1	9.8	11.07	1	15.7	9.42	1	22.9	7.85	1	22.8	7.74
2	8.0	11.19	2	15.4	9.48	2	22.9	7.86	2	22.8	7.76
3	7.9	11.11	3	15.2	9.50	3	22.8	7.87	3	22.7	7.78
4	7.8	11.03	4	14.2	9.63	4	22.7	7.85	4	22.7	7.77
5	7.6	10.97	5	13.7	9.76	5	21.2	8.56	5	22.5	7.75
6	7.6	10.90	6	13.6	9.75	6	17.3	10.40	6	20.5	8.02
7	7.5	10.88	7	13.1	9.69	7	13.2	10.64	7	16.7	8.54
8	7.5	10.82	8	11.8	9.83	8	11.4	10.38	8	13.7	8.42
9	7.4	10.78	9	11.4	9.85	9	10.2	9.73	9	12.2	8.33
10	7.4	10.70	10	11.1	9.87	10	9.4	9.36	10	11.3	8.13
11	7.3	10.67	11	10.8	9.89	11	9.0	9.17	11	10.7	8.02
12	7.2	10.64	12	9.6	9.79	12	8.8	9.04	12	10.5	7.99
13	7.1	10.62	13	8.7	9.67	13	8.5	9.00	13	10.3	7.99
14	6.8	10.52	14	7.8	9.57	14	8.4	8.97	14	10.2	7.98
15	6.7	10.46	15	7.3	9.48	15	8.4	8.96	15	10.1	7.98
16	6.6	10.37	16	7.1	9.43	16	8.3	8.95	16	10.0	7.97
17	6.5	10.35	17	7.0	9.42	17	8.2	8.94	17	9.9	7.97
18	6.5	10.30	18	6.9	9.41	18	8.1	8.95	18	9.8	7.97
19	6.4	10.28	19	6.9	9.38	19	8.1	8.96	19	9.7	7.98
20	6.3	10.25	20	6.8	9.37	20	8.0	8.96	20	9.7	7.98
21	6.3	10.22	21	6.8	9.36	21	8.0	8.95	21	9.6	7.99
22	6.2	10.18	22	6.8	9.34	22	7.9	8.94	22	9.5	7.99
23	6.1	10.15	23	6.7	9.33	23	7.8	8.95	23	9.4	7.99
24	6.0	10.13	24	6.7	9.30	24	7.8	8.94	24	9.3	8.00
25	6.0	10.10	25	6.6	9.29	25	7.8	8.93	25	9.2	7.98
26	5.9	10.08	26	6.6	9.27	26	7.7	8.92	26	9.0	7.97
27	5.8	10.06	27	6.5	9.26	27	7.6	8.93	27	8.9	7.93
28	5.7	10.06	28	6.5	9.25	28	7.6	8.92	28	8.8	7.94
29	5.7	10.03	29	6.5	9.23	29	7.5	8.92	29	8.7	7.89
30	5.6	10.00	30	6.4	9.25	30	7.5	8.93	30	8.6	7.92
35	5.4	9.93	35	6.4	9.16	35	7.1	8.87	35	8.2	7.72
40	5.4	9.81	40	6.3	9.11	40	6.4	8.63	40	7.4	6.98
45	5.3	9.73	45	6.1	8.98	45	6.2	8.37	45	6.6	5.39
50			50	5.9	8.81	50	6.0	7.62	50		
55			55			55	6.1	7.08	55		
60			60			60			60		

Table A3.11. Temperature (Temp., °C) and dissolved oxygen (D.O., mg/L) profiles measured at station CAR07 on Carter Lake, Larimer County.

Carter Lake											
08/25/16			09/29/16			10/25/16			11/28/16		
Depth (m)	Temp.	D.O.	Depth (m)	Temp.	D.O.	Depth (m)	Temp.	D.O.	Depth (m)	Temp.	D.O.
0	19.6	8.26	0	19.3	8.33	0	13.5	9.13	0	8.2	8.32
1	19.6	8.31	1	19.3	8.32	1	13.4	9.11	1	8.3	8.30
2	19.6	8.31	2	18.4	8.37	2	13.4	9.03	2	8.4	8.29
3	19.6	8.30	3	18.2	8.36	3	13.3	9.06	3	8.4	8.29
4	19.6	8.30	4	18.0	8.34	4	13.3	8.94	4	8.4	8.29
5	19.6	8.29	5	17.9	8.32	5	13.2	8.75	5	8.4	8.30
6	19.6	8.28	6	17.8	8.30	6	13.0	8.79	6	8.4	8.30
7	19.6	8.27	7	17.7	8.21	7	12.9	8.78	7	8.4	8.30
8	17.8	8.13	8	17.3	7.94	8	12.9	8.74	8	8.4	8.29
9	14.3	8.50	9	16.8	7.57	9	12.7	8.45	9	8.4	8.28
10	13.0	8.39	10	16.2	7.04	10	12.5	8.12	10	8.4	8.27
11	11.9	8.28	11	13.3	6.52	11	11.7	7.30	11	8.4	8.26
12	11.3	8.12	12	10.6	7.00	12	10.7	6.66	12	8.4	8.26
13	10.8	7.91	13	10.0	7.21	13	10.0	6.56	13	8.3	8.27
14	10.4	7.81	14	9.7	7.33	14	9.5	6.72	14	8.3	8.26
15	10.2	7.76	15	9.3	7.29	15	9.2	6.73	15	8.3	8.25
16	10.0	7.78	16	9.2	7.05	16	9.0	6.46	16	8.3	8.24
17	9.8	7.78	17	9.0	6.97	17	8.9	6.25	17	8.3	8.24
18	9.5	7.85	18	8.9	7.06	18	8.8	6.17	18	8.3	8.23
19	9.4	7.85	19	8.8	7.02	19	8.7	6.00	19	8.3	8.23
20	9.3	7.86	20	8.8	6.90	20	8.6	5.95	20	8.3	8.23
21	9.2	7.84	21	8.7	6.82	21	8.6	5.85	21	8.3	8.22
22	9.0	7.67	22	8.7	6.81	22	8.4	5.70	22	8.3	8.21
23	8.9	7.66	23	8.6	6.84	23	8.4	5.64	23	8.3	8.20
24	8.9	7.63	24	8.5	6.82	24	8.3	5.43	24	8.3	8.18
25	8.8	7.65	25	8.5	6.78	25	8.2	5.26	25	8.3	8.17
26	8.7	7.68	26	8.4	6.77	26	8.2	5.00	26	8.3	8.19
27	8.6	7.67	27	8.3	6.58	27	8.1	4.71	27	8.3	8.19
28	8.5	7.61	28	8.2	6.42	28	8.1	4.63	28	8.3	8.19
29	8.4	7.55	29	8.2	6.25	29	8.0	4.52	29	8.3	8.18
30	8.3	7.43	30	8.1	6.12	30	8.0	4.42	30		
35	7.6	6.29	35	7.7	4.17	35			35		
40	7.3	3.90	40			40			40		
45			45			45			45		
50			50			50			50		
55			55			55			55		
60			60			60			60		

Table A3.12. Temperature (Temp., °C) and dissolved oxygen (D.O., mg/L) profiles measured at station CAR07 on Carter Lake, Larimer County.

Carter Lake											
12/28/16			01/24/17			03/21/17			04/25/17		
Depth (m)	Temp.	D.O.	Depth (m)	Temp.	D.O.	Depth (m)	Temp.	D.O.	Depth (m)	Temp.	D.O.
0	3.3	10.81	0	1.8	11.99	0	5.8	11.98	0	9.8	10.47
1	3.2	10.82	1	2.0	11.82	1	5.6	12.08	1	9.7	10.48
2	3.2	10.80	2	2.0	11.76	2	5.5	12.14	2	9.7	10.48
3	3.1	10.81	3	2.0	11.72	3	5.0	12.15	3	9.6	10.49
4	3.1	10.79	4	2.0	11.59	4	4.8	12.15	4	9.5	10.47
5	3.1	10.78	5	2.1	11.51	5	4.7	12.08	5	9.4	10.45
6	3.1	10.77	6	2.1	11.49	6	4.6	12.02	6	9.3	10.44
7	3.0	10.79	7	2.1	11.47	7	4.5	11.94	7	9.1	10.38
8	3.0	10.77	8	2.2	11.41	8	4.5	11.90	8	8.6	10.33
9	3.0	10.76	9	2.2	11.40	9	4.5	11.86	9	8.1	10.24
10	3.0	10.76	10	2.2	11.36	10	4.5	11.86	10	7.9	10.17
11	3.0	10.74	11	2.2	11.34	11	4.4	11.86	11	7.7	10.13
12	3.0	10.74	12	2.2	11.32	12	4.4	11.84	12	7.6	10.12
13	3.0	10.72	13	2.2	11.30	13	4.4	11.82	13	7.4	10.10
14	3.0	10.71	14	2.2	11.27	14	4.4	11.81	14	7.2	10.09
15	3.0	10.73	15	2.2	11.25	15	4.4	11.80	15	7.1	10.07
16	3.0	10.71	16	2.2	11.22	16	4.4	11.78	16	6.9	10.06
17	3.0	10.69	17	2.2	11.21	17	4.4	11.78	17	6.8	10.04
18	3.0	10.68	18	2.2	11.18	18	4.4	11.76	18	6.6	10.01
19	3.0	10.66	19	2.2	11.17	19	4.4	11.75	19	6.5	9.99
20	3.0	10.64	20	2.2	11.15	20	4.4	11.73	20	6.4	9.98
21	3.0	10.62	21	2.2	11.13	21	4.4	11.70	21	6.3	9.95
22	3.0	10.61	22	2.2	11.11	22	4.4	11.68	22	6.2	9.95
23	3.0	10.59	23	2.2	11.08	23	4.4	11.66	23	6.2	9.93
24	3.0	10.58	24	2.2	11.07	24	4.4	11.61	24	6.2	9.91
25	3.0	10.57	25	2.2	11.06	25	4.3	11.61	25	6.2	9.90
26	3.0	10.56	26	2.2	11.03	26	4.3	11.59	26	6.1	9.88
27	3.0	10.56	27	2.2	11.01	27	4.3	11.58	27	6.1	9.86
28	3.0	10.57	28	2.2	11.00	28	4.3	11.56	28	6.0	9.85
29	3.0	10.57	29	2.2	10.97	29	4.3	11.54	29	6.0	9.85
30			30	2.2	10.95	30	4.3	11.52	30	6.0	9.83
35			35	2.2	10.88	35	4.3	11.45	35	5.9	9.77
40			40			40	4.3	11.39	40	5.9	9.67
45			45			45	4.3	11.35	45		
50			50			50			50		
55			55			55			55		
60			60			60			60		

Table A3.13. Temperature (Temp., °C) and dissolved oxygen (D.O., mg/L) profiles measured at station CAR07 on Carter Lake, Larimer County.

Carter Lake											
05/23/17			08/23/17			08/08/18			08/29/19		
Depth (m)	Temp.	D.O.	Depth (m)	Temp.	D.O.	Depth (m)	Temp.	D.O.	Depth (m)	Temp.	D.O.
0	11.0	9.77	0	21.8	7.92	0	23.6	6.92	0	21.6	6.69
1	11.0	9.76	1	21.5	7.92	1	22.8	7.04	1	21.7	6.66
2	11.0	9.73	2	21.4	7.92	2	22.1	7.14	2	21.5	6.67
3	11.0	9.72	3	21.3	7.91	3	21.9	7.19	3	21.5	6.67
4	11.0	9.70	4	21.2	7.90	4	21.8	7.21	4	21.5	6.65
5	10.9	9.69	5	21.0	8.02	5	21.0	7.14	5	20.4	6.74
6	10.9	9.65	6	20.5	8.14	6	19.1	7.04	6	16.6	7.34
7	10.8	9.64	7	18.1	8.25	7	16.5	7.08	7	14.6	7.07
8	10.8	9.61	8	16.3	8.41	8	13.7	6.87	8	12.7	6.86
9	10.7	9.59	9	14.0	8.34	9	12.7	6.67	9	12.2	6.76
10	9.9	9.39	10	12.5	7.94	10	11.8	6.60	10	11.7	6.66
11	8.8	9.24	11	11.5	7.45	11	11.4	6.87	11	11.6	6.63
12	8.0	9.20	12	10.8	7.15	12	11.1	6.86	12	11.4	6.59
13	7.7	9.17	13	10.2	6.94	13	10.7	6.57	13	11.4	6.58
14	7.5	9.14	14	9.9	6.97	14	10.5	6.57	14	11.3	6.55
15	7.2	9.11	15	9.7	7.05	15	10.3	6.57	15	11.1	6.54
16	7.1	9.09	16	9.6	7.09	16	10.2	6.57	16	11.1	6.51
17	7.0	9.08	17	9.5	7.12	17	10.0	6.57	17	11.0	6.50
18	7.0	9.07	18	9.4	7.14	18	9.8	6.56	18	11.0	6.48
19	7.0	9.04	19	9.4	7.16	19	9.7	6.56	19	10.9	6.48
20	6.9	9.04	20	9.3	7.15	20	9.5	6.54	20	10.9	6.46
21	6.9	9.01	21	9.2	7.17	21	9.4	6.54	21	10.9	6.44
22	6.8	8.98	22	9.1	7.17	22	9.3	6.54	22	10.9	6.42
23	6.7	8.97	23	8.9	7.06	23	9.1	6.47	23	10.7	6.41
24	6.7	8.95	24	8.9	7.05	24	8.8	6.36	24	10.7	6.39
25	6.7	8.94	25	8.8	6.96	25	8.6	6.36	25	10.6	6.39
26	6.7	8.93	26	8.8	6.90	26	8.6	6.35	26	10.6	6.37
27	6.6	8.92	27	8.7	6.90	27	8.5	6.44	27	10.6	6.36
28	6.6	8.91	28	8.7	6.84	28	8.4	6.44	28	10.5	6.35
29	6.6	8.88	29	8.6	6.78	29	8.3	6.41	29	10.4	6.35
30	6.6	8.85	30	8.5	6.76	30	8.3	6.37	30	10.4	6.34
35	6.5	8.79	35	8.2	6.00	35	7.8	6.08	35	10.2	6.30
40	6.5	8.70	40	7.8	5.02	40	7.5	5.79	40	8.4	5.78
45	6.4	8.62	45	7.6	4.38	45			45	7.1	5.18
50	6.2	8.38	50			50			50	6.8	4.28
55			55			55			55		
60			60			60			60		

Table A3.14. Temperature (Temp., °C) and dissolved oxygen (D.O., mg/L) profiles measured at station CHK01 on Chalk Lake, Summit County, station CHM05 on Chambers Lake, Larimer County, station CHP03 on Chapman Reservoir, Pitkin County, and station CHA03 on Chatfield Reservoir.

Chalk Lake			Chambers Lake			Chapman Reservoir			Chatfield Reservoir		
08/25/17			08/01/16			06/21/16			04/14/15		
Depth (m)	Temp.	D.O.	Depth (m)	Temp.	D.O.	Depth (m)	Temp.	D.O.	Depth (m)	Temp.	D.O.
0	16.8	8.78	0	17.6	8.20	0	19.5	7.17	0	12.5	9.70
1			1	17.5	8.20	1	17.5	7.38	1	12.5	9.68
2			2	17.5	8.19	2	14.1	7.21	2	12.3	9.62
3			3	17.1	8.27	3	10.8	5.65	3	11.5	9.48
4			4	16.4	8.27	4	9.2	4.12	4	11.3	9.12
5			5	15.8	8.31	5	8.8	3.44	5	11.3	9.30
6			6	14.8	8.23	6	8.5	2.85	6	11.2	9.24
7			7	12.7	7.31	7			7	11.2	9.20
8			8	8.9	6.74	8			8	11.0	8.75
9			9	7.6	6.81	9			9	10.9	8.35
10			10	6.9	6.77	10			10	10.3	6.38
11			11	6.3	6.67	11			11	10.0	4.86
12			12	6.1	6.45	12			12	12.5	9.70
13			13	5.9	6.40	13			13	12.5	9.68
14			14	5.7	6.28	14			14	12.3	9.62
15			15	5.6	6.12	15			15	11.5	9.48
16			16	5.4	6.03	16			16		
17			17	5.3	5.37	17			17		
18			18	5.1	4.95	18			18		
19			19	5.0	4.55	19			19		
20			20	4.9	4.18	20			20		
21			21	4.8	3.10	21			21		
22			22	4.8	2.56	22			22		
23			23	4.7	2.49	23			23		
24			24	4.8	2.47	24			24		
25			25			25			25		
26			26			26			26		
27			27			27			27		
28			28			28			28		
29			29			29			29		
30			30			30			30		
35			35			35			35		
40			40			40			40		
45			45			45			45		
50			50			50			50		
55			55			55			55		
60			60			60			60		

Table A3.15. Temperature (Temp., °C) and dissolved oxygen (D.O., mg/L) profiles measured at station CHA03 on Chatfield Reservoir, Jefferson County, station CHE03 on Cheesman Lake, Douglas County, and CLE02 on Clear Creek Reservoir, Chaffee County.

Chatfield Reservoir			Cheesman Lake						Clear Creek Reservoir		
07/10/17			05/29/14			08/23/16			09/21/14		
Depth (m)	Temp.	D.O.	Depth (m)	Temp.	D.O.	Depth (m)	Temp.	D.O.	Depth (m)	Temp.	D.O.
0	22.0	8.01	0	16.0	9.06	0	19.7	9.01	0	14.2	9.02
1	22.0	8.00	1	15.9	9.08	1	19.7	9.02	1	14.2	9.03
2	21.8	7.94	2	15.9	9.08	2	19.7	9.02	2	14.0	9.07
3	21.9	7.91	3	15.5	9.09	3	19.6	9.04	3	13.9	9.10
4	19.4	4.95	4	15.3	9.10	4	19.6	9.05	4	13.8	9.14
5	18.4	2.96	5	14.3	9.24	5	19.6	9.05	5	13.7	9.16
6	17.4	0.24	6	13.9	9.27	6	19.6	9.01	6	13.7	9.16
7	16.6	0.15	7	13.0	9.21	7	19.4	7.70	7	13.6	9.19
8	15.5	0.12	8	12.4	9.20	8	18.9	4.56	8	12.6	9.48
9	14.0	0.08	9	11.6	9.22	9	18.7	3.62	9	12.1	9.38
10	13.9	0.06	10	11.1	9.18	10	18.5	3.38	10	11.8	9.25
11	22.0	8.01	11	10.5	9.14	11	18.4	3.48	11	11.7	9.18
12	22.0	8.00	12	9.9	9.07	12	18.4	3.81	12	11.6	9.12
13	21.8	7.94	13	9.3	8.98	13	18.0	4.32	13	11.5	9.02
14	21.9	7.91	14	8.9	8.89	14	17.8	4.41	14	11.5	8.88
15			15	8.5	8.78	15	17.7	4.28	15	11.4	8.72
16			16	8.1	8.70	16	17.5	3.89	16		
17			17	7.7	8.62	17	17.0	3.43	17		
18			18	7.5	8.60	18	15.9	3.09	18		
19			19	7.3	8.60	19	15.3	3.20	19		
20			20	7.2	8.59	20	14.4	3.59	20		
21			21	7.0	8.59	21	13.7	4.07	21		
22			22	6.9	8.58	22	13.0	4.61	22		
23			23	6.7	8.60	23	12.7	4.72	23		
24			24	6.5	8.65	24	12.1	5.12	24		
25			25	6.4	8.68	25	11.8	5.31	25		
26			26	6.3	8.66	26	11.5	5.46	26		
27			27	6.3	8.67	27	11.2	5.59	27		
28			28	6.2	8.67	28	11.0	5.70	28		
29			29	6.1	8.64	29	10.5	5.92	29		
30			30	6.0	8.62	30	10.1	6.14	30		
35			35	5.8	8.45	35	9.0	6.78	35		
40			40	5.8	8.37	40	8.3	7.11	40		
45			45	5.6	8.26	45	7.9	6.27	45		
50			50			50	7.6	6.29	50		
55			55			55	7.4	4.83	55		
60			60			60			60		



Table A3.16. Temperature (Temp., °C) and dissolved oxygen (D.O., mg/L) profiles measured at station CRY03 on Crystal Lake, Lake County, DEE01 on Deep Lake, Garfield County, and DIE02 on Diemer Lake, Eagle County.

Crystal Lake 06/22/16			Deep Lake 07/25/19			Diemer Lake					
						07/27/16			08/26/17		
Depth (m)	Temp.	D.O.	Depth (m)	Temp.	D.O.	Depth (m)	Temp.	D.O.	Depth (m)	Temp.	D.O.
0	19.1	8.23	0	15.5	6.67	0	20.9	6.69	0	17.4	7.66
1	19.1	8.65	1	15.2	6.67	1	19.6	6.69	1	16.9	7.89
2			2	14.9	6.66	2	18.7	6.62	2	16.6	7.50
3			3	14.4	6.70	3			3		
4			4	14.0	6.74	4			4		
5			5	13.4	7.00	5			5		
6			6	12.6	7.40	6			6		
7			7	9.8	8.44	7			7		
8			8	7.7	7.98	8			8		
9			9	7.2	7.41	9			9		
10			10	6.6	6.89	10			10		
11			11	6.2	6.59	11			11		
12			12	6.1	6.00	12			12		
13			13	5.9	5.74	13			13		
14			14	5.9	5.52	14			14		
15			15	5.8	5.10	15			15		
16			16	5.9	5.02	16			16		
17			17	6.0	5.21	17			17		
18			18			18			18		
19			19			19			19		
20			20			20			20		
21			21			21			21		
22			22			22			22		
23			23			23			23		
24			24			24			24		
25			25			25			25		
26			26			26			26		
27			27			27			27		
28			28			28			28		
29			29			29			29		
30			30			30			30		
35			35			35			35		
40			40			40			40		
45			45			45			45		
50			50			50			50		
55			55			55			55		
60			60			60			60		

Table A3.17. Temperature (Temp., °C) and dissolved oxygen (D.O., mg/L) profiles measured at station DIL06 on Dillon Reservoir, Summit County.

Dillon Reservoir											
08/03/10			09/09/10			06/14/11			07/07/11		
Depth (m)	Temp.	D.O.	Depth (m)	Temp.	D.O.	Depth (m)	Temp.	D.O.	Depth (m)	Temp.	D.O.
0	17.9	6.80	0	14.8	7.20	0	10.3	8.10	0	15.2	8.10
1	17.8	6.80	1	14.7	7.00	1	10.3	8.30	1	14.4	8.30
2	17.7	6.80	2	14.7	6.90	2	10.3	8.70	2	14.1	8.20
3	17.7	6.70	3	14.7	6.90	3	10.2	9.00	3	14.0	8.20
4	17.6	6.70	4	14.7	6.90	4	10.0	9.10	4	13.9	8.20
5	17.6	6.60	5	14.7	6.80	5	9.8	9.20	5	13.8	8.20
6	17.6	6.50	6	14.7	6.80	6	9.6	9.10	6	13.6	8.20
7	17.5	6.50	7	14.7	6.70	7	9.5	9.10	7	12.5	8.10
8	16.1	6.70	8	14.7	6.70	8	9.2	9.20	8	11.7	8.10
9	15.1	6.80	9	14.7	6.70	9	8.3	9.20	9	10.7	8.10
10	14.0	6.90	10	14.7	6.70	10	7.8	9.30	10	10.4	8.10
11	13.1	6.90	11	14.6	6.70	11	7.4	9.30	11	10.1	8.10
12	12.4	7.00	12	14.6	6.60	12	7.3	9.30	12	10.0	8.10
13	10.8	7.00	13	14.6	6.50	13	7.1	9.30	13	9.8	8.10
14	9.9	7.00	14	13.6	6.20	14	6.9	9.20	14	9.6	8.10
15	8.9	7.10	15	12.2	6.00	15	6.8	9.10	15	9.4	8.00
16	8.5	7.20	16	11.5	5.90	16	6.4	9.20	16	9.0	8.10
17	8.1	7.20	17	10.6	5.90	17	6.2	9.30	17	8.8	8.10
18	7.8	7.20	18	10.0	5.90	18	6.1	9.30	18	8.6	8.00
19	7.6	7.30	19	9.4	5.90	19	6.0	9.20	19	8.5	8.00
20	7.4	7.40	20	8.7	6.00	20	5.9	9.20	20	8.3	8.00
21	7.2	7.40	21	8.3	6.00	21	-	-	21	-	-
22	7.1	7.40	22	7.8	6.00	22	-	-	22	-	-
23	6.8	7.40	23	7.4	6.10	23	-	-	23	-	-
24	6.6	7.50	24	7.1	6.10	24	-	-	24	-	-
25	6.5	7.50	25	6.8	6.10	25	5.5	9.30	25	7.7	8.00
26	6.3	7.50	26	6.6	6.10	26	-	-	26	-	-
27	6.2	7.40	27	6.5	6.10	27	-	-	27	-	-
28	6.1	7.30	28	6.3	6.10	28	-	-	28	-	-
29	6.0	7.20	29	6.1	6.10	29	-	-	29	-	-
30	5.9	7.30	30	6.1	6.10	30	5.2	8.50	30	7.0	7.90
35	5.6	7.40	35	5.7	6.20	35	4.8	8.40	35	6.6	7.80
40	5.3	7.40	40	5.5	6.20	40	4.6	8.20	40	6.2	7.70
45	5.1	7.10	45	5.3	6.00	45	4.3	8.00	45	-	-
50	5.0	6.90	50	5.1	6.00	50	4.1	7.70	50	-	-
55	4.9	6.70	55	5.0	5.90	55	4.1	7.60	55	-	-
60	4.9	6.60	60			60	4.0	6.90	60	-	-

Table A3.18. Temperature (Temp., °C) and dissolved oxygen (D.O., mg/L) profiles measured at station DIL06 on Dillon Reservoir, Summit County. Measurements not available below 40 m in June and July.

Dillon Reservoir											
08/05/11			05/22/12			06/16/12			07/10/12		
Depth (m)	Temp.	D.O.	Depth (m)	Temp.	D.O.	Depth (m)	Temp.	D.O.	Depth (m)	Temp.	D.O.
0	16.2	7.13	0	10.2	8.44	0	13.2	8.40	0	17.3	7.80
1	16.4	7.08	1	9.9	8.54	1	13.5	8.30	1	16.9	7.90
2	16.5	7.05	2	9.8	8.51	2	13.5	8.30	2	16.8	7.90
3	16.6	7.02	3	9.8	8.44	3	13.5	8.30	3	16.8	7.90
4	16.6	6.99	4	9.8	8.38	4	13.5	8.30	4	16.8	7.90
5	16.6	6.98	5	9.7	8.34	5	13.6	8.20	5	16.7	7.90
6	16.5	6.95	6	9.7	8.30	6	13.6	8.20	6	16.7	7.80
7	15.7	6.92	7	9.7	8.27	7	13.6	8.20	7	16.7	7.80
8	13.7	6.77	8	9.7	8.26	8	13.6	8.20	8	16.7	7.80
9	13.1	6.69	9	9.6	8.25	9	13.5	8.20	9	16.7	7.80
10	12.5	6.65	10	9.6	8.23	10	12.7	8.30	10	14.4	8.30
11	12.2	6.64	11	9.6	8.21	11	11.8	8.30	11	13.3	8.30
12	12.1	6.63	12	9.1	8.17	12	10.6	8.40	12	12.4	8.30
13	12.0	6.61	13	8.8	8.18	13	10.5	8.40	13	11.7	8.30
14	11.7	6.59	14	7.6	8.12	14	10.3	8.40	14	11.5	8.20
15	11.4	6.62	15	7.2	8.02	15	10.2	8.30	15	10.9	8.10
16	11.2	6.61	16	6.9	7.89	16	9.9	8.30	16	10.6	8.10
17	10.9	6.59	17	6.7	7.83	17	9.7	8.30	17	10.2	8.00
18	10.8	6.62	18	6.7	7.78	18	9.0	8.20	18	9.7	7.90
19	10.6	6.62	19	6.5	7.75	19	8.8	8.10	19	9.4	7.90
20	10.5	6.65	20	6.2	7.69	20	8.4	8.00	20	8.9	7.80
21	-	-	21	-	-	21	-	-	21	-	-
22	-	-	22	-	-	22	-	-	22	-	-
23	-	-	23	-	-	23	-	-	23	-	-
24	-	-	24	-	-	24	-	-	24	-	-
25	9.7	6.65	25	5.6	7.40	25	7.1	7.9	25	8.0	7.70
26	-	-	26	-	-	26	-	-	26	-	-
27	-	-	27	-	-	27	-	-	27	-	-
28	-	-	28	-	-	28	-	-	28	-	-
29	-	-	29	-	-	29	-	-	29	-	-
30	8.9	6.61	30	5.3	7.32	30	6.3	7.80	30	7.1	7.50
35	8.4	6.53	35	5.1	7.14	35	5.7	7.70	35	6.5	7.40
40	8.0	6.46	40	4.8	6.94	40	5.4	7.60	40	6.0	7.30
45	7.7	6.35	45	4.6	6.75	45	-	-	45	-	-
50	7.4	6.20	50	4.5	6.63	50	-	-	50	-	-
55	7.3	6.11	55	4.4	6.52	55	-	-	55	-	-
60	7.2	6.01	60			60	-	-	60	-	-

Table A3.19. Temperature (Temp., °C) and dissolved oxygen (D.O., mg/L) profiles measured at station DIL06 on Dillon Reservoir, Summit County. Measurements not available below 40 m.

Dillon Reservoir											
08/18/12			09/13/12			06/25/13			07/10/13		
Depth (m)	Temp.	D.O.	Depth (m)	Temp.	D.O.	Depth (m)	Temp.	D.O.	Depth (m)	Temp.	D.O.
0	16.1	7.70	0	14.6	7.6	0	13.1	8.50	0	15.7	8.20
1	16.2	7.70	1	14.8	7.5	1	13.3	8.40	1	15.8	8.10
2	16.2	7.70	2	14.8	7.5	2	13.3	8.40	2	15.8	8.10
3	16.2	7.60	3	14.9	7.5	3	13.3	8.40	3	15.8	8.10
4	16.3	7.60	4	14.9	7.5	4	13.4	8.30	4	15.8	8.10
5	16.3	7.60	5	14.9	7.4	5	13.4	8.30	5	15.8	8.10
6	16.3	7.60	6	14.9	7.4	6	13.4	8.30	6	15.8	8.10
7	16.3	7.60	7	14.9	7.4	7	13.1	8.30	7	15.8	8.00
8	16.3	7.50	8	14.9	7.4	8	11.4	8.40	8	15.8	8.00
9	16.3	7.50	9	15.0	7.4	9	10.4	8.40	9	13.4	8.10
10	16.3	7.50	10	15.0	7.4	10	9.7	8.40	10	12.5	8.10
11	16.3	7.50	11	15.0	7.4	11	8.8	8.30	11	11.2	8.10
12	16.3	7.50	12	15.0	7.3	12	8.7	8.40	12	10.4	8.10
13	16.2	7.40	13	15.0	7.3	13	8.5	8.40	13	9.7	8.10
14	14.8	6.90	14	15.0	7.3	14	8.0	8.30	14	8.6	8.10
15	14.1	6.90	15	15.0	7.3	15	7.4	8.30	15	8.2	8.10
16	13.3	7.00	16	14.7	7	16	7.1	8.30	16	7.6	8.00
17	12.8	7.00	17	14.5	6.4	17	6.8	8.20	17	7.3	8.10
18	11.8	7.00	18	13.6	5.9	18	6.7	8.20	18	7.2	8.10
19	11.4	7.00	19	12.9	5.9	19	6.5	8.20	19	6.9	8.00
20	10.5	7.00	20	12.4	5.8	20	6.2	8.20	20	6.8	8.00
21	-	-	21	-	-	21	-	-	21	-	-
22	-	-	22	-	-	22	-	-	22	-	-
23	-	-	23	-	-	23	-	-	23	-	-
24	-	-	24	-	-	24	-	-	24	-	-
25	8.6	6.90	25	9.8	5.9	25	5.3	8.10	25	5.6	7.90
26	-	-	26	-	-	26	-	-	26	-	-
27	-	-	27	-	-	27	-	-	27	-	-
28	-	-	28	-	-	28	-	-	28	-	-
29	-	-	29	-	-	29	-	-	29	-	-
30	7.8	6.80	30	8.3	6.1	30	4.8	7.80	30	5.1	7.70
35	7.1	6.60	35	7.7	6.0	35	4.6	7.70	35	4.8	7.50
40	6.7	6.50	40	7.2	6.0	40	4.4	7.50	40	4.5	7.30
45	-	-	45	-	-	45	-	-	45	-	-
50	-	-	50	-	-	50	-	-	50	-	-
55	-	-	55	-	-	55	-	-	55	-	-
60	-	-	60	-	-	60	-	-	60	-	-

Table A3.20. Temperature (Temp., °C) and dissolved oxygen (D.O., mg/L) profiles measured at station DIL06 on Dillon Reservoir, Summit County. Measurements not available below 40 m.

Dillon Reservoir											
08/10/13			09/04/13			10/20/13			05/26/14		
Depth (m)	Temp.	D.O.	Depth (m)	Temp.	D.O.	Depth (m)	Temp.	D.O.	Depth (m)	Temp.	D.O.
0	15.3	7.50	0	16.5	7.90	0	8.2	8.50	0	5.3	9.29
1	15.4	7.40	1	16.7	7.90	1	8.5	8.20	1	5.3	9.30
2	15.5	7.40	2	16.7	7.90	2	8.5	8.10	2	5.3	9.27
3	15.5	7.40	3	16.7	7.90	3	8.5	8.10	3	5.3	9.28
4	15.5	7.40	4	16.7	7.80	4	8.5	8.10	4	5.2	9.26
5	15.5	7.40	5	16.7	7.80	5	8.6	8.00	5	5.2	9.23
6	15.5	7.30	6	16.7	7.80	6	8.6	8.00	6	5.2	9.22
7	15.5	7.40	7	16.7	7.80	7	8.6	8.00	7	5.2	9.20
8	15.5	7.30	8	16.7	7.80	8	8.6	7.90	8	5.2	9.19
9	15.5	7.30	9	15.7	7.30	9	8.6	7.90	9	5.2	9.15
10	15.5	7.30	10	14.9	6.80	10	8.6	7.90	10	5.2	9.16
11	15.5	7.30	11	14.5	6.70	11	8.6	7.90	11	5.2	9.13
12	14.7	7.00	12	14.2	6.60	12	8.6	7.90	12	5.2	9.14
13	13.5	7.00	13	13.7	6.40	13	8.6	7.90	13	5.2	9.10
14	12.1	6.90	14	12.5	6.10	14	8.6	7.90	14	5.2	9.09
15	11.2	7.00	15	11.7	6.10	15	8.6	7.80	15	5.2	9.09
16	10.5	7.00	16	10.4	6.20	16	8.6	7.80	16	5.2	9.05
17	9.7	7.00	17	9.9	6.20	17	8.6	7.80	17	5.1	8.96
18	8.6	7.10	18	9.5	6.20	18	8.6	7.80	18	4.8	8.90
19	8.2	7.10	19	9.0	6.30	19	8.6	7.80	19	4.8	8.86
20	8.0	7.10	20	8.4	6.30	20	8.6	7.80	20	4.7	8.84
21	7.8	7.20	21	8.1	6.50	21	8.6	7.70	21	4.7	8.84
22	7.6	7.20	22	7.7	6.50	22	8.6	7.70	22	4.7	8.82
23	7.3	7.30	23	7.5	6.50	23	8.6	7.70	23	4.6	8.78
24	7.2	7.30	24	7.1	6.60	24	8.6	7.70	24	4.6	8.74
25	7.0	7.30	25	6.9	6.70	25	8.6	7.70	25	4.6	8.70
26	6.9	7.40	26	6.8	6.70	26	8.6	7.60	26	4.5	8.66
27	6.7	7.40	27	6.7	6.70	27	8.3	7.20	27	4.4	8.56
28	6.5	7.30	28	6.6	6.70	28	8.1	6.90	28	4.3	8.53
29	6.3	7.20	29	6.5	6.70	29	7.6	6.00	29	4.2	8.49
30	6.2	7.20	30	6.4	6.70	30	7.5	5.90	30	4.1	8.43
35	5.9	7.20	35	5.8	6.70	35	6.7	5.90	35	3.7	8.23
40	5.6	7.00	40	5.0	6.50	40	6.1	5.90	40	3.6	8.15
45	-	-	45	-	-	45	-	-	45	-	-
50	-	-	50	-	-	50	-	-	50	-	-
55	-	-	55	-	-	55	-	-	55	-	-
60	-	-	60	-	-	60	-	-	60	-	-

Table A3.21. Temperature (Temp., °C) and dissolved oxygen (D.O., mg/L) profiles measured at station DIL06 on Dillon Reservoir, Summit County.

Dillon Reservoir											
06/24/14			07/21/14			08/19/14			09/21/14		
Depth (m)	Temp.	D.O.	Depth (m)	Temp.	D.O.	Depth (m)	Temp.	D.O.	Depth (m)	Temp.	D.O.
0	12.3	9.06	0	15.8	8.33	0	16.5	8.26	0	13.6	8.28
1	12.4	9.05	1	15.8	8.33	1	16.5	8.25	1	13.7	8.29
2	12.3	9.02	2	15.8	8.32	2	16.2	8.27	2	13.8	8.26
3	12.2	9.00	3	15.8	8.31	3	16.1	8.27	3	13.8	8.26
4	11.7	8.95	4	15.8	8.30	4	16.1	8.24	4	13.8	8.25
5	11.5	8.92	5	15.8	8.28	5	16.1	8.21	5	13.8	8.24
6	11.4	8.88	6	15.8	8.26	6	16.0	8.19	6	13.8	8.23
7	10.9	8.87	7	15.8	8.22	7	16.0	8.16	7	13.9	8.20
8	10.5	8.79	8	15.8	8.20	8	15.9	8.14	8	13.9	8.18
9	9.9	8.76	9	15.8	8.17	9	15.9	8.10	9	13.9	8.17
10	9.7	8.76	10	13.6	7.92	10	15.2	7.82	10	13.9	8.16
11	9.3	8.73	11	12.7	7.88	11	14.1	7.48	11	13.9	8.14
12	9.1	8.72	12	11.8	7.90	12	13.5	7.36	12	13.9	8.13
13	9.0	8.71	13	11.6	7.85	13	12.9	7.26	13	13.5	7.88
14	8.6	8.70	14	11.2	7.89	14	12.7	7.21	14	13.3	7.70
15	8.2	8.70	15	10.7	7.94	15	12.3	7.16	15	13.2	7.53
16	8.1	8.71	16	10.6	7.90	16	11.5	7.17	16	12.1	6.71
17	8.0	8.71	17	10.0	7.94	17	11.2	7.14	17	11.8	6.56
18	7.9	8.66	18	9.6	7.95	18	11.1	7.12	18	11.5	6.46
19	7.5	8.67	19	9.5	7.96	19	11.0	7.10	19	11.2	6.41
20	7.4	8.66	20	9.2	7.92	20	10.8	7.13	20	10.6	6.37
21	7.3	8.66	21	8.9	7.95	21	10.5	7.10	21	10.1	6.43
22	7.2	8.63	22	8.8	7.94	22	10.2	7.14	22	9.8	6.52
23	7.0	8.65	23	8.8	7.95	23	9.9	7.21	23	9.7	6.53
24	7.0	8.63	24	8.6	7.92	24	9.5	7.35	24	9.5	6.52
25	6.9	8.64	25	8.4	7.94	25	9.3	7.34	25	9.4	6.50
26	6.9	8.61	26	8.3	7.95	26	9.2	7.36	26	9.3	6.48
27	6.8	8.60	27	8.1	7.94	27	8.9	7.36	27	9.0	6.51
28	6.8	8.58	28	8.0	7.96	28	8.8	7.35	28	8.9	6.49
29	6.8	8.58	29	7.8	7.95	29	8.3	7.39	29	8.8	6.50
30	6.6	8.54	30	7.7	7.97	30	8.1	7.37	30	8.6	6.56
35	6.3	8.42	35	7.1	7.87	35	7.6	7.36	35	8.0	6.62
40	6.1	8.31	40	6.7	7.75	40	7.2	7.19	40	7.5	6.58
45	5.7	8.17	45	6.4	7.63	45	7.0	7.14	45	7.2	6.50
50	5.1	7.54	50	6.2	7.54	50	6.7	6.99	50	6.9	6.35
55			55	6.1	7.46	55	6.6	6.87	55	6.9	6.19
60			60	6.0	7.34	60	6.6	6.77	60	6.8	6.03

Table A3.22. Temperature (Temp., °C) and dissolved oxygen (D.O., mg/L) profiles measured at station DIL06 on Dillon Reservoir, Summit County.

Dillon Reservoir											
10/19/14			11/22/14			08/12/15			08/03/16		
Depth (m)	Temp.	D.O.	Depth (m)	Temp.	D.O.	Depth (m)	Temp.	D.O.	Depth (m)	Temp.	D.O.
0	12.2	8.03	0	5.4	9.00	0	16.2	8.17	0	16.9	8.25
1	11.7	8.11	1	5.4	9.01	1	16.3	8.10	1	16.9	8.23
2	11.0	8.16	2	5.4	8.95	2	16.3	8.08	2	16.9	8.22
3	10.8	8.19	3	5.5	8.88	3	16.3	8.07	3	16.9	8.19
4	10.7	8.20	4	5.5	8.86	4	16.3	8.04	4	16.9	8.18
5	10.6	8.22	5	5.5	8.85	5	16.2	7.98	5	16.9	8.15
6	10.5	8.21	6	5.5	8.84	6	15.5	7.87	6	16.8	8.14
7	10.4	8.21	7	5.5	8.84	7	15.2	7.80	7	16.6	8.08
8	10.4	8.20	8	5.5	8.81	8	14.1	7.64	8	16.3	7.93
9	10.3	8.17	9	5.5	8.79	9	13.4	7.53	9	14.7	7.78
10	10.3	8.14	10	5.5	8.78	10	13.0	7.45	10	13.8	7.75
11	10.3	8.09	11	5.5	8.77	11	12.6	7.34	11	13.0	7.71
12	10.2	8.07	12	5.5	8.76	12	12.1	7.22	12	12.5	7.70
13	10.2	8.04	13	5.5	8.74	13	11.5	7.23	13	12.1	7.65
14	10.2	8.02	14	5.5	8.72	14	11.1	7.23	14	11.6	7.69
15	10.2	8.01	15	5.5	8.72	15	10.9	7.20	15	10.6	7.76
16	10.2	7.99	16	5.5	8.71	16	10.5	7.17	16	9.9	7.86
17	10.2	7.98	17	5.6	8.68	17	10.3	7.19	17	9.5	7.89
18	10.2	7.96	18	5.6	8.68	18	10.1	7.23	18	9.1	7.87
19	10.2	7.95	19	5.6	8.68	19	9.8	7.31	19	8.9	7.88
20	10.2	7.94	20	5.6	8.67	20	9.6	7.38	20	8.6	7.84
21	10.1	7.94	21	5.6	8.67	21	9.4	7.39	21	8.4	7.83
22	10.1	7.93	22	5.6	8.66	22	9.2	7.37	22	8.3	7.85
23	10.1	7.92	23	5.6	8.67	23	9.1	7.35	23	8.1	7.83
24	10.0	7.82	24	5.6	8.67	24	9.0	7.30	24	7.9	7.82
25	9.9	7.62	25	5.6	8.69	25	8.9	7.24	25	7.8	7.82
26	9.4	6.62	26	5.6	8.70	26	8.7	7.30	26	7.7	7.78
27	9.1	6.30	27	5.6	8.72	27	8.6	7.33	27	7.8	7.76
28	8.9	6.22	28	5.6	8.70	28	8.5	7.34	28	7.5	7.74
29	8.7	6.18	29	5.6	8.71	29	8.4	7.36	29	7.3	7.73
30	8.6	6.16	30	5.6	8.71	30	8.2	7.36	30	7.1	7.72
35	8.1	6.15	35	5.6	8.66	35	7.7	7.12	35	6.5	7.60
40	7.7	6.18	40	5.6	8.64	40	7.3	7.04	40	6.1	7.45
45	7.3	6.03	45	5.5	8.66	45	7.0	6.85	45	5.8	7.28
50	7.1	5.85	50	5.4	8.66	50	6.8	6.57	50	5.6	7.14
55	7.0	5.69	55	5.3	8.68	55	6.7	6.43	55	5.4	7.00
60	6.9	5.53	60	5.3	8.67	60	6.6	6.32	60	5.3	6.93

Table A3.23. Temperature (Temp., °C) and dissolved oxygen (D.O., mg/L) profiles measured at station DIL06 on Dillon Reservoir, Summit County.

Dillon Reservoir								
08/24/17			08/09/18			09/23/19		
Depth (m)	Temp.	D.O.	Depth (m)	Temp.	D.O.	Depth (m)	Temp.	D.O.
0	15.1	8.09	0	17.6	6.78	0	13.9	7.33
1	15.2	8.05	1	17.4	7.03	1	13.8	7.32
2	15.3	8.03	2	17.3	7.10	2	13.7	7.29
3	15.3	8.02	3	17.2	7.13	3	13.6	7.27
4	15.4	7.99	4	17.0	7.14	4	13.6	7.26
5	15.4	7.98	5	16.9	7.14	5	13.6	7.25
6	15.4	7.96	6	16.7	7.14	6	13.6	7.22
7	15.4	7.95	7	16.6	7.13	7	13.6	7.21
8	15.4	7.93	8	16.6	7.10	8	13.5	7.20
9	15.4	7.88	9	16.5	7.04	9	13.5	7.17
10	14.6	7.30	10	16.2	6.94	10	13.5	7.16
11	13.6	6.73	11	15.8	6.80	11	13.5	7.14
12	12.7	6.51	12	15.4	6.60	12	13.5	7.11
13	12.3	6.48	13	15.2	6.52	13	12.9	6.55
14	11.9	6.46	14	13.0	6.23	14	12.2	6.22
15	11.7	6.45	15	13.0	6.16	15	11.3	5.96
16	11.5	6.46	16	11.2	6.10	16	10.6	5.91
17	11.3	6.46	17	10.8	6.14	17	10.3	5.97
18	11.0	6.50	18	10.6	6.23	18	9.8	6.05
19	10.5	6.56	19	9.6	6.28	19	9.7	6.07
20	10.2	6.61	20	9.0	6.32	20	9.4	6.09
21	9.9	6.64	21	8.7	6.39	21	9.3	6.08
22	9.7	6.67	22	8.5	6.37	22	9.1	6.08
23	9.4	6.73	23	8.2	6.39	23	8.9	6.10
24	9.2	6.80	24	7.7	6.41	24	8.8	6.15
25	8.9	6.85	25	7.3	6.51	25	8.7	6.21
26	8.8	6.86	26	7.2	6.54	26	8.6	6.27
27	8.6	6.88	27	6.8	6.59	27	8.5	6.30
28	8.4	6.89	28	6.7	6.58	28	8.4	6.27
29	8.2	6.90	29	6.7	6.60	29	8.3	6.26
30	7.8	6.93	30	6.5	6.60	30	8.3	6.26
35	7.4	6.89	35	6.0	6.51	35	7.8	6.20
40	6.9	6.79	40	5.8	6.45	40	7.5	6.14
45	6.7	6.68	45	5.5	6.39	45		
50	6.4	6.51	50	5.2	6.31	50		
55	6.3	6.38	55	5.0	6.23	55		
60	6.4	3.30	60	5.0	6.12	60		



Table A3.24. Temperature (Temp., °C) and dissolved oxygen (D.O., mg/L) profiles measured at station EST02 on Lake Estes, Larimer County.

Lake Estes					
05/31/14			08/27/18		
Depth (m)	Temp.	D.O.	Depth (m)	Temp.	D.O.
0	7.3	10.40	0	16.7	7.05
1	7.2	10.06	1	16.7	7.04
2	7.2	10.00	2	16.5	7.03
3	7.1	10.02	3	16.4	7.02
4	6.3	10.09	4	16.4	7.01
5	5.9	10.16	5	16.3	7.01
6	5.8	10.13	6	16.3	7.00
7	5.7	10.13	7	16.3	6.99
8	5.8	10.10	8	16.3	6.97
9	5.8	10.08	9	16.3	6.96
10	5.8	10.03	10	16.3	6.96
11	5.9	10.00	11	16.3	6.94
12			12	12.8	0.65
13			13		
14			14		
15			15		
16			16		
17			17		
18			18		
19			19		
20			20		
21			21		
22			22		
23			23		
24			24		
25			25		
26			26		
27			27		
28			28		
29			29		
30			30		
35			35		
40			40		
45			45		
50			50		
55			55		
60			60		

Table A3.25. Temperature (Temp., °C) and dissolved oxygen (D.O., mg/L) profiles measured at station GDL04 on Grand Lake, Grand County, station GRE10 on Green Mountain Reservoir, Summit County, and station GRO02 on Gross Reservoir, Boulder County.

Grand Lake 08/22/14			Green Mountain 07/23/14			Gross Reservoir					
						05/30/14			08/28/19		
Depth (m)	Temp.	D.O.	Depth (m)	Temp.	D.O.	Depth (m)	Temp.	D.O.	Depth (m)	Temp.	D.O.
0	17.0	8.50	0	18.2	7.92	0	14.9	9.30	0	N/A	N/A
1	17.0	8.50	1	18.5	7.85	1	14.3	9.36	1	19.0	6.65
2	16.8	8.48	2	18.5	7.82	2	14.1	9.38	2	18.9	6.67
3	16.7	8.45	3	18.6	7.81	3	11.5	9.82	3	18.8	6.70
4	16.3	8.35	4	18.6	7.80	4	10.5	9.85	4	18.7	6.70
5	15.0	8.50	5	18.4	7.77	5	10.0	9.95	5	18.6	6.69
6	13.6	8.48	6	18.3	7.77	6	8.9	9.83	6	17.8	6.68
7	12.7	8.16	7	18.3	7.75	7	8.5	9.81	7	16.5	6.50
8	12.0	7.85	8	18.2	7.74	8	8.2	9.79	8	15.4	6.11
9	11.3	7.76	9	18.1	7.71	9	7.9	9.76	9	14.8	5.85
10	10.8	7.75	10	18.0	7.69	10	7.7	9.72	10	14.5	5.67
11	9.9	7.76	11	17.9	7.70	11	7.5	9.70	11	14.2	5.57
12	9.3	7.84	12	17.7	7.68	12	7.4	9.68	12	13.9	5.63
13	8.9	7.88	13	17.6	7.68	13	7.2	9.67	13	13.6	5.65
14	8.7	7.93	14	17.5	7.58	14	7.1	9.67	14	13.3	5.56
15	8.3	7.93	15	13.2	7.40	15	7.1	9.67	15	13.1	5.52
16	8.0	8.01	16	12.5	7.57	16	6.9	9.67	16	12.9	5.51
17	7.8	8.01	17	12.2	7.63	17	6.9	9.64	17	12.8	5.52
18	7.5	8.03	18	11.8	7.71	18	6.7	9.64	18	12.7	5.54
19	7.4	8.04	19	11.6	7.70	19	6.7	9.63	19	12.5	5.54
20	7.3	8.04	20	11.4	7.79	20	6.7	9.63	20	12.2	5.54
21	7.0	8.04	21	11.3	7.82	21	6.5	9.62	21	12.0	5.58
22	6.8	8.02	22	11.2	7.81	22	6.5	9.60	22	11.8	5.62
23	6.6	8.01	23	11.0	7.83	23	6.5	9.61	23	11.7	5.65
24	6.5	8.01	24	10.9	7.83	24	6.4	9.58	24	11.5	5.66
25	6.4	7.97	25	10.7	7.84	25	6.3	9.60	25	11.3	5.70
26	6.3	7.96	26	10.6	7.83	26	6.2	9.58	26	11.1	5.76
27	6.0	7.91	27	10.4	7.86	27	6.1	9.58	27	10.9	5.76
28	5.9	7.85	28	10.2	7.85	28	6.0	9.60	28	10.7	5.79
29	5.8	7.84	29	10.0	7.85	29	5.9	9.58	29	10.5	5.88
30	5.8	7.80	30	9.9	7.85	30	5.8	9.58	30	10.5	5.12
35	5.3	7.57	35	9.6	7.78	35	5.6	9.54	35	9.8	5.95
40	5.0	7.33	40	9.4	7.71	40	5.4	9.46	40	9.2	6.68
45	4.8	7.12	45	9.2	7.60	45	5.3	9.41	45	8.7	6.13
50	4.6	6.89	50	8.7	7.45	50	5.2	9.35	50	8.2	6.13
55	4.5	6.67	55			55	5.2	9.28	55	7.9	6.18
60	4.4	6.28	60			60	5.1	9.19	60	7.8	6.13

Table A3.26. Temperature (Temp., °C) and dissolved oxygen (D.O., mg/L) profiles measured at station HOM01 on Homestake Reservoir, Pitkin County, and station HST02 on Horsetooth Reservoir, Larimer County.

Homestake Reservoir			Horsetooth Reservoir								
08/10/18			06/15/15			07/13/15			06/08/16		
Depth (m)	Temp.	D.O.	Depth (m)	Temp.	D.O.	Depth (m)	Temp.	D.O.	Depth (m)	Temp.	D.O.
0	16.2	6.52	0	19.7	8.84	0	22.8	7.96	0	19.6	9.00
1	16.2	6.51	1	19.7	8.85	1	22.8	7.96	1	19.2	9.14
2	16.1	6.50	2	19.6	8.82	2	22.8	7.94	2	18.5	9.34
3	16.0	6.49	3	19.5	8.78	3	22.7	7.92	3	18.3	9.38
4	15.8	6.46	4	19.1	8.60	4	21.8	7.82	4	18.2	9.37
5	15.2	6.47	5	17.4	8.22	5	18.5	6.81	5	16.8	9.67
6	15.0	6.48	6	11.5	7.96	6	14.8	5.72	6	14.7	9.51
7	14.6	6.47	7	10.8	7.99	7	12.7	5.70	7	13.5	9.01
8	13.5	6.47	8	10.5	8.02	8	11.5	5.96	8	12.5	8.79
9	11.7	6.68	9	9.8	8.10	9	11.0	6.07	9	11.0	8.57
10	10.3	6.77	10	9.5	8.16	10	10.2	6.24	10	10.4	8.59
11	9.3	6.87	11	9.2	8.18	11	9.5	6.59	11	10.0	8.58
12	8.5	6.89	12	9.0	8.19	12	9.1	6.79	12	9.5	8.63
13	8.2	6.90	13	8.7	8.25	13	8.8	6.90	13	9.1	8.64
14	7.9	6.95	14	8.5	8.30	14	8.6	6.98	14	8.8	8.63
15	7.1	6.96	15	8.3	8.31	15	8.5	7.03	15	8.5	8.67
16	6.6	7.01	16	8.2	8.31	16	8.4	7.06	16	8.2	8.64
17	6.4	7.03	17	8.2	8.29	17	8.3	7.09	17	8.1	8.64
18	6.2	7.05	18	8.1	8.29	18	8.3	7.09	18	7.9	8.67
19	6.0	7.04	19	8.0	8.23	19	8.1	7.07	19	7.8	8.68
20	5.9	7.03	20	7.8	8.20	20	8.0	7.14	20	7.7	8.66
21	5.7	7.05	21	7.5	8.22	21	7.9	7.16	21	7.7	8.61
22	5.5	7.08	22	7.5	8.18	22	7.8	7.16	22	7.6	8.61
23	5.4	7.08	23	7.5	8.15	23	7.8	7.10	23	7.5	8.59
24	5.3	7.05	24	7.4	8.16	24	7.8	7.05	24	7.5	8.56
25	5.2	7.08	25	7.4	8.15	25	7.8	7.03	25	7.5	8.54
26	5.1	7.06	26	7.4	8.12	26	7.8	7.03	26	7.4	8.55
27	5.0	7.06	27	7.4	8.10	27	7.7	7.05	27	7.4	8.53
28	4.9	7.03	28	7.3	8.10	28	7.7	7.02	28	7.4	8.52
29	4.8	7.05	29	7.3	8.09	29	7.7	7.01	29	7.4	8.51
30	4.8	7.03	30	7.3	8.06	30	7.7	7.01	30	7.3	8.20
35	4.6	7.02	35	7.2	7.96	35	7.6	6.92	35	7.3	8.42
40	4.4	6.99	40	7.2	7.76	40	7.6	6.75	40	7.1	8.24
45	4.3	6.91	45	7.0	7.61	45			45	7.1	8.10
50	4.2	6.88	50			50			50	7.1	8.02
55	4.2	6.75	55			55			55		
60	4.2	6.62	60			60			60		

Table A3.27. Temperature (Temp., °C) and dissolved oxygen (D.O., mg/L) profiles measured at three stations on Horsetooth Reservoir, Larimer County.

HST02			HST06			HST09			HST09		
05/22/17			05/22/17			05/22/17			08/22/17		
Depth (m)	Temp.	D.O.	Depth (m)	Temp.	D.O.	Depth (m)	Temp.	D.O.	Depth (m)	Temp.	D.O.
0	13.3	9.74	0	12.8	9.85	0	11.9	10.01	0	21.2	8.17
1	13.3	9.75	1	12.8	9.85	1	12.0	9.97	1	21.4	8.13
2	13.3	9.74	2	12.8	9.84	2	11.9	9.97	2	21.5	8.11
3	13.3	9.74	3	12.8	9.83	3	12.0	9.95	3	21.5	8.08
4	13.3	9.71	4	12.8	9.81	4	11.9	9.95	4	21.6	8.06
5	13.3	9.70	5	12.8	9.80	5	11.9	9.94	5	21.6	8.04
6	13.3	9.68	6	12.8	9.77	6	11.9	9.91	6	21.1	7.36
7	13.1	9.60	7	12.5	9.60	7	11.9	9.98	7	20.6	6.86
8	10.9	9.04	8	12.4	9.54	8	11.9	9.54	8	20.3	6.25
9	10.6	9.00	9	11.0	9.22	9	10.8	9.41	9	20.3	6.04
10	10.2	9.06	10	10.5	9.11	10	9.8	9.27	10	19.8	5.20
11	9.8	9.12	11	10.3	9.00	11	9.5	9.24	11	18.4	3.62
12	9.7	9.13	12	9.7	8.96	12	9.3	9.23	12	17.5	3.24
13	9.5	9.02	13	10.1	9.15	13	9.0	9.16	13	17.0	3.01
14	9.2	8.98	14	9.4	9.05	14	8.9	9.21	14	16.3	2.87
15	9.0	8.92	15	8.9	9.03	15	8.7	9.13	15	15.2	2.82
16	8.7	8.78	16	8.8	8.97	16	8.5	9.08	16	14.4	2.86
17	8.5	8.70	17	8.6	8.93	17	8.3	9.04	17	14.3	2.81
18	8.3	8.71	18	8.5	8.87	18	8.2	9.02	18	13.3	2.97
19	8.2	8.70	19	8.3	8.87	19	8.2	8.99	19	12.3	3.28
20	8.2	8.68	20	8.3	8.87	20	8.1	8.96	20	11.1	3.77
21	8.0	8.66	21	8.2	8.80	21	8.1	8.93	21	10.5	4.02
22	7.9	8.68	22	8.1	8.77	22	8.1	8.88	22	10.2	4.15
23	7.8	8.66	23	8.0	8.73	23	8.1	8.86	23	10.0	4.28
24	7.8	8.63	24	8.0	8.74	24	8.0	8.85	24	9.8	4.40
25	7.7	8.61	25	8.1	8.75	25	8.0	8.81	25	9.7	4.52
26	7.7	8.59	26	7.9	8.69	26	8.0	8.78	26	9.5	4.56
27	7.7	8.57	27	7.9	8.68	27	7.9	8.75	27	9.4	4.57
28	7.7	8.55	28	7.9	8.63	28	7.9	8.70	28	9.3	4.57
29	7.6	8.54	29	7.9	8.61	29	7.9	8.70	29	9.3	4.58
30	7.6	8.52	30	7.9	8.60	30	7.7	8.67	30	9.2	4.60
35	7.5	8.41	35	7.7	8.56	35	7.5	8.61	35	9.0	4.68
40	7.1	8.17	40	7.5	8.51	40	7.3	8.56	40	8.7	4.80
45	6.9	7.91	45	7.5	8.43	45	7.2	8.44	45	8.6	4.72
50	6.9	7.51	50			50	7.1	8.30	50	8.4	4.33
55			55			55			55		
60			60			60			60		

Table A3.28. Temperature (Temp., °C) and dissolved oxygen (D.O., mg/L) profiles measured at station HST01 and HST02 on Horsetooth Reservoir, Larimer County, and station IVA03 on Ivanhoe Lake, Pitkin County.

HST02 08/22/17			HST06 08/22/17			HST02 09/05/18			Ivanhoe Lake 07/28/16		
Depth (m)	Temp.	D.O.	Depth (m)	Temp.	D.O.	Depth (m)	Temp.	D.O.	Depth (m)	Temp.	D.O.
0	20.7	7.96	0	21.1	8.02	0	20.3	7.36	0	16.0	7.79
1	21.3	7.89	1	21.3	8.03	1	20.3	7.36	1	15.8	7.75
2	21.3	7.88	2	21.3	8.02	2	20.3	7.36	2	15.7	7.70
3	21.3	7.87	3	21.3	8.00	3	20.4	7.32	3	15.6	7.63
4	21.3	7.83	4	21.4	7.97	4	20.4	7.30	4	14.8	7.43
5	21.3	7.81	5	21.3	7.60	5	20.4	7.28	5	12.6	5.78
6	21.1	7.31	6	20.7	7.20	6	20.4	7.25	6	11.0	4.84
7	20.6	7.02	7	20.5	6.84	7	20.4	7.22	7		
8	20.5	6.76	8	20.4	6.55	8	20.3	7.12	8		
9	20.1	6.28	9	20.2	5.61	9	20.0	6.34	9		
10	19.6	5.57	10	19.3	4.53	10	19.9	5.85	10		
11	18.6	4.58	11	18.6	4.18	11	19.8	5.10	11		
12	18.0	3.94	12	17.6	3.58	12	19.7	4.66	12		
13	17.1	3.46	13	16.2	3.06	13	19.4	4.31	13		
14	15.9	3.07	14	15.3	2.98	14	19.2	4.30	14		
15	15.1	2.94	15	14.3	3.00	15	19.1	4.26	15		
16	13.7	2.99	16	13.0	3.14	16	19.0	4.43	16		
17	12.4	3.25	17	12.1	3.50	17	18.5	3.44	17		
18	11.5	3.48	18	11.2	3.82	18	18.0	2.77	18		
19	11.0	3.71	19	10.7	4.00	19	17.5	2.38	19		
20	10.5	4.03	20	10.4	4.18	20	17.1	2.15	20		
21	10.2	4.21	21	9.8	4.45	21	16.2	1.94	21		
22	9.9	4.29	22	9.6	4.62	22	15.6	1.92	22		
23	9.8	4.33	23	9.4	4.66	23	14.7	2.03	23		
24	9.5	4.42	24	9.3	4.68	24	14.2	2.15	24		
25	9.4	4.50	25	9.2	4.67	25	13.7	2.29	25		
26	9.3	4.51	26	9.2	4.69	26	13.0	2.42	26		
27	9.2	4.48	27	9.1	4.71	27	12.5	2.63	27		
28	9.1	4.55	28	9.1	4.73	28	12.3	2.96	28		
29	9.0	4.56	29	9.0	4.83	29	11.6	2.91	29		
30	9.0	4.55	30	8.9	4.96	30	11.3	3.00	30		
35	8.8	4.23	35	8.7	4.77	35	9.6	3.60	35		
40	8.5	3.83	40	8.7	4.70	40	9.0	3.58	40		
45	8.4	2.76	45	8.6	4.13	45			45		
50	8.4	2.44	48	8.5	3.80	50			46		
55			55	8.5	2.36	52			55		
60			60			60			60		

Table A3.29. Temperature (Temp., °C) and dissolved oxygen (D.O., mg/L) profiles measured at station JEF03 on Jefferson Lake, Park County.

Jefferson Lake											
08/11/15			06/07/18			07/14/18			08/11/18		
Depth (m)	Temp.	D.O.	Depth (m)	Temp.	D.O.	Depth (m)	Temp.	D.O.	Depth (m)	Temp.	D.O.
0	14.5	7.50	0	10.8	8.64	0	15.3	7.10	0	15.8	6.84
1	14.5	7.56	1	10.0	8.83	1	15.0	7.29	1	15.7	6.94
2	14.4	7.61	2	9.8	8.85	2	14.9	7.34	2	15.6	7.02
3	14.4	7.64	3	8.6	9.09	3	14.9	7.34	3	15.5	7.05
4	13.9	7.74	4	8.1	9.32	4	14.9	7.35	4	15.4	7.09
5	13.6	7.82	5	7.9	9.36	5	14.2	7.50	5	15.2	7.07
6	13.5	7.85	6	7.6	9.37	6	13.2	7.87	6	14.8	7.10
7	12.2	8.32	7	7.4	9.37	7	12.5	8.15	7	14.5	7.25
8	10.6	9.05	8	7.2	9.42	8	11.8	8.46	8	14.0	7.40
9	8.3	9.60	9	7.0	9.38	9	9.6	9.16	9	9.7	8.83
10	7.2	9.71	10	6.5	9.27	10	8.6	9.43	10	8.6	9.41
11	6.6	9.72	11	6.1	9.20	11	7.7	9.62	11	8.0	9.42
12	5.9	9.58	12	5.9	9.11	12	7.3	9.57	12	7.6	9.26
13	5.6	9.34	13	5.6	9.00	13	6.8	9.48	13	7.1	9.11
14	5.3	9.02	14	5.4	8.88	14	6.2	9.28	14	6.6	8.82
15	5.1	8.93	15	5.2	8.80	15	6.0	9.05	15	6.3	8.54
16	4.8	8.50	16	5.0	8.69	16	5.8	8.87	16	6.1	8.20
17	4.7	8.37	17	4.8	8.61	17	5.6	8.58	17	5.9	8.02
18	4.6	8.17	18	4.8	8.53	18	5.3	7.95	18	5.7	7.79
19	4.5	8.03	19	4.7	8.48	19	5.1	7.70	19	5.6	7.55
20	4.4	7.67	20	4.6	8.42	20	4.8	7.36	20	5.4	7.22
21	4.3	7.53	21	4.5	8.35	21	4.7	7.16	21	5.3	6.98
22	4.3	7.41	22	4.4	8.31	22	4.7	7.08	22	5.1	6.74
23	4.1	7.58	23	4.4	8.28	23	4.7	7.00	23	5.0	6.38
24	4.1	7.57	24	4.3	8.24	24	4.6	6.92	24	4.9	6.29
25	4.1	7.55	25	4.3	8.20	25	4.5	6.85	25	4.9	6.16
26	4.0	7.32	26	4.3	8.15	26	4.5	6.80	26	4.7	6.00
27	4.0	7.28	27	4.2	8.12	27	4.5	6.71	27	4.6	5.88
28	4.0	7.12	28	4.2	8.07	28	4.4	6.68	28	4.6	5.73
29	4.0	6.92	29	4.2	8.04	29	4.4	6.60	29	4.5	5.57
30	4.0	6.65	30	4.2	8.01	30	4.4	6.54	30	4.5	5.49
35	4.0	5.75	35	4.2	7.82	35	4.3	6.32	35	4.4	5.10
40	4.0	5.21	40	4.1	7.61	40	4.2	5.59	40	4.3	3.55
45	4.0	3.94	45	4.1	7.46	45	4.2	4.55	45	4.2	2.66
50	4.0	2.47	50			50			50		
55			55			55			55		
60			60			60			60		

Table A3.30. Temperature (Temp., °C) and dissolved oxygen (D.O., mg/L) profiles measured at station JEF03 on Jefferson Lake, Park County and station P4 on Lake Granby, Grand County.

Jefferson lake						Lake Granby		
09/06/18			10/04/18			08/19/10		
Depth (m)	Temp.	D.O.	Depth (m)	Temp.	D.O.	Depth (m)	Temp.	D.O.
0	12.8	7.52	0	9.9	7.30	0	18.0	7.0
1	12.8	7.50	1	10.1	7.28	1	18.0	6.8
2	12.7	7.51	2	10.1	7.26	2	17.9	6.8
3	12.6	7.53	3	10.1	7.26	3	17.8	6.8
4	12.5	7.54	4	10.2	7.23	4	17.8	6.7
5	12.5	7.54	5	10.2	7.22	5	17.8	6.8
6	12.4	7.53	6	10.2	7.20	6	17.6	6.7
7	12.4	7.52	7	10.2	7.19	7	17.6	6.7
8	12.4	7.50	8	10.0	7.18	8	17.4	6.7
9	12.3	7.49	9	10.0	7.16	9	17.2	6.5
10	11.5	7.78	10	9.9	7.16	10	16.9	6.3
11	9.8	8.88	11	9.9	7.14	11	15.0	5.2
12	8.8	9.42	12	9.7	7.13	12	12.9	4.8
13	7.5	9.41	13	9.4	7.13	13	12.0	4.9
14	6.9	9.26	14	8.3	7.26	14	11.3	5.0
15	6.2	8.70	15	7.0	7.20	15	9.9	5.2
16	5.7	7.11	16	6.8	7.06	16	9.1	5.4
17	5.5	6.76	17	6.2	6.70	17	8.7	5.5
18	5.3	6.27	18	6.0	6.48	18	8.5	5.6
19	5.1	5.88	19	5.8	6.26	19	8.3	5.6
20	4.9	5.70	20	5.7	6.07	20	8.1	5.6
21	4.9	5.45	21	5.5	5.66	21		
22	4.8	5.23	22	5.2	5.21	22		
23	4.8	5.08	23	5.1	4.90	23		
24	4.7	4.94	24	5.1	4.80	24		
25	4.7	4.81	25	5.0	4.63	25	7.6	5.8
26	4.6	4.77	26	4.9	4.43	26		
27	4.6	4.75	27	4.8	4.24	27		
28	4.5	4.73	28	4.7	4.06	28		
29	4.5	4.64	29	4.7	3.95	29		
30	4.5	4.53	30	4.6	3.80	30	7.4	5.8
35	4.3	3.66	35	4.4	2.83	35	7.3	5.9
40	4.3	2.82	40	4.4	2.08	40	7.2	5.8
45			45	4.4	0.90	45	7.2	5.9
50			50			50		
55			55			55		
60			60			60		

Table A3.31. Temperature (Temp., °C) and dissolved oxygen (D.O., mg/L) profiles measured at station P4 on Lake Granby, Grand County.

Lake Granby											
08/30/11			09/18/12			08/21/14			08/13/15		
Depth (m)	Temp.	D.O.	Depth (m)	Temp.	D.O.	Depth (m)	Temp.	D.O.	Depth (m)	Temp.	D.O.
0	19.1	7.2	0	16	7.7	0	18.1	7.53	0	18.6	7.69
1	18.5	6.9	1	15.9	7	1	17.9	7.49	1	18.7	7.68
2	18.3	6.9	2	15.8	6.9	2	17.8	7.46	2	18.6	7.70
3	18.2	6.9	3	15.7	7.1	3	17.7	7.43	3	18.6	7.71
4	18.1	6.9	4	15.6	7.1	4	17.7	7.38	4	18.6	7.70
5	18.0	6.8	5	15.6	7.1	5	17.7	7.35	5	18.6	7.69
6	18.0	6.6	6	15.5	7.1	6	17.7	7.24	6	18.6	7.69
7	17.9	6.7	7	15.5	7.1	7	17.6	7.08	7	18.6	7.68
8	17.0	6.2	8	15.5	7.1	8	17.5	6.88	8	16.8	7.07
9	16.2	5.5	9	15.5	7.1	9	17.3	6.71	9	15.5	6.46
10	14.1	4.9	10	15.4	7	10	17.1	6.53	10	10.6	6.06
11	13.1	4.9	11	15.4	7	11	15.7	5.58	11	9.4	6.14
12	12.4	4.9	12	15.4	7	12	14.5	5.28	12	8.7	6.11
13	11.7	5.1	13	15.4	7.1	13	13.4	5.27	13	8.1	6.13
14	10.9	5.3	14	12.3	3.9	14	11.6	5.68	14	7.8	6.14
15	10.1	5.6	15	11	3.8	15	11.2	5.80	15	7.6	6.18
16	9.8	5.7	16	10.1	4	16	10.7	5.87	16	7.6	6.16
17	9.6	5.8	17	9.3	4.1	17	10.0	5.95	17	7.3	6.04
18	9.0	5.8	18	8.8	4.3	18	9.7	5.86	18	7.1	5.92
19	8.7	5.5	19	8.6	4.4	19	9.0	5.71	19	7.0	5.88
20	8.5	5.4	20	8.5	4.5	20	8.7	5.64	20	6.9	5.92
21			21			21	8.3	5.70	21	6.8	6.01
22			22			22	8.1	5.78	22	6.8	6.01
23			23			23	8.0	5.81	23	6.7	6.00
24			24			24	7.8	5.85	24	6.7	5.98
25	8.1	5.4	25	8.2	5.1	25	7.7	5.83	25	6.7	5.95
26			26			26	7.7	5.81	26	6.7	5.92
27			27			27	7.6	5.81	27	6.7	5.91
28			28			28	7.6	5.79	28	6.6	5.89
29			29			29	7.6	5.78	29	6.6	5.87
30	7.7	5.4	30	8.1	5.2	30	7.5	5.78	30	6.6	5.86
35	7.5	5.6	35	8	5	35	7.4	5.76	35	6.5	5.80
40	7.3	5.6	40	8	4.8	40	7.0	5.72	40	6.5	5.73
45			45	7.9	4.3	45	7.2	5.66	45	6.5	5.67
50			50	7.9	3.5	50	7.1	5.60	50		
55			55			55			55		
60			60			60			60		



Table A3.32. Temperature (Temp., °C) and dissolved oxygen (D.O., mg/L) profiles measured at station P4 on Lake Granby, Grand County.

Lake Granby											
09/07/16			09/18/17			09/12/18			09/25/19		
Depth (m)	Temp.	D.O.	Depth (m)	Temp.	D.O.	Depth (m)	Temp.	D.O.	Depth (m)	Temp.	D.O.
0	16.4	7.51	0	15.7	7.26	0	16.3	7.54	0	15.0	7.30
1	16.4	7.5	1	15.8	7.24	1	16.3	7.54	1	15.0	7.29
2	16.4	7.49	2	15.8	7.23	2	16.3	7.53	2	15.0	7.28
3	16.4	7.46	3	15.8	7.22	3	16.3	7.52	3	15.0	7.26
4	16.4	7.44	4	15.8	7.2	4	16.2	7.50	4	15.0	7.23
5	16.3	7.44	5	15.8	7.18	5	16.1	7.46	5	15.0	7.21
6	16.3	7.42	6	15.8	7.17	6	16.0	7.44	6	15.0	7.20
7	16.3	7.4	7	15.8	7.14	7	16.0	7.39	7	15.0	7.21
8	16.3	7.36	8	15.7	7.12	8	15.9	7.36	8	14.9	7.20
9	15.9	7.15	9	15.7	6.99	9	15.9	7.27	9	14.9	7.19
10	15.3	6.78	10	15.6	6.97	10	15.7	7.01	10	14.9	7.16
11	13.7	5.87	11	15.6	6.81	11	15.5	6.85	11	14.9	7.12
12	13.4	5.67	12	15.4	6.17	12	15.0	6.43	12	14.8	7.08
13	12	5.2	13	14.4	5.01	13	14.7	6.16	13	14.8	7.06
14	9.5	5.2	14	13.6	4.74	14	13.9	5.66	14	14.7	7.05
15	8.3	5.33	15	11.8	4.6	15	12.6	5.10	15	12.9	5.28
16	8.1	5.37	16	10.8	4.68	16	10.9	5.11	16	11.8	5.09
17	8	5.38	17	9.9	4.91	17	9.7	5.14	17	10.6	5.17
18	7.9	5.41	18	9.4	5.00	18	8.8	5.30	18	9.6	5.30
19	7.8	5.41	19	9.1	5.02	19	8.5	5.38	19	9.2	5.33
20	7.6	5.43	20	8.9	5.08	20	8.3	5.34	20	9.0	5.39
21	7.5	5.45	21	8.6	5.07	21	8.1	5.34	21	8.8	5.40
22	7.6	5.44	22	8.5	5.05	22	7.9	5.38	22	8.6	5.39
23	7.4	5.44	23	8.3	5.05	23	7.9	5.41	23	8.6	5.37
24	7.4	5.42	24	8.1	5.03	24	7.8	5.41	24	8.5	5.31
25	7.3	5.41	25	8.0	5.05	25	7.8	5.41	25	8.3	5.32
26			26	7.9	5.05	26	7.7	5.40	26	8.3	5.31
27			27	7.9	5.03	27	7.6	5.40	27	8.2	5.31
28			28	7.8	5.02	28	7.6	5.37	28	8.1	5.31
29			29	7.7	5.01	29	7.5	5.36	29	8.1	5.30
30			30		5.01	30	7.5	5.35	30	8.0	5.30
35			35	7.7	4.97	35	7.5	5.31	35	7.9	5.22
40			40	7.6	4.94	40			40	7.8	5.15
45			45	7.5	4.89	45			45	7.8	5.08
50			50			50			50	7.7	5.02
55			55			55			55		
60			60			60			60		

Table A3.33. Temperature (Temp., °C) and dissolved oxygen (D.O., mg/L) profiles measured at station LMR03 on Lost Man Reservoir, Pitkin County, and station BCL02 on Lower Big Creek Lake, Jackson County.

Lost Man Reservoir			Lower Big Creek Lake								
06/22/16			09/10/15			09/04/18			07/24/19		
Depth (m)	Temp.	D.O.	Depth (m)	Temp.	D.O.	Depth (m)	Temp.	D.O.	Depth (m)	Temp.	D.O.
0	3.9	9.46	0	14.1	7.49	0	14.6	7.32	0	19.6	6.04
1	3.8	9.55	1	14.3	7.52	1	14.9	7.11	1	19.0	6.24
2	3.8	9.55	2	14.3	7.52	2	14.9	7.10	2	18.8	6.27
3	3.8	9.55	3	14.3	7.52	3	14.9	7.09	3	18.3	6.29
4	3.7	9.55	4	14.3	7.52	4	14.9	7.07	4	16.6	5.77
5	3.7	9.54	5	14.3	7.51	5	14.5	7.04	5	15.4	5.40
6	3.7	9.52	6	14.3	7.54	6	14.4	6.97	6	13.5	4.92
7	3.7	9.50	7	14.3	7.54	7	14.2	6.12	7	11.9	4.73
8			8	14.3	7.53	8	14.1	6.09	8	11.1	4.50
9			9	14.2	7.03	9	13.8	5.53	9	10.1	4.12
10			10	13.8	6.36	10	13.6	5.07	10	9.8	4.11
11			11	10.1	0.80	11	10.7	3.56	11	8.8	3.34
12			12	8.8	0.63	12	8.8	0.30	12	7.9	2.20
13			13	8.0	0.54	13	7.8	0.22	13	7.6	2.06
14			14	7.5	0.51	14	7.0	0.17	14	7.4	1.97
15			15	7.2	0.49	15	6.8	0.14	15	7.2	1.73
16			16	7.1	0.48	16			16	6.9	1.20
17			17	6.9	0.47	17			17	6.6	0.33
18			18			18			18	6.3	0.27
19			19			19			19		
20			20			20			20		
21			21			21			21		
22			22			22			22		
23			23			23			23		
24			24			24			24		
25			25			25			25		
26			26			26			26		
27			27			27			27		
28			28			28			28		
29			29			29			29		
30			30			30			30		
35			35			35			35		
40			40			40			40		
45			45			45			45		
50			50			50			50		
55			55			55			55		
60			60			60			60		

Table A3.34. Temperature (Temp., °C) and dissolved oxygen (D.O., mg/L) profiles measured at station CMP01 on Lower Camp Lake, Larimer County, and station LTL06 on Lower Twin Lake, Lake County.

Lower Camp Lake			Lower Twin Lake								
07/07/16			05/27/14			06/22/14			07/22/14		
Depth (m)	Temp.	D.O.	Depth (m)	Temp.	D.O.	Depth (m)	Temp.	D.O.	Depth (m)	Temp.	D.O.
0	11.3	7.73	0	8.8	9.50	0	12.0	8.78	0	14.5	8.33
1	10.9	8.12	1	8.7	9.51	1	12.0	8.90	1	14.5	8.35
2			2	8.6	9.50	2	11.9	8.94	2	14.5	8.34
3			3	8.6	9.47	3	11.9	8.91	3	14.5	8.31
4			4	8.5	9.47	4	11.8	8.91	4	14.1	8.30
5			5	8.4	9.45	5	11.3	8.92	5	14.1	8.32
6			6	8.2	9.41	6	10.6	8.93	6	14.0	8.31
7			7	8.0	9.38	7	10.4	8.94	7	13.8	8.24
8			8	7.8	9.35	8	10.2	8.90	8	13.6	8.21
9			9	7.6	9.32	9	10.0	8.88	9	13.4	8.17
10			10	7.4	9.26	10	9.9	8.86	10	13.3	8.14
11			11	7.4	9.23	11	9.8	8.83	11	13.2	8.12
12			12	7.3	9.22	12	9.6	8.81	12	13.1	8.10
13			13	7.3	9.20	13	9.4	8.78	13	12.8	8.05
14			14	7.3	9.18	14	9.3	8.79	14	12.7	8.03
15			15	7.3	9.13	15	9.3	8.78	15	12.3	8.04
16			16	7.2	9.10	16	9.2	8.73	16	12.1	7.98
17			17	7.1	9.06	17	9.1	8.72	17	11.7	7.96
18			18	7.0	9.02	18	9.1	8.69	18	11.3	7.87
19			19	6.9	9.00	19	9.0	8.70	19	11.0	7.84
20			20	6.7	8.97	20	8.9	8.70	20	10.7	7.83
21			21	6.5	8.90	21	8.8	8.66	21	10.4	7.73
22			22	6.8	8.88	22	8.8	8.57	22	10.1	7.69
23			23	6.7	8.91	23	8.6	8.42	23	9.6	7.49
24			24			24	8.5	8.16	24	9.5	7.26
25			25			25	8.5	8.13	25	9.3	6.80
26			26			26	8.5	8.15	26	9.2	6.47
27			27			27			27	9.2	6.26
28			28			28			28		
29			29			29			29		
30			30			30			30		
35			35			35			35		
40			40			40			40		
45			45			45			45		
50			50			50			50		
55			55			55			55		
60			60			60			60		

Table A3.35. Temperature (Temp., °C) and dissolved oxygen (D.O., mg/L) profiles measured at station LTL06 on Lower Twin Lake, Lake County.

Lower Twin Lake											
07/22/14			08/19/14			09/25/14			10/20/14		
Depth (m)	Temp.	D.O.	Depth (m)	Temp.	D.O.	Depth (m)	Temp.	D.O.	Depth (m)	Temp.	D.O.
0	14.5	8.33	0	16.1	7.87	0	14.7	8.08	0	11.1	8.31
1	14.5	8.35	1	16.0	7.89	1	14.7	8.08	1	11.1	8.30
2	14.5	8.34	2	16.0	7.89	2	14.7	8.07	2	11.0	8.29
3	14.5	8.31	3	15.9	7.88	3	14.6	8.06	3	11.0	8.28
4	14.1	8.30	4	15.8	7.85	4	14.4	8.03	4	11.0	8.25
5	14.1	8.32	5	15.7	7.83	5	14.3	8.04	5	10.9	8.23
6	14.0	8.31	6	15.6	7.82	6	14.3	8.02	6	10.9	8.21
7	13.8	8.24	7	15.0	7.80	7	14.2	7.97	7	10.8	8.18
8	13.6	8.21	8	15.4	7.80	8	14.1	7.92	8	10.8	8.15
9	13.4	8.17	9	15.0	7.78	9	14.1	7.86	9	10.8	8.13
10	13.3	8.14	10	15.3	7.76	10	14.0	7.84	10	10.8	8.12
11	13.2	8.12	11	15.3	7.73	11	14.0	7.81	11	10.8	8.10
12	13.1	8.10	12	15.2	7.67	12	14.0	7.77	12	10.8	8.08
13	12.8	8.05	13	14.8	7.60	13	14.0	7.75	13	10.8	8.06
14	12.7	8.03	14	14.5	7.53	14	14.0	7.72	14	10.7	8.04
15	12.3	8.04	15	14.4	7.46	15	14.0	7.71	15	10.7	8.04
16	12.1	7.98	16	14.0	7.37	16	14.0	7.71	16	10.7	8.03
17	11.7	7.96	17	13.7	7.32	17	14.0	7.71	17	10.7	8.01
18	11.3	7.87	18	13.4	7.25	18	13.9	7.70	18	10.7	7.99
19	11.0	7.84	19	12.3	7.01	19	13.9	7.65	19	10.7	7.96
20	10.7	7.83	20	12.0	6.89	20	13.9	7.63	20	10.7	7.92
21	10.4	7.73	21	11.0	6.38	21	13.9	7.59	21	10.7	7.89
22	10.1	7.69	22	10.8	6.15	22	13.8	7.53	22	10.7	7.85
23	9.6	7.49	23	10.3	6.17	23	13.7	7.39	23	10.7	7.82
24	9.5	7.26	24	10.0	5.67	24	13.6	6.91	24	10.7	7.81
25	9.3	6.80	25	9.9	4.76	25	13.2	6.24	25	10.7	7.81
26	9.2	6.47	26	9.6	4.58	26	12.8	5.66	26	10.7	7.79
27	9.2	6.26	27			27	12.3	4.96	27	10.6	7.77
28			28			28			28		
29			29			29			29		
30			30			30			30		
35			35			35			35		
40			40			40			40		
45			45			45			45		
50			50			50			50		
55			55			55			55		
60			60			60			60		

Table A3.36. Temperature (Temp., °C) and dissolved oxygen (D.O., mg/L) profiles measured at station LTL06 on Lower Twin Lake, Lake County, station MCL01 on McIntyre Lake, Larimer County, station MEF02 on Mount Elbert Forebay, Lake County, and station NOR03 on Norrie Lake, Pitkin County.

Lower Twin Lake			McIntyre Lake			Mount Elbert Forebay			Norrie Lake		
11/21/14			07/08/16			09/08/15			06/21/16		
Depth (m)	Temp.	D.O.	Depth (m)	Temp.	D.O.	Depth (m)	Temp.	D.O.	Depth (m)	Temp.	D.O.
0	5.3	9.31	0	14.6	8.18	0	15.3	7.38	0	15.2	8.41
1	5.3	9.31	1	14.2	8.24	1	15.4	7.44	1	13.8	8.40
2	5.3	9.31	2	12.2	8.45	2	15.4	7.46	2	11.6	8.38
3	5.3	9.31	3	11.4	8.53	3	15.5	7.45	3		
4	5.3	9.31	4	10.6	8.79	4	15.5	7.45	4		
5	5.3	9.30	5	8.5	8.93	5	15.5	7.45	5		
6	5.3	9.30	6	7.0	8.00	6	15.5	7.45	6		
7	5.3	9.30	7	6.0	7.01	7	15.5	7.43	7		
8	5.3	9.30	8	5.6	6.00	8	15.3	7.41	8		
9	5.3	9.30	9	5.3	5.41	9	15.3	7.38	9		
10	5.3	9.30	10	5.2	4.86	10	15.2	7.37	10		
11	5.3	9.31	11			11	15.2	7.34	11		
12	5.3	9.29	12			12	15.2	7.33	12		
13	5.3	9.28	13			13	15.2	7.32	13		
14	5.3	9.28	14			14	15.2	7.31	14		
15	5.3	9.27	15			15	15.2	7.29	15		
16	5.3	9.27	16			16	15.2	7.28	16		
17	5.3	9.27	17			17			17		
18	5.3	9.27	18			18			18		
19	5.2	9.27	19			19			19		
20	5.2	9.27	20			20			20		
21	5.2	9.29	21			21			21		
22	5.2	9.28	22			22			22		
23	5.2	9.28	23			23			23		
24	5.2	9.28	24			24			24		
25	5.2	9.28	25			25			25		
26	5.2	9.28	26			26			26		
27	5.2	9.28	27			27			27		
28			28			28			28		
29			29			29			29		
30			30			30			30		
35			35			35			35		
40			40			40			40		
45			45			45			45		
50			50			50			50		
55			55			55			55		
60			60			60			60		

Table A3.37. Temperature (Temp., °C) and dissolved oxygen (D.O., mg/L) profiles measured at station PAS01 on Pass Lake, Summit County, PIN01 on Pinewood Reservoir, Larimer County, and station PUE01 on Pueblo Reservoir, Pueblo County.

Pass Lake 08/12/15			Pinewood Reservoir 05/01/14			Pueblo Reservoir					
						10/23/14			07/10/17		
Depth (m)	Temp.	D.O.	Depth (m)	Temp.	D.O.	Depth (m)	Temp.	D.O.	Depth (m)	Temp.	D.O.
0	13.0	8.06	0	4.7	10.53	0	18.3	8.35	0	24.3	8.75
1	13.0	8.05	1	4.7	10.54	1	17.6	8.72	1	23.6	8.81
2	13.0	8.08	2	4.7	10.52	2	17.4	9.06	2	23.4	8.82
3	12.9	8.02	3	4.8	10.53	3	17.2	9.08	3	23.3	8.75
4			4	4.6	10.53	4	17.2	8.98	4	23.2	8.68
5			5	4.6	10.54	5	17.0	8.65	5	23.0	8.38
6			6	4.5	10.53	6	16.9	8.40	6	22.6	8.28
7			7	4.6	10.53	7	16.7	8.34	7	22.4	7.76
8			8	4.6	10.52	8	16.7	8.28	8	20.8	5.20
9			9	4.6	10.51	9	16.6	7.50	9	20.3	4.53
10			10	4.5	10.52	10	16.6	7.44	10	19.9	4.37
11			11	4.5	10.50	11	16.5	7.32	11	19.4	4.09
12			12	4.5	10.47	12	16.5	7.25	12	19.3	3.98
13			13			13	16.4	7.20	13	19.2	3.62
14			14			14	16.4	7.18	14	19.0	3.62
15			15			15	16.4	7.16	15	18.9	3.79
16			16			16	16.4	7.12	16	18.7	3.87
17			17			17	16.4	7.09	17	18.6	4.10
18			18			18	16.4	7.06	18	18.3	4.12
19			19			19	16.4	7.03	19	18.1	4.27
20			20			20	16.4	7.00	20	17.8	4.38
21			21			21	16.2	6.55	21	17.7	4.52
22			22			22	16.1	6.34	22	17.7	4.56
23			23			23	16.1	6.27	23	17.7	4.56
24			24			24	16.0	6.04	24	17.6	4.38
25			25			25	15.8	5.65	25	17.4	4.46
26			26			26	15.8	5.57	26	17.2	4.49
27			27			27	15.8	5.50	27	17.1	4.31
28			28			28	15.7	5.37	28	16.8	4.07
29			29			29	15.7	5.35	29	16.3	3.80
30			30			30	15.7	5.28	30	14.9	2.97
35			35			35			35	24.3	8.75
40			40			40			40		
45			45			45			45		
50			50			50			50		
55			55			55			55		
60			60			60			60		

Table A3.38. Temperature (Temp., °C) and dissolved oxygen (D.O., mg/L) profiles measured at station RW101 on Rawah Lake #1, Larimer County, and station RW201 on Rawah Lake #2, Larimer County, RW302 on Rawah Lake #3, Larimer County, and station RW401 on Rawah Lake #4, Larimer County.

Rawah Lake #1			Rawah Lake #2			Rawah Lake #3			Rawah Lake #4		
07/07/16			07/09/16			07/09/16			07/09/16		
Depth (m)	Temp.	D.O.	Depth (m)	Temp.	D.O.	Depth (m)	Temp.	D.O.	Depth (m)	Temp.	D.O.
0	11.7	8.54	0	12.3	8.70	0	10.1	9.16	0	4.1	8.81
1	11.6	8.59	1	11.9	8.75	1	10.0	9.21	1	3.9	8.80
2	10.8	8.79	2	11.2	8.82	2	9.8	9.23	2	3.9	8.82
3			3	10.8	8.86	3	8.1	9.50	3	4.1	8.82
4			4			4	7.6	9.64	4	4.2	8.83
5			5			5	6.8	9.67	5		
6			6			6	6.3	9.56	6		
7			7			7	5.9	9.28	7		
8			8			8	5.6	9.01	8		
9			9			9	5.2	8.73	9		
10			10			10	5.0	8.68	10		
11			11			11	4.8	8.44	11		
12			12			12	4.8	8.38	12		
13			13			13	4.5	8.14	13		
14			14			14	4.4	7.87	14		
15			15			15	4.3	7.78	15		
16			16			16	4.4	7.71	16		
17			17			17	4.3	7.64	17		
18			18			18	4.3	7.59	18		
19			19			19	4.2	7.41	19		
20			20			20	4.2	7.19	20		
21			21			21	-	-	21		
22			22			22	-	-	22		
23			23			23	-	-	23		
24			24			24	-	-	24		
25			25			25	-	-	25		
26			26			26	-	-	26		
27			27			27	-	-	27		
28			28			28	-	-	28		
29			29			29	-	-	29		
30			30			30	4.0	4.35	30		
35			35			35	3.9	2.27	35		
40			40			40			40		
45			45			45			45		
50			50			50			50		
55			55			55			55		
60			60			60			60		

Table A3.39. Temperature (Temp., °C) and dissolved oxygen (D.O., mg/L) profiles measured at station RUE01 on Ruedi Reservoir, Pitkin County, and station SEL02 on Sellar Lake, Pitkin County, station SHA01 on Shadow Mountain Reservoir, Grand County, and station STI01 on Stillwater Reservoir, Garfield County.

Ruedi Reservoir			Sellar Lake			Shadow Mountain			Stillwater Reservoir		
06/25/14			07/27/16			Reservoir 08/22/14			07/16/15		
Depth (m)	Temp.	D.O.	Depth (m)	Temp.	D.O.	Depth (m)	Temp.	D.O.	Depth (m)	Temp.	D.O.
0	15.5	9.09	0	20.0	7.79	0	17.3	8.80	0	14.7	7.92
1	15.3	9.05	1	18.8	7.75	1	17.2	8.76	1	14.8	8.03
2	14.6	9.13	2	17.6	7.69	2	17.0	8.68	2	14.7	8.04
3	14.3	9.04	3	12.6	5.11	3	17.0	8.57	3	14.7	8.03
4	13.9	8.94	4	9.5	1.58	4	16.7	8.08	4	14.6	8.04
5	13.1	8.67	5	6.6	0.88	5	15.9	7.02	5	14.6	8.04
6	12.5	8.52	6	5.9	0.81	6	14.8	6.32	6	14.5	8.05
7	12.2	8.48	7	5.5	0.77	7	13.0	5.35	7	11.1	7.70
8	11.8	8.41	8			8	12.1	4.28	8	9.3	7.55
9	11.6	8.39	9			9	11.6	3.52	9	8.4	7.40
10	11.2	8.38	10			10			10	7.6	7.09
11	10.9	8.41	11			11			11	7.1	6.51
12	10.5	8.43	12			12			12	6.8	6.28
13	10.1	8.45	13			13			13	6.2	4.52
14	9.6	8.55	14			14			14	6.6	5.76
15	9.5	8.55	15			15			15		
16	9.3	8.59	16			16			16		
17	9.1	8.56	17			17			17		
18	8.9	8.55	18			18			18		
19	8.7	8.56	19			19			19		
20	8.5	8.59	20			20			20		
21	8.3	8.62	21			21			21		
22	8.2	8.64	22			22			22		
23	7.9	8.66	23			23			23		
24	7.8	8.67	24			24			24		
25	7.6	8.66	25			25			25		
26	7.5	8.69	26			26			26		
27	7.2	8.68	27			27			27		
28	7.2	8.69	28			28			28		
29	7.1	8.68	29			29			29		
30	6.9	8.64	30			30			30		
35	6.3	8.60	35			35			35		
40	6.1	8.55	40			40			40		
45	5.9	8.49	45			45			45		
50	5.8	8.43	50			50			50		
55	5.6	8.35	55			55			55		
60			60			60			60		



Table A3.40. Temperature (Temp., °C) and dissolved oxygen (D.O., mg/L) profiles measured at station STR01 on Strontia Springs Reservoir, Douglas County, and station SUG01 on Sugarbowl Lake, Larimer County.

Strontia Springs Reservoir			Sugarbowl Lake		
07/13/18			07/08/16		
Depth (m)	Temp.	D.O.	Depth (m)	Temp.	D.O.
0	19.1	7.57	0	9.8	9.08
1	17.1	7.60	1	9.2	9.14
2	16.3	7.76	2	8.9	9.17
3	16.4	7.72	3	8.2	9.48
4	16.3	7.76	4	7.1	9.81
5	16.1	7.77	5	6.6	9.95
6	15.8	7.75	6	5.6	10.44
7	15.7	7.72	7	5.3	10.48
8	15.5	7.68	8	4.9	10.48
9	15.4	7.65	9	4.8	10.47
10	15.3	7.64	10	4.6	10.44
11	15.2	7.62	11	4.5	9.93
12	15.2	7.59	12	4.3	9.92
13	15.1	7.58	13	4.2	10.01
14	15.0	7.58	14	4.2	9.61
15	14.9	7.56	15	4.2	7.76
16	14.8	7.55	16		
17	14.7	7.56	17		
18	14.7	7.55	18		
19	14.6	7.55	19		
20	14.6	7.51	20		
21	14.6	7.48	21		
22	14.5	7.49	22		
23	14.3	7.50	23		
24	14.4	7.53	24		
25	14.4	7.55	25		
26	14.4	7.54	26		
27	14.3	7.51	27		
28	14.3	7.49	28		
29	14.3	7.48	29		
30	14.3	7.48	30		
35	14.2	7.50	35		
40	14.1	7.46	40		
45	14.1	7.36	45		
50	13.7	5.53	50		
55	13.6	5.24	55		
60	13.6	5.19	60		

Table A3.41. Temperature (Temp., °C) and dissolved oxygen (D.O., mg/L) profiles measured at station TAY03/P3 on Taylor Park Reservoir, Gunnison County.

Taylor Park Reservoir											
06/15/10			08/29/11			08/19/12			06/26/14		
Depth (m)	Temp.	D.O.	Depth (m)	Temp.	D.O.	Depth (m)	Temp.	D.O.	Depth (m)	Temp.	D.O.
0			0	16.2	6.9	0	17.2	8.1	0	11.4	8.38
1	11.8	7.2	1	16.3	6.7	1	17	8.6	1	11.4	8.36
2	11.8	7.1	2	16.3	6.7	2	16.7	9	2	11.3	8.35
3	11.5	7.2	3	16.3	6.7	3	16.6	8.9	3	11.3	8.31
4	11.4	7.3	4	16.3	6.6	4	16.5	8.8	4	11.2	8.26
5	11.2	7.4	5	16.3	6.6	5	16.5	8.7	5	11.1	8.15
6	11.2	7.5	6	16.3	6.7	6	16.5	8.7	6	10.8	8.02
7	11.1	7.5	7	16.2	6.6	7	16.4	8.1	7	10.6	7.97
8	10.9	7.5	8	16.2	6.6	8	16.4	7.7	8	10.4	7.93
9	9.9	7.5	9	16.0	6.6	9	16.3	7.7	9	10.2	7.91
10	9.0	7.5	10	15.2	6.1	10	16.3	7.7	10	10.1	7.90
11	8.8	7.6	11	15.0	5.7	11	16	7.4	11	10.0	7.89
12	8.6	7.7	12	14.7	5.5	12	15.8	7.3	12	9.9	7.89
13	8.3	7.7	13	13.7	5.1	13	15.4	6	13	9.9	7.88
14	8.0	7.8	14	13.2	4.7	14	15.3	5.7	14	9.8	7.85
15	7.4	7.8	15	12.9	4.6	15	14.9	5.4	15	9.7	7.83
16	7.0	7.8	16	12.6	4.5	16	14.3	5.2	16	9.6	7.80
17	6.9	7.8	17	12.4	4.4	17	13.7	5	17	9.3	7.78
18	6.8	7.8	18	12.2	4.3	18	13.4	4.9	18	9.1	7.77
19	6.7	7.8	19	12.1	4.3	19	12.9	4.8	19	9.0	7.74
20	6.6	7.8	20	12.0	4.2	20	12.2	4.7	20	8.9	7.75
21			21			21	11.3	4.6	21	8.8	7.72
22			22			22			22	8.6	7.71
23			23			23			23	8.5	7.70
24			24			24			24	8.5	7.68
25	6.4	7.8	25	11.3	4.3	25			25	8.4	7.66
26			26			26			26	7.7	7.70
27			27			27			27	7.6	7.74
28			28			28			28	7.5	7.76
29			29			29			29	7.3	7.76
30			30	11.1	4.2	30			30	7.2	7.76
35			35			35			35	6.9	7.61
40			40			40			40	6.6	7.40
45			45			45			45		
50			50			50			50		
55			55			55			55		
60			60			60			60		

Table A3.42. Continued. Temperature (Temp., °C) and dissolved oxygen (D.O., mg/L) profiles measured at station TAY03/P3 on Taylor Park Reservoir, Gunnison County.

Taylor Park Reservoir								
08/22/17			09/11/18			09/26/19		
Depth (m)	Temp.	D.O.	Depth (m)	Temp.	D.O.	Depth (m)	Temp.	D.O.
0	15.4	7.36	0	14.4	7.49	0	13.0	7.13
1	15.4	7.34	1	14.4	7.48	1	13.0	7.13
2	15.5	7.33	2	14.4	7.47	2	13.0	7.11
3	15.5	7.31	3	14.4	7.45	3	13.0	7.09
4	15.5	7.21	4	14.4	7.44	4	13.0	7.05
5	15.4	7.03	5	14.3	7.42	5	12.9	7.04
6	15.3	6.94	6	14.3	7.36	6	12.9	7.02
7	15.3	6.85	7	14.3	7.33	7	12.9	7.00
8	15.1	6.64	8	14.3	7.31	8	12.9	6.99
9	15.0	6.56	9	14.3	7.30	9	12.9	6.98
10	14.9	6.34	10	14.3	7.29	10	12.9	6.96
11	14.7	6.08	11	14.3	7.26	11	12.9	6.95
12	14.4	5.78	12	14.2	7.26	12	12.9	6.93
13	14.2	5.56	13	14.2	7.25	13	12.9	6.93
14	13.8	5.33	14	14.2	7.24	14	12.9	6.91
15	13.7	5.31	15	14.2	7.21	15	12.9	6.90
16	13.6	5.32	16	14.2	7.18	16	12.9	6.88
17	13.4	5.27	17	14.2	7.15	17	12.9	6.86
18	13.3	5.24	18	14.2	7.13	18	12.9	6.84
19	13.2	5.23	19	14.2	7.15	19	12.9	6.82
20	13.0	5.23	20	14.2	7.14	20	12.8	6.81
21	12.8	5.12	21	14.2	7.09	21	12.7	6.07
22	12.7	5.06	22	14.0	6.65	22	12.2	5.00
23	12.5	5.02	23	12.9	4.58	23	12.0	4.65
24	12.3	5.01	24	12.3	4.14	24	11.9	4.50
25	12.1	4.90	25	12.2	3.88	25	11.8	4.41
26	12.0	4.94	26	12.1	3.87	26	11.7	4.34
27	11.9	4.93	27	12.0	3.92	27	11.6	4.23
28	11.8	4.78	28	11.9	3.79	28	11.6	4.18
29	11.7	4.68	29	11.9	3.79	29	11.6	4.15
30	11.6	4.66	30			30	11.5	4.12
35	11.3	4.34	35			35	11.3	4.05
40			40			40		
45			45			45		
50			50			50		
55			55			55		
60			60			60		

Table A3.43. Temperature (Temp., °C) and dissolved oxygen (D.O., mg/L) profiles measured at station TUR01 on Turquoise Lake, Lake County, station BCU03 on Upper Big Creek Lake, Jackson County, and station UCL01 on Upper Camp Lake, Larimer County.

Turquoise Lake						Upper Big Creek Lake			Upper Camp Lake		
06/21/14			09/21/14			07/24/19			09/04/14		
Depth (m)	Temp.	D.O.	Depth (m)	Temp.	D.O.	Depth (m)	Temp.	D.O.	Depth (m)	Temp.	D.O.
0	10.4	8.97	0	13.7	8.32	0	16.8	6.80	0	9.5	8.31
1	9.7	8.94	1	13.7	8.32	1	16.7	6.81	1	9.4	8.33
2	9.2	8.98	2	13.6	8.22	2	15.6	6.96	2	9.4	8.32
3	9.1	8.97	3	13.2	8.13	3	13.1	7.35	3	9.3	8.33
4	9.0	8.95	4	13.1	8.08	4	12.0	7.58	4	9.3	8.31
5	8.8	8.97	5	12.8	7.96	5	10.5	7.62	5	9.2	8.32
6	8.6	8.96	6	12.7	7.88	6			6	9.2	8.31
7	8.4	8.96	7	12.3	7.76	7			7	9.2	8.30
8	8.2	8.94	8	12.3	7.68	8			8	9.1	8.30
9	7.8	8.98	9	12.2	7.61	9			9	9.1	8.26
10	7.7	8.96	10	12.1	7.56	10			10	9.1	8.24
11	7.5	8.95	11	11.7	7.38	11			11	9.1	8.22
12	7.3	8.97	12	11.5	7.26	12			12	9.0	8.21
13	7.2	8.95	13	11.2	7.05	13			13	9.0	8.16
14	7.2	8.94	14	10.8	6.87	14			14	9.0	8.13
15	7.1	8.95	15	10.1	6.71	15			15	9.0	8.11
16	6.7	8.92	16	9.8	6.65	16			16	9.0	8.08
17	6.6	8.90	17	9.6	6.61	17			17	9.0	8.05
18	6.5	8.89	18	9.4	6.58	18			18	9.0	8.01
19	6.4	8.85	19	9.2	6.56	19			19	9.0	8.00
20	6.3	8.84	20	8.7	6.61	20			20	9.0	7.99
21	6.3	8.80	21	8.5	6.60	21			21	9.0	7.99
22	6.2	8.79	22	8.1	6.56	22			22	9.0	7.98
23	6.2	8.75	23	7.7	6.49	23			23	9.0	7.90
24	6.1	8.72	24	7.6	6.41	24			24	9.0	7.97
25			25	7.5	6.33	25			25	9.0	7.97
26			26	7.3	6.04	26			26	9.0	7.97
27			27			27			27	9.0	7.97
28			28			28			28	9.0	7.96
29			29			29			29	9.0	7.96
30			30			30			30	9.0	7.96
35			35			35			35	9.0	7.95
40			40			40			40	9.0	7.95
45			45			45			45	9.0	7.94
50			50			50			50	9.0	7.94
55			55			55			55		
60			60			60			60		

Table A3.44. Temperature (Temp., °C) and dissolved oxygen (D.O., mg/L) profiles measured at station UST01 on Upper Stillwater Reservoir, Garfield County, and station UTL01 on Upper Twin Lake, Lake County.

Upper Stillwater			Upper Twin Lake								
07/16/15			06/22/14			07/22/14			06/24/19		
Depth (m)	Temp.	D.O.	Depth (m)	Temp.	D.O.	Depth (m)	Temp.	D.O.	Depth (m)	Temp.	D.O.
0	10.9	8.68	0	9.9	9.07	0	15.8	8.18	0	9.4	7.16
1	10.8	8.82	1	9.9	9.10	1	15.8	8.18	1	9.3	7.19
2	10.7	8.90	2	9.8	9.11	2	15.7	8.19	2	8.9	7.29
3	10.6	8.91	3	9.3	9.11	3	14.6	8.31	3	8.6	7.35
4	10.3	8.92	4	9.2	9.15	4	14.0	8.33	4	8.0	7.35
5	9.1	8.81	5	9.1	9.16	5	12.9	8.41	5	7.8	7.34
6			6	9.0	9.15	6	12.1	8.46	6	7.6	7.35
7			7	8.9	9.16	7	11.4	8.45	7	7.3	7.35
8			8	8.4	9.18	8	11.0	8.52	8	7.2	7.33
9			9	7.4	9.20	9	10.4	8.47	9	7.0	7.30
10			10	7.2	9.22	10	9.9	8.53	10	6.8	7.30
11			11	7.1	9.22	11	9.4	8.55	11	6.6	7.28
12			12	7.0	9.24	12	9.2	8.59	12	6.6	7.27
13			13	6.8	9.23	13	8.7	8.69	13	6.4	7.25
14			14	6.7	9.25	14	8.5	8.70	14	6.4	7.23
15			15	6.6	9.28	15	8.2	8.72	15	6.3	7.23
16			16	6.6	9.28	16	7.8	8.77	16	6.3	7.21
17			17	6.5	9.26	17	7.5	8.79	17		
18			18	6.5	9.23	18	7.2	8.82	18		
19			19	6.4	9.23	19	7.0	8.79	19		
20			20	6.3	9.22	20	6.8	8.75	20		
21			21	6.3	9.20	21	6.6	8.74	21		
22			22	6.3	9.18	22	6.4	8.69	22		
23			23	6.3	9.18	23	6.3	8.60	23		
24			24	6.3	9.17	24	6.3	8.54	24		
25			25	6.2	9.17	25	6.2	8.41	25		
26			26	6.2	9.13	26	6.2	8.29	26		
27			27	6.2	9.09	27	6.1	8.21	27		
28			28	6.1	9.08	28	6.1	8.15	28		
29			29			29			29		
30			30			30			30		
35			35			35			35		
40			40			40			40		
45			45			45			45		
50			50			50			50		
55			55			55			55		
60			60			60			60		

Table A3.45. Temperature (Temp., °C) and dissolved oxygen (D.O., mg/L) profiles measured at station UTL01 on Upper Twin Lake, Lake County, and station WCR01 on Willow Creek Reservoir, Grand County.

Upper Twin Lake									Willow Creek Reservoir		
06/22/14			07/22/14			06/24/19			08/23/14		
Depth (m)	Temp.	D.O.	Depth (m)	Temp.	D.O.	Depth (m)	Temp.	D.O.	Depth (m)	Temp.	D.O.
0	9.9	9.07	0	15.8	8.18	0	9.4	7.16	0	17.3	8.48
1	9.9	9.10	1	15.8	8.18	1	9.3	7.19	1	17.4	8.46
2	9.8	9.11	2	15.7	8.19	2	8.9	7.29	2	17.4	8.45
3	9.3	9.11	3	14.6	8.31	3	8.6	7.35	3	17.4	8.44
4	9.2	9.15	4	14.0	8.33	4	8.0	7.35	4	17.4	8.43
5	9.1	9.16	5	12.9	8.41	5	7.8	7.34	5	17.4	8.40
6	9.0	9.15	6	12.1	8.46	6	7.6	7.35	6	17.4	8.38
7	8.9	9.16	7	11.4	8.45	7	7.3	7.35	7	17.4	8.38
8	8.4	9.18	8	11.0	8.52	8	7.2	7.33	8	15.3	5.90
9	7.4	9.20	9	10.4	8.47	9	7.0	7.30	9	15.0	5.64
10	7.2	9.22	10	9.9	8.53	10	6.8	7.30	10	14.3	5.35
11	7.1	9.22	11	9.4	8.55	11	6.6	7.28	11	13.7	5.21
12	7.0	9.24	12	9.2	8.59	12	6.6	7.27	12	13.2	5.12
13	6.8	9.23	13	8.7	8.69	13	6.4	7.25	13	13.1	5.08
14	6.7	9.25	14	8.5	8.70	14	6.4	7.23	14	12.8	5.05
15	6.6	9.28	15	8.2	8.72	15	6.3	7.23	15	11.0	5.24
16	6.6	9.28	16	7.8	8.77	16	6.3	7.21	16	9.3	5.78
17	6.5	9.26	17	7.5	8.79	17			17	8.5	5.46
18	6.5	9.23	18	7.2	8.82	18			18	8.2	4.81
19	6.4	9.23	19	7.0	8.79	19			19	7.9	4.66
20	6.3	9.22	20	6.8	8.75	20			20	7.8	3.78
21	6.3	9.20	21	6.6	8.74	21			21	7.6	2.69
22	6.3	9.18	22	6.4	8.69	22			22	7.5	2.11
23	6.3	9.18	23	6.3	8.60	23			23	7.4	2.06
24	6.3	9.17	24	6.3	8.54	24			24		
25	6.2	9.17	25	6.2	8.41	25			25		
26	6.2	9.13	26	6.2	8.29	26			26		
27	6.2	9.09	27	6.1	8.21	27			27		
28	6.1	9.08	28	6.1	8.15	28			28		
29			29			29			29		
30			30			30			30		
35			35			35			35		
40			40			40			40		
45			45			45			45		
50			50			50			50		
55			55			55			55		
60			60			60			60		

Table A3.46. Temperature (Temp., °C) and dissolved oxygen (D.O., mg/L) profiles measured at station YAM03 on Yamcolo Reservoir, Garfield County.

Yamcolo Reservoir					
07/14/15			08/29/18		
Depth (m)	Temp.	D.O.	Depth (m)	Temp.	D.O.
0	15.1	8.07	0	14.4	7.82
1	15.1	8.06	1	14.2	7.98
2	15.0	8.02	2	14.1	7.98
3	15.0	7.98	3	14.1	7.98
4	14.9	7.94	4		
5	14.8	7.93	5		
6	14.7	7.79	6		
7	14.2	7.45	7		
8	13.8	7.23	8		
9	13.8	7.16	9		
10	13.6	7.15	10		
11	13.4	7.12	11		
12	13.3	7.06	12		
13	13.2	7.03	13		
14	13.1	7.00	14		
15	13.0	6.96	15		
16	12.8	6.83	16		
17	12.5	6.68	17		
18	9.2	5.55	18		
19	7.6	5.15	19		
20	7.1	5.03	20		
21	6.9	4.98	21		
22	6.4	4.28	22		
23	6.2	3.77	23		
24	6.2	2.84	24		
25			25		
26			26		
27			27		
28			28		
29			29		
30			30		
35			35		
40			40		
45			45		
50			50		
55			55		
60			60		

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## Appendix 4 - Limnological measurements

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Table A4.1. Limnological characteristics of lakes and reservoirs sampled for *Mysis*. See Table A1.1 for water codes and sampling station coordinates. Turbidity and Secchi depth values are the average of two measurements recorded at the station; TDS is total dissolved solids.

Water code	Date	Station	Time	Depth (m)	Conductivity ( $\mu\text{S}/\text{cm}$ )	Turbidity (NTU)	Secchi (m)	pH	TDS (ppm)	Salinity (mg/L)
BCL	09/10/15	BCL01	9:15	13.4	37.0	0.15	4.00	-	-	-
BCL	09/10/15	BCL02	9:25	17.8	36.0	0.20	3.40	-	-	-
BCL	09/10/15	BCL03	9:47	14.9	36.0	0.15	3.25	-	-	-
BCL	09/04/18	BCL01	17:48	10.0	-	0.79	3.05	-	-	-
BCL	09/04/18	BCL02	18:24	15.8	-	0.76	3.00	-	-	-
BCL	09/04/18	BCL03	18:00	14.8	-	2.52	2.75	-	-	-
BCL	07/24/19	BCL01	13:30	11.6	29.6	1.35	2.10	7.98	21.0	21.7
BCL	07/24/19	BCL03	13:37	16.4	29.6	5.64	2.00	7.99	21.0	21.8
BCU	07/24/19	BCU03	16:34	5.5	28.3	0.83	2.95	8.05	0.7	20.2
BLD	07/10/18	BLD01	18:07	7.8	213.0	3.31	1.90	8.53	151.0	142.0
BLD	07/10/18	BLD02	18:58	8.0	212.0	3.22	1.80	8.51	153.0	143.0
BLD	07/10/18	BLD03	19:14	5.1	212.0	3.65	1.90	8.52	150.0	142.0
BMR	08/01/11	P3	11:20	94.0	-	-	4.00	-	-	-
BMR	09/12/18	P3	18:35	43.2	239	-	2.5	8.3	169	-
BMR	09/12/18	P1	17:45	37.4	251	-	3.5	8.3	178	-
CAR	03/26/14	-	14:25	20.0	70.0	-	2.00	-	-	-
CAR	05/02/14	CAR01	12:09	15.9	-	-	-	-	-	-
CAR	05/02/14	CAR03	12:23	37.4	-	-	-	-	-	-
CAR	05/02/14	CAR05	12:34	31.5	-	-	-	-	-	-
CAR	05/02/14	CAR07	12:55	50.7	60.0	-	2.15	-	-	-
CAR	05/02/14	CAR09	13:21	42.4	-	-	-	-	-	-
CAR	05/28/14	CAR01	16:17	16.3	60.0	1.20	2.45	-	-	-
CAR	05/28/14	CAR03	16:10	37.2	60.0	1.30	2.38	-	-	-
CAR	05/28/14	CAR05	16:03	30.5	60.0	1.47	2.88	-	-	-
CAR	05/28/14	CAR07	15:45	50.9	70.0	1.35	2.95	-	-	-
CAR	05/28/14	CAR09	15:32	42.6	70.0	1.35	3.15	-	-	-
CAR	06/20/14	CAR01	19:53	16.7	70.0	1.30	3.95	-	-	-
CAR	06/20/14	CAR03	19:46	37.2	70.0	0.72	4.30	-	-	-
CAR	06/20/14	CAR05	19:43	30.8	70.0	0.85	3.93	-	-	-
CAR	06/20/14	CAR07	19:27	50.6	70.0	1.50	4.25	-	-	-
CAR	06/20/14	CAR09	19:20	41.9	60.0	1.80	4.23	-	-	-
CAR	07/24/14	CAR01	20:25	15.4	70.0	-	-	-	-	-
CAR	07/24/14	CAR03	20:16	35.3	70.0	1.70	-	-	-	-
CAR	07/24/14	CAR05	20:05	28.4	70.0	2.10	-	-	-	-
CAR	07/24/14	CAR07	19:41	49.9	70.0	1.50	3.35	-	-	-
CAR	07/24/14	CAR09	19:31	39.0	70.0	2.70	3.25	-	-	-
CAR	08/17/14	CAR01	20:10	14.0	80.0	2.95	-	-	-	-
CAR	08/17/14	CAR03	20:02	37.0	80.0	1.35	-	-	-	-
CAR	08/17/14	CAR05	19:55	27.0	80.0	1.70	-	-	-	-
CAR	08/17/14	CAR07	19:44	48.0	70.0	1.35	-	-	-	-
CAR	08/17/14	CAR09	19:39	39.0	70.0	1.25	-	-	-	-
CAR	09/24/14	CAR01	20:20	16.0	80.0	1.51	-	-	-	-

Table A4.1. Continued. Limnological characteristics of lakes and reservoirs sampled for *Mysis*. See Table A1.1 for water codes and sampling station coordinates. Turbidity and Secchi depth values are the average of two measurements recorded at the station; TDS is total dissolved solids.

Water code	Date	Station	Time	Depth (m)	Conductivity ( $\mu\text{S}/\text{cm}$ )	Turbidity (NTU)	Secchi (m)	pH	TDS (ppm)	Salinity (mg/L)
CAR	09/24/14	CAR03	20:38	32.0	80.0	0.90	-	-	-	-
CAR	09/24/14	CAR05	21:00	26.0	80.0	1.04	-	-	-	-
CAR	09/24/14	CAR07	19:15	46.0	70.0	1.06	-	-	-	-
CAR	09/24/14	CAR09	21:40	36.0	90.0	0.81	-	-	-	-
CAR	10/21/14	CAR01	18:08	9.4	80.0	0.62	-	-	-	-
CAR	10/21/14	CAR03	18:05	30.2	70.0	0.59	-	-	-	-
CAR	10/21/14	CAR05	18:00	24.5	80.0	0.66	-	-	-	-
CAR	10/21/14	CAR07	17:43	44.1	70.0	0.57	-	-	-	-
CAR	10/21/14	CAR09	17:38	35.2	60.0	0.50	-	-	-	-
CAR	11/23/14	CAR01	15:10	9.0	80.0	0.98	-	-	-	-
CAR	11/23/14	CAR03	15:07	29.6	80.0	1.10	-	-	-	-
CAR	11/23/14	CAR05	15:03	23.1	80.0	1.20	-	-	-	-
CAR	11/23/14	CAR07	14:48	42.9	80.0	0.89	-	-	-	-
CAR	11/23/14	CAR09	15:20	34.5	80.0	0.75	-	-	-	-
CAR	12/17/14	CAR01	16:20	11.2	60.0	0.58	-	-	-	-
CAR	12/17/14	CAR03	16:32	28.8	70.0	0.68	-	-	-	-
CAR	12/17/14	CAR05	16:37	23.0	70.0	0.78	-	-	-	-
CAR	12/17/14	CAR07	16:45	42.9	70.0	0.55	-	-	-	-
CAR	12/17/14	CAR09	17:00	33.5	80.0	0.70	-	-	-	-
CAR	01/21/15	CAR01	17:00	16.8	70.0	1.15	-	-	-	-
CAR	01/21/15	CAR03	17:05	35.6	70.0	1.05	-	-	-	-
CAR	01/21/15	CAR05	17:10	28.5	70.0	0.68	-	-	-	-
CAR	01/21/15	CAR07	17:30	48.6	80.0	1.05	-	-	-	-
CAR	01/21/15	CAR09	17:17	41.1	80.0	1.00	-	-	-	-
CAR	02/18/15	CAR01	17:08	17.7	70.0	0.38	-	-	-	-
CAR	02/18/15	CAR03	17:05	37.4	60.0	0.35	-	-	-	-
CAR	02/18/15	CAR05	17:00	31.6	60.0	0.45	3.25	-	-	-
CAR	02/18/15	CAR07	16:35	52.3	60.0	0.30	3.40	8.61	50.6	32.4
CAR	02/18/15	CAR09	16:25	42.7	60.0	0.40	3.36	-	-	-
CAR	03/20/15	CAR01	17:45	17.2	60.0	0.15	3.33	-	-	-
CAR	03/20/15	CAR03	17:35	37.1	60.0	0.18	3.68	8.67	43.9	31.2
CAR	03/20/15	CAR05	17:30	31.6	60.0	0.40	3.65	-	-	-
CAR	03/20/15	CAR07	17:10	51.3	50.0	0.25	3.73	-	-	-
CAR	03/20/15	CAR09	17:04	41.0	40.0	0.28	4.13	-	-	-
CAR	04/15/15	CAR01	18:53	16.4	80.0	-	-	-	-	-
CAR	04/15/15	CAR03	18:50	36.0	70.0	-	-	-	-	-
CAR	04/15/15	CAR05	18:45	28.0	70.0	-	-	-	-	-
CAR	04/15/15	CAR07	18:38	50.4	70.0	-	-	-	-	-
CAR	04/15/15	CAR09	18:28	40.1	70.0	-	-	-	-	-
CAR	05/14/15	CAR01	21:13	32.7	70.0	0.93	-	-	-	-
CAR	05/14/15	CAR03	21:07	37.2	70.0	0.90	-	-	-	-
CAR	05/14/15	CAR05	21:03	30.8	70.0	0.75	-	-	-	-

Table A4.1. Continued. Limnological characteristics of lakes and reservoirs sampled for *Mysis*. See Table A1.1 for water codes and sampling station coordinates. Turbidity and Secchi depth values are the average of two measurements recorded at the station; TDS is total dissolved solids.

Water code	Date	Station	Time	Depth (m)	Conductivity ( $\mu\text{S}/\text{cm}$ )	Turbidity (NTU)	Secchi (m)	pH	TDS (ppm)	Salinity (mg/L)
CAR	05/14/15	CAR07	20:30	51.8	60.0	0.73	-	-	-	-
CAR	05/14/15	CAR09	20:24	43.5	60.0	0.65	-	-	-	-
CAR	06/16/15	CAR01	20:09	15.0	70.0	0.90	-	-	-	-
CAR	06/16/15	CAR03	20:03	36.5	70.0	0.98	-	-	-	-
CAR	06/16/15	CAR05	19:57	30.7	70.0	1.15	-	-	-	-
CAR	06/16/15	CAR07	19:35	50.7	70.0	0.78	-	-	-	-
CAR	06/16/15	CAR09	19:30	41.9	70.0	0.65	-	-	-	-
CAR	07/17/15	CAR01	20:36	15.7	70.0	1.10	-	-	-	-
CAR	07/17/15	CAR03	20:32	35.8	70.0	0.90	-	-	-	21.7
CAR	07/17/15	CAR05	20:28	31.3	70.0	1.10	-	-	-	21.8
CAR	07/17/15	CAR07	20:00	50.5	60.0	1.10	-	-	-	20.2
CAR	07/17/15	CAR09	19:52	41.5	70.0	1.00	-	-	-	142.0
CAR	08/10/15	CAR01	18:55	12.3	80.0	1.85	2.65	-	-	143.0
CAR	08/10/15	CAR03	19:00	32.0	70.0	1.30	3.25	-	-	142.0
CAR	08/10/15	CAR05	19:05	27.5	70.0	1.55	3.40	-	-	-
CAR	08/10/15	CAR07	19:12	46.6	70.0	1.10	3.80	-	-	-
CAR	08/10/15	CAR09	19:30	37.9	70.0	0.93	-	-	-	-
CAR	09/11/15	CAR07	16:20	38.8	77.0	1.60	3.70	-	-	-
CAR	09/11/15	CAR05	16:40	19.2	78.0	2.00	3.28	-	-	-
CAR	09/11/15	CAR03	16:45	24.5	78.0	1.80	3.45	-	-	-
CAR	09/11/15	CAR01	16:50	11.8	78.0	4.20	1.75	-	-	-
CAR	09/11/15	CAR09	16:57	29.9	77.0	1.65	3.45	-	-	-
CAR	10/07/15	CAR01	17:17	13.5	79.0	1.75	3.30	-	-	-
CAR	10/07/15	CAR03	17:33	20.5	79.0	1.37	3.35	-	-	-
CAR	10/07/15	CAR05	17:42	14.9	79.0	1.15	3.95	-	-	-
CAR	10/07/15	CAR09	18:03	26.3	79.0	1.89	3.65	-	-	-
CAR	10/07/15	CAR07	18:11	34.2	79.0	1.29	-	-	-	-
CAR	11/10/15	CAR01	15:06	10.5	76.0	1.87	-	-	-	-
CAR	11/10/15	CAR03	14:56	17.3	77.0	1.96	-	-	-	-
CAR	11/10/15	CAR05	14:49	15.3	77.0	1.57	-	-	-	-
CAR	11/10/15	CAR07	14:26	31.0	77.0	1.50	-	-	-	-
CAR	11/10/15	CAR09	14:13	23.0	77.0	1.45	-	-	-	-
CAR	12/09/15	CAR09	14:15	22.2	78.0	3.25	2.25	8.30	55.9	-
CAR	12/09/15	CAR07	15:30	30.4	78.8	3.96	2.30	8.40	55.7	-
CAR	12/09/15	CAR05	15:52	11.0	79.0	2.78	2.30	8.30	55.8	-
CAR	12/09/15	CAR03	16:00	16.7	78.7	3.43	2.10	8.20	55.7	-
CAR	12/09/15	CAR01	16:08	12.2	79.3	3.80	2.00	8.25	56.4	-
CAR	03/08/16	CAR09	16:13	37.1	71.9	2.25	3.20	8.71	-	-
CAR	03/08/16	CAR07	16:26	47.7	71.8	2.31	2.85	8.56	-	-
CAR	03/08/16	CAR05	16:50	29.4	71.5	1.83	3.10	8.48	-	-
CAR	03/08/16	CAR03	16:57	32.0	72.4	1.74	2.98	8.08	-	-
CAR	03/08/16	CAR01	17:04	19.2	72.0	2.44	3.00	8.30	-	-

Table A4.1. Continued. Limnological characteristics of lakes and reservoirs sampled for *Mysis*. See Table A1.1 for water codes and sampling station coordinates. Turbidity and Secchi depth values are the average of two measurements recorded at the station; TDS is total dissolved solids.

Water code	Date	Station	Time	Depth (m)	Conductivity ( $\mu\text{S}/\text{cm}$ )	Turbidity (NTU)	Secchi (m)	pH	TDS (ppm)	Salinity (mg/L)
CAR	04/06/16	CAR09	14:35	43.8	71.1	1.41	3.00		-	-
CAR	04/06/16	CAR07	14:45	51.0	70.6	1.40	3.45	8.26	-	-
CAR	04/06/16	CAR05	15:25	29.8	71.0	1.47	3.50	-	-	-
CAR	04/06/16	CAR03	15:30	36.4	70.5	1.46	3.50	-	-	-
CAR	04/06/16	CAR01	15:37	18.2	70.6	1.57	3.25	-	-	-
CAR	05/04/16	CAR09	16:15	41.0	67.3	1.10	4.20	-	-	-
CAR	05/04/16	CAR07	16:22	50.9	69.8	1.16	3.55	8.67	-	-
CAR	05/04/16	CAR05	16:53	32.2	68.8	1.37	3.50	-	-	-
CAR	05/04/16	CAR03	17:03	36.7	70.1	1.20	3.10	-	-	-
CAR	05/04/16	CAR01	17:13	23.4	70.2	1.35	2.85	-	-	-
CAR	06/01/16	CAR09	12:00	22.6	69.6	1.22	3.38	8.93	-	-
CAR	06/01/16	CAR07	12:08	36.4	69.9	1.38	2.90	8.85	-	-
CAR	06/01/16	CAR05	12:15	34.3	69.8	1.80	3.00	8.83	-	-
CAR	06/01/16	CAR03	12:23	51.7	69.9	1.05	4.38	8.72	-	-
CAR	06/01/16	CAR01	12:40	44.5	69.7	1.31	4.30	8.77	-	-
CAR	06/30/16	CAR09	16:31	47.2	71.6	0.97	4.03	8.60	-	-
CAR	06/30/16	CAR07	16:40	54.1	71.8	1.10	3.55	8.54	-	-
CAR	06/30/16	CAR05	17:05	33.6	72.2	1.15	3.95	8.49	-	-
CAR	06/30/16	CAR03	17:10	38.5	71.9	0.93	4.00	8.51	-	-
CAR	06/30/16	CAR01	17:16	18.6	71.9	1.10	4.15	8.46	-	-
CAR	08/02/16	CAR01	17:15	11.9	75.0	3.33	-	8.23	53.3	43.5
CAR	08/02/16	CAR03	17:23	32.3	74.1	1.29	-	8.34	52.6	42.8
CAR	08/02/16	CAR05	17:30	26.2	74.0	1.18	-	8.33	52.6	42.8
CAR	08/02/16	CAR07	17:36	46.7	73.8	1.03	-	8.33	52.4	42.7
CAR	08/02/16	CAR09	17:42	40.4	73.8	1.03	-	8.33	52.4	42.7
CAR	08/25/16	CAR09	19:04	33.4	75.0	2.22	-	8.49	53.3	42.4
CAR	08/25/16	CAR07	19:13	41.2	74.8	2.17	-	8.50	53.1	42.2
CAR	08/25/16	CAR05	19:36	23.8	74.1	2.24	-	8.49	53.4	42.2
CAR	08/25/16	CAR03	19:44	26.4	75.4	2.22	-	8.46	53.6	42.4
CAR	08/25/16	CAR01	19:54	10.4	75.3	3.13	-	8.52	53.5	42.5
CAR	09/29/16	CAR09	19:07	28.7	76.8	1.90	-	8.66	54.8	43.4
CAR	09/29/16	CAR07	19:15	35.2	77.1	1.91	-	8.53	54.7	43.2
CAR	09/29/16	CAR05	19:43	12.0	77.1	2.30	-	8.52	54.8	43.1
CAR	09/29/16	CAR03	19:50	21.3	77.2	2.05	-	8.42	54.8	43.0
CAR	09/29/16	CAR01	20:00	11.8	77.2	2.61	-	8.38	54.8	43.1
CAR	10/25/16	CAR09	17:15	24.3	75.8	2.18	-	8.89	53.8	40.4
CAR	10/25/16	CAR07	17:25	31.5	75.4	2.04	-	8.74	53.7	40.3
CAR	10/25/16	CAR05	17:32	14.4	75.8	2.23	-	8.66	53.9	40.3
CAR	10/25/16	CAR03	17:38	17.2	75.8	2.43	-	8.60	53.9	40.2
CAR	10/25/16	CAR01	17:47	14.3	75.8	2.12	-	8.58	53.8	40.2
CAR	11/28/16	CAR01	15:00	11.1	73.3	3.49	-	-	52.1	36.4
CAR	11/28/16	CAR03	15:10	15.6	73.2	2.72	-	-	51.9	36.3

Table A4.1. Continued. Limnological characteristics of lakes and reservoirs sampled for *Mysis*. See Table A1.1 for water codes and sampling station coordinates. Turbidity and Secchi depth values are the average of two measurements recorded at the station; TDS is total dissolved solids.

Water code	Date	Station	Time	Depth (m)	Conductivity ( $\mu\text{S}/\text{cm}$ )	Turbidity (NTU)	Secchi (m)	pH	TDS (ppm)	Salinity (mg/L)
CAR	11/28/16	CAR05	15:17	12.1	74.6	2.31	-	-	52.9	36.1
CAR	11/28/16	CAR07	15:24	30.3	72.3	2.24	-	-	53.0	35.9
CAR	11/28/16	CAR09	15:42	22.9	72.2	2.42	-	-	51.6	35.4
CAR	12/28/16	CAR01	15:27	14.3	77.1	6.47	1.43	8.31	54.8	33.7
CAR	12/28/16	CAR03	15:13	11.1	76.6	5.10	1.43	8.20	54.4	33.6
CAR	12/28/16	CAR05	15:06	14.0	74.9	4.72	1.48	8.29	53.2	32.9
CAR	12/28/16	CAR07	15:00	32.0	74.3	4.99	1.50	8.27	52.8	32.6
CAR	12/28/16	CAR09	14:35	26.3	74.0	4.92	1.50	8.29	52.3	32.4
CAR	01/24/17	CAR07	17:00	40.0	74.2	2.70	-	8.58	52.6	31.7
CAR	01/24/17	CAR09	17:06	33.2	74.6	3.13	-	8.54	53.7	31.8
CAR	02/27/17	CAR09	15:40	38.5	73.5	2.46	-	8.26	52.3	32.2
CAR	02/27/17	CAR07	15:50	45.0	73.7	2.54	-	8.38	52.3	32.3
CAR	02/27/17	CAR05	16:02	26.6	74.0	3.97	-	8.40	52.4	32.5
CAR	02/27/17	CAR03	16:14	33.7	74.1	3.48	-	8.38	52.6	32.6
CAR	02/27/17	CAR01	16:18	12.8	74.4	3.09	-	8.39	52.8	32.7
CAR	03/21/17	CAR09	16:45	40.6	72.6	2.50	2.35	8.90	51.6	33.2
CAR	03/21/17	CAR07	16:47	48.6	72.6	2.51	2.43	8.38	51.4	33.3
CAR	03/21/17	CAR05	17:01	28.7	71.9	2.43	2.08	8.40	52.0	33.6
CAR	03/21/17	CAR03	17:11	35.6	72.6	2.91	2.20	8.67	51.6	34.1
CAR	03/21/17	CAR01	17:17	16.8	71.7	2.26	2.30	8.66	51.9	33.8
CAR	04/25/17	CAR09	17:10	45.4	70.7	1.93	-	8.52	50.1	35.4
CAR	04/25/17	CAR07	17:30	51.5	70.8	1.74	-	8.45	50.3	35.4
CAR	04/25/17	CAR05	19:38	34.5	71.2	1.94	-	8.06	50.5	34.8
CAR	04/25/17	CAR03	19:46	36.7	70.9	1.54	-	8.18	50.3	35.1
CAR	04/25/17	CAR01	19:56	19.5	70.8	1.49	-	8.19	50.3	35.3
CAR	05/23/17	CAR09	17:58	46.3	70.2	2.30	2.60	8.31	50.0	35.8
CAR	05/23/17	CAR07	17:58	51.3	70.4	1.79	2.05	8.28	50.1	36.2
CAR	05/23/17	CAR05	18:28	30.4	70.4	1.70	2.45	8.32	49.9	36.1
CAR	05/23/17	CAR03	18:38	38.3	70.2	2.01	2.20	8.32	49.9	36.2
CAR	05/23/17	CAR01	18:44	16.0	70.2	2.22	2.55	8.38	49.9	36.5
CAR	8/23/2017	CAR01	11:10	18.0	74.1	2.63	3.35	8.06	52.5	42.4
CAR	8/23/2017	CAR07	10:35	45.0	73.1	1.64	4.40	8.10	52.0	42.2
CAR	8/23/2017	CAR03	11:20	32.0	74.0	1.81	3.85	8.03	52.2	42.3
CAR	8/23/2017	CAR05	11:29	25.0	73.5	1.94	3.60	8.01	51.8	42.2
CAR	8/23/2017	CAR09	11:39	37.0	73.2	1.90	4.50	7.95	52.1	42.1
CAR	08/08/18	CAR09	16:00	42.0	59.3	4.40	1.17	9.15	41.4	42.5
CAR	08/08/18	CAR07	16:25	35.0	58.2	4.72	1.16	9.16	41.3	42.5
CAR	08/08/18	CAR05	16:45	24.8	58.3	4.50	1.11	9.13	41.3	42.6
CAR	08/08/18	CAR03	16:57	29.1	58.3	5.05	1.22	9.17	41.4	42.5
CAR	08/08/18	CAR01	17:00	15.3	58.4	6.26	1.12	9.10	41.5	42.5
CAR	08/29/19	CAR01	18:30	20.0	67.4	1.25	5.77	8.20	47.9	42.2
CAR	08/29/19	CAR03	18:47	35.3	67.6	1.28	5.25	8.21	47.9	42.1

Table A4.1. Continued. Limnological characteristics of lakes and reservoirs sampled for *Mysis*. See Table A1.1 for water codes and sampling station coordinates. Turbidity and Secchi depth values are the average of two measurements recorded at the station; TDS is total dissolved solids.

Water code	Date	Station	Time	Depth (m)	Conductivity ( $\mu\text{S}/\text{cm}$ )	Turbidity (NTU)	Secchi (m)	pH	TDS (ppm)	Salinity (mg/L)
CAR	08/29/19	CAR05	19:00	29.0	67.5	1.27	6.91	8.20	48.0	42.1
CAR	08/29/19	CAR07	19:08	50.2	67.4	1.09	4.55	8.24	48.0	42.2
CAR	08/29/19	CAR09	19:33	42.0	67.6	1.22	-	8.22	47.9	42.2
CHK	08/25/17	CHK01	17:32	0.3	22.7	19.00	-	8.81	16.5	16.7
CHM	08/01/16	CHM02	20:05	12.9	39.2	2.11	-	8.95	27.8	24.5
CHM	08/01/16	CHM03	19:51	21.0	39.2	2.42	-	8.95	27.9	24.5
CHM	08/01/16	CHM05	19:35	24.4	39.6	3.81	-	9.00	28.0	25.2
CHP	06/21/16	CHP01	9:39	3.5	37.4	2.48	1.23	7.74	-	-
CHP	06/21/16	CHP02	10:00	4.0	37.4	3.29	1.13	-	-	-
CHP	06/21/16	CHP03	10:15	5.5	37.7	2.73	1.15	-	-	-
CHA	04/04/15	CHA03	16:45	15.8	390.0	0.35	-	-	-	-
CHA	04/04/15	CHA05	17:15	10.0	420.0	0.38	-	-	-	-
CHA	04/04/15	CHA07	17:30	14.8	410.0	0.10	-	-	-	-
CHA	07/10/17	CHA07	18:30	14.9	39.8	3.10	-	8.40	28.4	20.7
CHA	07/10/17	CHA05	18:41	9.8	40.0	2.28	-	8.34	28.5	20.7
CHA	07/10/17	CHA03	18:51	15.2	40.2	1.95	1.85	8.24	28.6	20.8
CHA	07/10/17	CHA01	19:05	15.1	40.3	3.57	1.75	8.33	28.6	20.9
CHE	05/29/14	CHE01	16:45	39.0	310.0	0.35	3.55	-	-	-
CHE	05/29/14	CHE02	16:35	51.3	310.0	0.25	4.35	-	-	-
CHE	05/29/14	CHE03	16:25	19.2	300.0	0.13	5.47	-	-	-
CHE	05/29/14	CHE04	16:15	62.0	290.0	-	6.83	-	-	-
CHE	05/29/14	CHE05	16:05	32.0	280.0	-	5.93	-	-	-
CHE	08/23/16	CHE03	9:24	60.8	352.0	1.16	3.90	9.49	252.0	189.0
CHE	08/23/16	CHE02	10:11	51.7	361.0	1.97	4.18	9.56	248.0	189.0
CHE	08/23/16	CHE01	11:41	36.9	369.0	3.01	2.68	9.57	264.0	197.0
CLE	09/21/14	CLE01	15:38	11.4	120.0	0.68	5.48	-	-	-
CLE	09/21/14	CLE02	15:44	15.9	130.0	0.40	5.70	-	-	-
CLE	09/21/14	CLE03	15:32	10.1	130.0	0.42	5.08	-	-	-
CRY	06/22/16	CRY01	12:56	1.8	-	-	-	-	-	-
CRY	06/22/16	CRY02	13:01	1.5	-	-	-	-	-	-
CRY	06/22/16	CRY03	13:08	1.5	20.6	6.45	-	-	-	-
DEE	07/25/19	DEE01	18:18	17.0	178.4	0.99	4.52	8.77	126.0	101.0
DIE	07/27/16	DIE01	9:51	1.4	39.4	1.88	1.40	-	28.3	25.2
DIE	07/27/16	DIE02	10:30	2.3	39.6	2.25	1.50	7.78	28.5	25.4
DIE	07/27/16	DIE03	10:29	2.3	-	-	-	-	-	-
DIE	08/26/17	DIE01	11:30	2.5	34.3	1.90	-	7.92	25.2	22.5
DIE	08/26/17	DIE02	11:43	2.0	35.0	2.09	-	8.82	24.8	22.7
DIE	08/26/17	DIE03	11:53	2.0	37.2	2.01	-	9.21	26.4	23.8
DIL	08/03/10	P1	-	-	-	-	4.39	-	-	-
DIL	08/03/10	P2	-	-	-	-	-	-	-	-
DIL	08/03/10	P3	-	-	-	-	-	-	-	-
DIL	08/03/10	P4	-	-	-	-	-	-	-	-

Table A4.1. Continued. Limnological characteristics of lakes and reservoirs sampled for *Mysis*. See Table A1.1 for water codes and sampling station coordinates. Turbidity and Secchi depth values are the average of two measurements recorded at the station; TDS is total dissolved solids.

Water code	Date	Station	Time	Depth (m)	Conductivity ( $\mu\text{S}/\text{cm}$ )	Turbidity (NTU)	Secchi (m)	pH	TDS (ppm)	Salinity (mg/L)
DIL	08/03/10	P5	-	-	-	-	-	-	-	-
DIL	09/09/10	P1	-	-	-	-	-	-	-	-
DIL	09/09/10	P2	-	-	-	-	-	-	-	-
DIL	09/09/10	P3	-	-	-	-	-	-	-	-
DIL	09/09/10	P4	-	-	-	-	-	-	-	-
DIL	09/09/10	P5	-	-	-	-	-	-	-	-
DIL	06/14/11	P1	5:43	-	-	2.6	1.53	-	-	-
DIL	06/14/11	P2	7:33	-	-	3.0	1.44	-	-	-
DIL	06/14/11	P3	7:10	-	-	2.9	1.55	-	-	-
DIL	06/14/11	P4	6:19	-	-	2.4	1.60	-	-	-
DIL	06/14/11	P5	6:41	-	-	3.9	1.90	-	-	-
DIL	07/07/11	P1	10:20	-	170.0	2.4	1.73	-	-	-
DIL	07/07/11	P2	10:40	-	180.0	2.4	1.62	-	-	-
DIL	07/07/11	P3	10:59	-	170.0	2.6	1.65	-	-	-
DIL	07/07/11	P4	9:58	-	170.0	2.2	1.69	-	-	-
DIL	07/07/11	P5	9:22	-	170.0	2.1	1.69	-	-	-
DIL	08/05/11	P1	8:37	-	150.0	1.2	2.42	-	-	-
DIL	08/05/11	P2	9:01	-	150.0	1.4	2.43	-	-	-
DIL	08/05/11	P3	9:31	-	160.0	1.5	2.42	-	-	-
DIL	08/05/11	P4	8:10	-	170.0	1.0	2.97	-	-	-
DIL	08/05/11	P5	7:50	-	190.0	1.1	2.63	-	-	-
DIL	05/22/12	P1	8:57	-	190.0	0.50	3.70	-	-	-
DIL	05/22/12	P2	9:18	-	190.0	0.40	3.20	-	-	-
DIL	05/22/12	P3	9:37	-	200.0	0.80	3.30	-	-	-
DIL	05/22/12	P4	8:44	-	210.0	0.70	3.50	-	-	-
DIL	05/22/12	P5	8:28	-	240.0	1.30	3.30	-	-	-
DIL	06/16/12	P1	8:28	-	240.0	1.3	3.30	-	-	-
DIL	06/16/12	P2	8:44	-	210.0	0.7	3.50	-	-	-
DIL	06/16/12	P3	9:18	-	190.0	0.4	3.20	-	-	-
DIL	06/16/12	P4	8:57	-	190.0	0.5	3.70	-	-	-
DIL	06/16/12	P5	9:37	-	200.0	0.8	3.30	-	-	-
DIL	07/10/12	P1	-	-	-	0.52	4.10	-	-	-
DIL	07/10/12	P2	-	-	-	0.71	4.00	-	-	-
DIL	07/10/12	P3	-	-	-	0.67	4.40	-	-	-
DIL	07/10/12	P4	-	-	-	0.70	4.50	-	-	-
DIL	07/10/12	P5	-	-	-	1.00	4.00	-	-	-
DIL	08/18/12	P1	-	-	-	-	3.60	-	-	-
DIL	08/18/12	P2	-	-	-	0.81	3.30	-	-	-
DIL	08/18/12	P3	-	-	-	1.07	3.40	-	-	-
DIL	08/18/12	P4	-	-	-	1.07	3.80	-	-	-
DIL	08/18/12	P5	-	-	-	1.07	3.30	-	-	-
DIL	09/13/12	P1	-	-	-	0.46	-	-	-	-

Table A4.1. Continued. Limnological characteristics of lakes and reservoirs sampled for *Mysis*. See Table A1.1 for water codes and sampling station coordinates. Turbidity and Secchi depth values are the average of two measurements recorded at the station; TDS is total dissolved solids.

Water code	Date	Station	Time	Depth (m)	Conductivity ( $\mu\text{S}/\text{cm}$ )	Turbidity (NTU)	Secchi (m)	pH	TDS (ppm)	Salinity (mg/L)
DIL	09/13/12	P2	-	-	-	0.50	-	-	-	-
DIL	09/13/12	P3	-	-	-	0.50	-	-	-	-
DIL	09/13/12	P4	-	-	-	0.29	-	-	-	-
DIL	09/13/12	P5	-	-	-	0.70	4.10	-	-	-
DIL	06/25/13	P1	7:27	-	-	2.1	2.00	-	-	-
DIL	06/25/13	P2	7:53	-	-	2.0	2.08	-	-	-
DIL	06/25/13	P3	8:22	-	-	2.1	2.60	-	-	-
DIL	06/25/13	P4	7:20	-	-	2.0	2.03	-	-	-
DIL	06/25/13	P5	6:53	-	-	1.6	2.08	-	-	-
DIL	07/10/13	P1	8:20	-	-	1.3	2.00	-	-	-
DIL	07/10/13	P2	8:30	-	-	1.5	2.08	-	-	-
DIL	07/10/13	P3	9:10	-	-	1.1	1.85	-	-	-
DIL	07/10/13	P4	7:45	-	-	1.1	2.15	-	-	-
DIL	07/10/13	P5	7:06	-	-	1.5	5.00	-	-	-
DIL	08/10/13	P1	8:10	-	-	1.0	4.00	-	-	-
DIL	08/10/13	P2	8:30	-	-	0.9	4.35	-	-	-
DIL	08/10/13	P3	9:00	-	-	1.1	3.38	-	-	-
DIL	08/10/13	P4	7:37	-	-	1.1	3.75	-	-	-
DIL	08/10/13	P5	7:10	-	-	1.3	2.60	-	-	-
DIL	09/04/13	P1	7:55	-	-	0.4	5.15	-	-	-
DIL	09/04/13	P2	8:20	-	-	0.4	5.30	-	-	-
DIL	09/04/13	P3	8:50	-	-	0.5	4.45	-	-	-
DIL	09/04/13	P4	7:25	-	-	0.3	4.35	-	-	-
DIL	09/04/13	P5	7:00	-	-	0.5	4.35	-	-	-
DIL	10/20/13	P1	10:10	-	-	0.4	5.50	-	-	-
DIL	10/20/13	P2	10:35	-	-	0.2	5.50	-	-	-
DIL	10/20/13	P3	11:05	-	-	0.3	-	-	-	-
DIL	10/20/13	P4	8:47	-	-	0.3	6.35	-	-	-
DIL	10/20/13	P5	8:23	-	-	0.4	4.00	-	-	-
DIL	05/26/14	P1	8:30	57.6	200.0	1.60	2.75	-	-	-
DIL	05/26/14	P2	8:50	36.5	170.0	5.40	1.10	-	-	-
DIL	05/26/14	P3	9:20	14.3	190.0	2.80	1.60	-	-	-
DIL	05/26/14	P4	8:15	15.2	200.0	1.50	2.85	-	-	-
DIL	05/26/14	P5	7:45	10.5	230.0	1.70	2.00	-	-	-
DIL	06/24/14	P1	18:34	67.5	170.0	1.35	1.81	-	-	-
DIL	06/24/14	P2	18:39	37.0	180.0	1.65	1.77	-	-	-
DIL	06/24/14	P3	18:49	22.7	190.0	1.60	1.86	-	-	-
DIL	06/24/14	P4	18:25	16.8	180.0	1.25	2.00	-	-	-
DIL	06/24/14	P5	18:17	11.9	180.0	1.10	1.47	-	-	-
DIL	07/21/14	P1	8:45	58.1	200.0	1.60	3.15	-	-	-
DIL	07/21/14	P2	9:12	38.0	170.0	1.25	1.99	-	-	-
DIL	07/21/14	P3	9:21	23.0	170.0	1.20	2.37	-	-	-



Table A4.1. Continued. Limnological characteristics of lakes and reservoirs sampled for *Mysis*. See Table A1.1 for water codes and sampling station coordinates. Turbidity and Secchi depth values are the average of two measurements recorded at the station; TDS is total dissolved solids.

Water code	Date	Station	Time	Depth (m)	Conductivity ( $\mu\text{S}/\text{cm}$ )	Turbidity (NTU)	Secchi (m)	pH	TDS (ppm)	Salinity (mg/L)
DIL	07/21/14	P4	9:28	14.1	170.0	1.55	2.31	-	-	-
DIL	07/21/14	P5	9:38	14.5	170.0	1.25	2.15	-	-	-
DIL	08/19/14	P1	10:33	67.3	170.0	0.73	2.35	-	-	-
DIL	08/19/14	P2	10:58	37.3	160.0	1.05	2.60	-	-	-
DIL	08/19/14	P3	11:08	22.8	160.0	1.20	2.43	-	-	-
DIL	08/19/14	P4	11:18	15.8	150.0	1.03	1.62	-	-	-
DIL	08/19/14	P5	11:28	13.8	170.0	1.03	2.30	-	-	-
DIL	09/21/14	P1	8:25	67.9	200.0	0.79	3.55	-	-	-
DIL	09/21/14	P2	8:46	37.5	190.0	0.72	4.08	-	-	-
DIL	09/21/14	P3	8:51	23.4	180.0	0.66	3.68	-	-	-
DIL	09/21/14	P4	9:02	19.4	180.0	1.34	3.00	-	-	-
DIL	09/21/14	P5	9:08	18.8	190.0	1.21	2.43	-	-	-
DIL	10/19/14	P1	14:40	67.9	140.0	0.44	4.35	-	-	-
DIL	10/19/14	P2	-	37.5	130.0	0.45	3.18	-	-	-
DIL	10/19/14	P3	-	23.1	150.0	0.57	3.60	-	-	-
DIL	10/19/14	P4	-	15.6	170.0	0.33	3.80	-	-	-
DIL	10/19/14	P5	-	14.2	170.0	0.68	3.18	-	-	-
DIL	11/22/14	P1	10:20	68.4	230.0	0.58	4.73	-	-	-
DIL	11/22/14	P2	10:15	35.0	230.0	0.97	4.18	-	-	-
DIL	11/22/14	P3	10:50	23.7	210.0	0.76	4.05	-	-	-
DIL	11/22/14	P4	10:44	16.7	200.0	0.34	4.15	-	-	-
DIL	11/22/14	P5	11:20	16.9	210.0	0.83	3.85	-	-	-
DIL	08/12/15	P1	16:43	68.3	150.0	0.78	3.00	-	-	-
DIL	08/12/15	P2	16:35	38.2	150.0	0.65	3.05	-	-	-
DIL	08/12/15	P3	16:51	24.1	160.0	0.58	3.05	-	-	-
DIL	08/12/15	P4	16:57	19.0	160.0	0.58	3.10	-	-	-
DIL	08/12/15	P5	17:03	14.4	160.0	0.73	2.95	-	-	-
DIL	08/03/16	P2	17:54	40.6	180.1	1.24	-	8.70	128.0	93.8
DIL	08/03/16	P1	18:04	69.8	179.9	1.66	-	8.80	127.0	93.8
DIL	08/03/16	P4	18:17	17.1	181.2	1.24	-	8.83	131.0	94.8
DIL	08/03/16	P3	18:25	24.2	180.6	1.41	-	8.83	129.0	94.7
DIL	08/03/16	P5	18:36	13.6	189.7	1.29	-	8.96	132.0	97.9
DIL	08/24/17	P1	16:45	63.0	209.0	1.25	-	8.28	149.0	108.0
DIL	08/24/17	P2	16:28	44.5	209.0	1.29	-	8.36	149.0	108.0
DIL	08/24/17	P3	17:03	22.0	211.0	1.61	-	8.25	149.0	108.0
DIL	08/24/17	P4	16:54	19.2	211.0	1.30	-	8.22	149.0	109.0
DIL	08/24/17	P5	17:17	21.0	218.0	1.05	-	8.24	155.0	112.0
DIL	08/09/18	P5	16:36	19.2	192.0	1.14	3.45	9.26	136.0	126.0
DIL	08/09/18	P4	16:50	14.5	182.6	0.91	3.83	9.04	130.0	120.0
DIL	08/09/18	P3	17:05	21.5	181.5	1.25	3.65	9.14	129.0	119.0
DIL	08/09/18	P2	17:22	45.3	182.9	1.02	3.45	9.04	130.0	121.0
DIL	08/09/18	P1	17:32	66.5	181.7	1.07	3.55	8.94	133.0	121.0

Table A4.1. Continued. Limnological characteristics of lakes and reservoirs sampled for *Mysis*. See Table A1.1 for water codes and sampling station coordinates. Turbidity and Secchi depth values are the average of two measurements recorded at the station; TDS is total dissolved solids.

Water code	Date	Station	Time	Depth (m)	Conductivity ( $\mu\text{S}/\text{cm}$ )	Turbidity (NTU)	Secchi (m)	pH	TDS (ppm)	Salinity (mg/L)
DIL	09/23/19	P1	11:41	-	184.2	-	4.45	9.21	13.0	88.2
DIL	09/23/19	P2	11:52	-	181.8	-	3.55	8.93	12.9	87.9
DIL	09/23/19	P3	-	-	-	-	-	-	-	-
DIL	09/23/19	P4	12:11	-	161.7	-	5.28	8.70	12.9	87.6
DIL	09/23/19	P5	12:35	-	181.6	-	4.05	8.55	13.5	92.5
EST	05/31/14	EST03	-	-	-	-	-	-	-	-
EST	05/31/14	EST02	18:25	11.1	20.0	70.00	0.19	-	-	-
EST	05/31/14	EST01	-	-	-	-	-	-	-	-
EST	08/27/18	EST03	10:55	12.1	44.4	1.55	2.55	-	-	-
EST	08/27/18	EST02	11:09	11.9	44.4	1.60	2.10	-	-	-
EST	08/27/18	EST01	11:17	10.9	44.4	1.69	2.40	-	-	-
FLA	08/27/18	N/A	13:22	-	44.6	4.17	-	7.99	31.6	32.6
GDL	08/22/14	GLATW	15:00	53.3	30.0	-	3.14	-	-	-
GDL	08/22/14	GLMID	15:08	84.2	20.0	-	2.78	-	-	-
GDL	08/22/14	GLNW	15:40	55.6	20.0	-	2.55	-	-	-
GRB	08/30/11	P4	-	46	-	-	5.3	-	-	-
GRB	08/21/14	GRB01	11:27	24.5	50.0	-	3.30	-	-	-
GRB	08/21/14	GRB03	10:50	16.3	70.0	-	4.15	-	-	-
GRB	08/21/14	GRB05	11:05	53.4	50.0	-	4.68	-	-	-
GRB	08/21/14	GRB07	11:38	34.8	50.0	-	3.18	-	-	-
GRB	08/21/14	GRB09	11:48	28.0	50.0	-	3.84	-	-	-
GRB	08/13/15	GRB01	19:10	21.7	50.0	0.65	-	-	-	-
GRB	08/13/15	GRB03	19:00	16.3	50.0	0.20	-	-	-	-
GRB	08/13/15	GRB05	19:21	52.1	53.8	0.70	-	8.35	-	-
GRB	08/13/15	GRB07	20:25	31.8	51.2	0.78	-	-	-	-
GRB	08/13/15	GRB09	21:05	27.6	53.1	0.28	-	-	-	-
GRB	09/07/16	P1	16:58	23.4	61.2	-	3.0	8.74	-	-
GRB	09/07/16	P2	17:15	8.9	60.8	-	2.7	8.41	-	-
GRB	09/07/16	P3	17:27	15.3	59.8	-	2.4	8.58	-	-
GRB	09/07/16	P4	17:42	26.3	59.8	-	3.0	8.38	-	-
GRB	09/07/16	P5	18:02	34.0	59.0	-	-	8.48	-	-
GRB	09/18/17	P1	17:51	23.7	62.8	-	-	-	-	-
GRB	09/18/17	P2	18:05	15.6	61.2	-	-	-	-	-
GRB	09/18/17	P3	18:14	38.7	60.8	-	-	-	-	-
GRB	09/18/17	P4	18:25	52.9	60.9	-	-	-	-	-
GRB	09/18/17	P5	18:52	35.3	60.2	-	-	-	-	-
GRB	09/12/18	P4	17:45	38.6	68.1	-	4.15	-	8.08	-
GRB	09/25/19	P1	17:43	20.5	65.4	-	4.25	8.03	46.5	35.2
GRB	09/25/19	P2	18:00	13.3	64.4	-	3.90	7.95	45.9	35.1
GRB	09/25/19	P3	18:12	28.8	64.7	-	3.95	7.99	45.9	35.2
GRB	09/25/19	P4	18:23	53.0	64.0	-	4.18	7.95	45.5	34.6
GRB	09/25/19	P5	18:50	33.1	63.4	-	4.50	7.85	45.0	34.6

Table A4.1. Continued. Limnological characteristics of lakes and reservoirs sampled for *Mysis*. See Table A1.1 for water codes and sampling station coordinates. Turbidity and Secchi depth values are the average of two measurements recorded at the station; TDS is total dissolved solids.

Water code	Date	Station	Time	Depth (m)	Conductivity ( $\mu\text{S}/\text{cm}$ )	Turbidity (NTU)	Secchi (m)	pH	TDS (ppm)	Salinity (mg/L)
GRE	07/23/14	GRE01	15:35	16.2	180.0	1.90	3.00	-	-	-
GRE	07/23/14	GRE03	15:55	13.8	190.0	1.95	-	-	-	-
GRE	07/23/14	GRE05	18:43	25.0	180.0	1.85	2.40	-	-	-
GRE	07/23/14	GRE07	16:17	16.8	180.0	1.85	-	-	-	-
GRE	07/23/14	GRE09	16:25	30.9	180.0	2.50	-	-	-	-
GRO	05/30/14	GRO01	17:00	75.0	90.0	1.30	2.12	-	-	-
GRO	05/30/14	GRO03	17:21	52.2	90.0	1.25	-	-	-	-
GRO	05/30/14	GRO05	17:37	15.0	90.0	1.50	1.80	-	-	-
GRO	08/28/19	GRO01	16:18	52.0	53.4	0.75	5.28	8.55	37.8	33.8
GRO	08/28/19	GRO03	16:40	54.0	53.6	0.75	5.70	8.67	38.0	33.9
GRO	08/28/19	GRO05	16:57	32.0	53.5	0.65	5.35	5.50	38.0	34.1
HOM	08/10/18	HOM01	17:01	65.2	17.5	0.35	5.05	8.75	12.5	16.0
HOM	08/10/18	HOM03	17:30	58.3	17.4	0.36	5.85	7.96	12.5	15.8
HOM	08/10/18	HOM05	17:18	15.4	17.4	0.35	5.45	8.36	12.4	16.3
HST	06/15/15	HST02	16:24	52.8	80.0	3.50	1.18	-	-	-
HST	06/15/15	HST05	17:02	44.3	80.0	3.30	1.25	-	-	-
HST	06/15/15	HST06	17:12	48.4	80.0	3.10	1.43	-	-	-
HST	06/15/15	HST08	17:21	36.5	80.0	2.30	1.38	-	-	-
HST	06/15/15	HST10	17:30	29.4	90.0	1.50	1.75	-	-	-
HST	07/13/15	HST01	17:25	16.2	80.0	2.50	3.13	-	-	-
HST	07/13/15	HST02	17:35	31.5	80.0	1.74	2.68	-	-	-
HST	07/13/15	HST03	17:45	43.5	80.0	1.65	3.28	-	-	-
HST	07/13/15	HST04	17:51	33.7	90.0	1.65	2.86	-	-	-
HST	07/13/15	HST05	17:57	55.9	90.0	1.65	-	-	-	-
HST	06/08/16	HST01	14:45	15.1	81.6	2.39	2.30	8.73	-	-
HST	06/08/16	HST03	15:06	47.6	81.3	2.27	2.90	8.72	-	-
HST	06/08/16	HST05	15:15	45.5	81.4	1.86	2.60	8.72	-	-
HST	06/08/16	HST07	15:27	53.8	81.7	2.50	3.00	8.71	-	-
HST	06/08/16	HST09	15:41	48.4	82.3	2.45	3.10	8.57	-	-
HST	05/22/17	HST02	13:38	53.5	71.5	1.96	1.98	8.47	50.8	37.8
HST	05/22/17	HST06	15:11	53.5	72.8	1.64	-	8.62	51.7	37.8
HST	05/22/17	HST09	14:23	44.0	73.2	1.51	2.20	8.48	52.0	37.8
HST	08/22/17	HST02	9:28	48.7	66.9	2.64	2.20	8.10	47.5	38.9
HST	08/22/17	HST06	10:00	56.0	66.8	3.44	1.88	7.91	47.4	38.9
HST	08/22/17	HST09	10:33	49.5	66.6	2.41	2.45	7.90	47.6	39.1
HST	09/05/18	HST02	17:21	36.3	52.1	4.59	1.85	8.18	36.9	37.9
HST	09/05/18	HST03	17:34	22.6	51.3	3.95	1.85	8.18	36.6	37.6
HST	09/05/18	HST05	17:45	32.5	51.1	3.76	2.00	8.18	36.3	37.4
HST	09/05/18	HST07	17:53	18.6	51.0	3.03	2.15	8.16	36.3	37.4
HST	09/05/18	HST09	18:02	45.0	50.7	2.60	2.35	7.52	36.0	37.2
IVA	07/28/16	IVA01	9:20	5.5	-	-	-	-	-	-
IVA	07/28/16	IVA02	9:34	5.0	-	-	-	-	-	-

Table A4.1. Continued. Limnological characteristics of lakes and reservoirs sampled for *Mysis*. See Table A1.1 for water codes and sampling station coordinates. Turbidity and Secchi depth values are the average of two measurements recorded at the station; TDS is total dissolved solids.

Water code	Date	Station	Time	Depth (m)	Conductivity ( $\mu\text{S}/\text{cm}$ )	Turbidity (NTU)	Secchi (m)	pH	TDS (ppm)	Salinity (mg/L)
IVA	07/28/16	IVA03	10:30	7.1	14.0	1.22	3.40	7.90	9.9	12.8
JEF	08/11/15	JEF01	18:47	16.3	70.0	0.80	7.98	-	-	-
JEF	08/11/15	JEF03	19:00	50.8	70.0	0.30	8.45	-	-	-
JEF	08/11/15	JEF05	19:30	19.2	80.0	0.48	8.73	-	-	-
JEF	06/07/18	JEF02	14:32	34.0	65.7	1.73	5.07	8.84	46.6	41.6
JEF	06/07/18	JEF03	14:55	48.0	65.3	0.80	4.51	8.77	46.5	42.0
JEF	06/07/18	JEF05	15:24	21.5	65.2	0.80	4.60	8.63	46.5	41.5
JEF	07/14/18	JEF01	16:10	10.0	64.8	0.82	7.05	8.85	46.1	43.6
JEF	07/14/18	JEF03	16:22	49.1	64.9	0.40	7.50	8.86	46.1	43.8
JEF	07/14/18	JEF05	15:58	15.2	64.8	0.96	6.65	8.85	46.1	44.0
JEF	08/11/18	JEF01	18:15	15.2	66.3	0.53	8.00	9.13	47.0	44.7
JEF	08/11/18	JEF03	17:45	38.9	66.1	0.50	8.38	9.05	46.9	44.8
JEF	08/11/18	JEF05	17:35	20.0	65.9	0.40	7.88	9.15	46.8	44.8
JEF	09/06/18	JEF01	17:00	15.0	67.2	0.74	7.40	8.79	47.7	44.3
JEF	09/06/18	JEF03	17:07	46.8	67.0	0.65	7.35	8.60	47.6	44.3
JEF	09/06/18	JEF05	17:38	19.3	67.2	0.55	6.30	8.78	47.6	44.4
JEF	10/04/18	JEF01	18:00	12.0	68.5	1.04	4.90	8.73	49.2	43.9
JEF	10/04/18	JEF03	18:15	46.2	68.6	1.00	4.78	8.68	48.6	43.8
JEF	10/04/18	JEF05	18:22	20.1	68.2	0.83	5.40	8.65	48.5	43.8
LMR	06/22/16	LMR01	9:56	1.5	-	-	-	-	-	-
LMR	06/22/16	LMR02	10:02	1.8	-	-	-	-	-	-
LMR	06/22/16	LMR03	10:08	3.7	22.1	2.50	-	-	-	-
CMP	07/07/16	CMP01	9:00	1.0	20.2	1.95	-	8.19	-	-
LTL	05/27/14	LTL06	17:45	23.5	50.0	0.45	3.86	-	-	-
LTL	06/22/14	LTL01	17:12	24.2	60.0	1.10	2.28	-	-	-
LTL	06/22/14	LTL03	17:20	23.8	60.0	0.98	2.28	-	-	-
LTL	06/22/14	LTL05	17:27	15.4	60.0	0.93	2.35	-	-	-
LTL	06/22/14	LTL07	17:34	15.0	60.0	0.83	1.85	-	-	-
LTL	07/22/14	LTL06	22:40	27.5	70.0	0.50	-	-	-	-
LTL	08/19/14	LTL01	18:40	23.1	70.0	0.40	4.32	-	-	-
LTL	08/19/14	LTL03	18:48	22.9	70.0	0.35	4.78	-	-	-
LTL	08/19/14	LTL05	19:02	14.5	70.0	0.65	4.45	-	-	-
LTL	08/19/14	LTL07	18:55	14.3	70.0	0.40	5.16	-	-	-
LTL	09/25/14	LTL01	18:54	24.0	70.0	0.14	-	-	-	-
LTL	09/25/14	LTL03	18:50	23.3	70.0	0.21	-	-	-	-
LTL	09/25/14	LTL05	18:45	15.6	60.0	0.15	-	-	-	-
LTL	09/25/14	LTL07	18:40	15.0	60.0	0.22	-	-	-	-
LTL	10/20/14	LTL01	16:09	24.3	70.0	0.05	6.15	-	-	-
LTL	10/20/14	LTL03	16:17	23.4	70.0	0.00	6.18	-	-	-
LTL	10/20/14	LTL05	16:23	15.3	70.0	0.50	6.38	-	-	-
LTL	10/20/14	LTL07	16:28	15.3	70.0	0.01	6.05	-	-	-
LTL	11/21/14	LTL01	15:30	24.8	70.0	0.35	4.00	-	-	-

Table A4.1. Continued. Limnological characteristics of lakes and reservoirs sampled for *Mysis*. See Table A1.1 for water codes and sampling station coordinates. Turbidity and Secchi depth values are the average of two measurements recorded at the station; TDS is total dissolved solids.

Water code	Date	Station	Time	Depth (m)	Conductivity ( $\mu\text{S}/\text{cm}$ )	Turbidity (NTU)	Secchi (m)	pH	TDS (ppm)	Salinity (mg/L)
LTL	11/21/14	LTL03	15:40	24.2	70.0	0.12	4.25	-	-	-
LTL	11/21/14	LTL05	15:47	16.3	80.0	0.27	-	-	-	-
LTL	11/21/14	LTL07	15:53	15.8	80.0	0.50	-	-	-	-
MAR	08/27/18	N/A	11:45	-	45.8	2.37	-	8.31	32.4	33.1
MCL	07/08/16	MCL01	17:45	10.5	15.1	0.87	3.60	8.10	-	-
MCL	07/08/16	MCL02	18:00	10.1	-	-	-	-	-	-
MEF	09/08/15	MEF01	19:36	8.5	81.0	0.68	-	-	-	-
MEF	09/08/15	MEF02	19:50	14.3	81.0	0.83	-	-	-	-
MEF	09/08/15	MEF03	20:14	15.8	81.0	0.38	-	-	-	-
MEF	08/30/18	MEF03	16:48	-	62.4	0.64	5.45	7.78	44.5	42.9
NOR	06/21/16	NOR01	13:45	1.0	-	-	-	-	-	-
NOR	06/21/16	NOR02	13:58	1.5	-	-	-	-	-	-
NOR	06/21/16	NOR03	14:01	2.1	29.0	13.15	2.03	7.98	-	-
PAS	08/12/15	PAS01	14:00	3.0	70.0	0.53	-	-	-	-
PIN	05/01/14	PIN01	14:30	16.6	60.0	-	0.95	6.80	-	-
PIN	05/01/14	PIN02	14:45	10.0	-	-	-	-	-	-
PIN	05/01/14	PIN03	14:55	5.0	-	-	-	-	-	-
PUE	10/23/14	PUE01	14:47	33.1	320.0	1.84	1.33	-	-	-
PUE	10/23/14	PUE03	15:13	25.3	320.0	1.47	1.38	-	-	-
PUE	10/23/14	PUE05	15:31	18.1	280.0	1.59	1.84	-	-	-
PUE	10/23/14	PUE07	15:50	15.2	290.0	1.37	1.65	-	-	-
PUE	10/23/14	PUE09	16:09	10.0	310.0	1.33	1.50	-	-	-
PUE	07/10/17	PUE09	12:00	16.0	33.1	2.66	2.23	9.00	23.5	17.2
PUE	07/10/17	PUE07	12:15	21.2	33.1	2.35	2.50	8.99	23.1	17.4
PUE	07/10/17	PUE05	12:25	24.2	33.9	2.55	2.60	8.97	24.1	17.6
PUE	07/10/17	PUE03	12:31	31.3	35.6	1.91	2.85	8.94	25.3	17.7
PUE	07/10/17	PUE01	12:42	27.8	35.7	2.03	2.85	8.84	25.6	18.6
RW1	07/07/16	RW101	17:00	3.0	14.7	0.71	-	8.11	-	-
RW1	07/07/16	RW102	-	3.0	-	0.98	-	-	-	-
RW2	07/09/16	RW201	19:30	3.0	14.6	1.11	-	8.35	-	-
RW2	07/09/16	RW202	19:50	3.0	-	0.95	-	-	-	-
RW3	07/09/16	RW301	-	14.0	-	-	-	-	-	-
RW3	07/09/16	RW302	17:30	37.0	14.6	0.75	3.40	8.30	-	-
RW3	07/09/16	RW303	-	27.0	-	-	-	-	-	-
RW4	07/09/16	RW401	20:00	5.4	13.7	0.98	-	8.10	-	-
RUE	06/25/14	RUE01	17:03	54.2	100.0	1.60	1.28	-	-	-
RUE	06/25/14	RUE03	16:49	66.0	100.0	1.35	1.21	-	-	-
RUE	06/25/14	RUE05	16:42	24.0	100.0	1.95	0.95	-	-	-
RUE	06/25/14	RUE07	16:38	17.5	100.0	1.55	1.21	-	-	-
RUE	06/25/14	RUE09	16:28	32.4	100.0	1.55	1.30	-	-	-
SEL	07/27/16	SEL01	13:06	1.5	-	-	-	-	-	-
SEL	07/27/16	SEL02	13:23	7.4	24.9	7.94	1.93	8.02	17.6	18.6

Table A4.1. Continued. Limnological characteristics of lakes and reservoirs sampled for *Mysis*. See Table A1.1 for water codes and sampling station coordinates. Turbidity and Secchi depth values are the average of two measurements recorded at the station; TDS is total dissolved solids.

Water code	Date	Station	Time	Depth (m)	Conductivity ( $\mu\text{S}/\text{cm}$ )	Turbidity (NTU)	Secchi (m)	pH	TDS (ppm)	Salinity (mg/L)
SEL	07/27/16	SEL03	13:18	1.1	-	-	-	-	-	-
SHA	08/22/14	SHA01	16:25	9.6	50.0	-	1.52	-	-	-
STI	07/16/15	STI01	12:54	14.6	70.0	1.65	2.00	-	-	-
STI	07/16/15	STI02	15:53	15.2	70.0	0.78	2.00	-	-	-
STI	07/16/15	STI03	16:02	14.3	70.0	1.20	1.95	-	-	-
STR	07/13/18	STR01	17:24	57.0	251.0	1.15	4.40	8.58	179.0	166.0
STR	07/13/18	STR02	18:46	54.0	250.0	1.04	4.60	8.58	178.0	166.0
STR	07/13/18	STR03	18:40	37.0	250.0	1.00	3.65	8.55	177.0	165.0
SUG	07/08/16	SUG01	13:10	15.0	15.1	0.66	4.10	8.20	-	-
SUG	07/08/16	SUG02	13:20	11.0	-	-	-	-	-	-
SUG	07/08/16	SUG03	13:30	11.0	-	-	-	-	-	-
TAY	07/13/10	TYP1	11:10	13.0	-	-	3.62	-	-	-
TAY	07/13/10	TYP2	11:50	42.0	-	-	3.75	-	-	-
TAY	07/13/10	TYP3	12:15	38.0	-	-	3.62	-	-	-
TAY	07/13/10	TYP4	12:35	12.0	-	-	3.75	-	-	-
TAY	07/13/10	TYP5	13:00	12.0	-	-	3.62	-	-	-
TAY	08/29/11	P1	-	11.0	-	-	6.41	-	-	-
TAY	08/29/11	P2	-	17.0	-	-	6.16	-	-	-
TAY	08/29/11	P3	-	33.0	-	-	6.28	-	-	-
TAY	08/29/11	P4	-	12.0	-	-	6.37	-	-	-
TAY	08/29/11	P5	-	10.0	-	-	7.26	-	-	-
TAY	06/26/14	TAY03	20:10	43.0	80.0	0.95	2.23	-	-	-
TAY	08/22/17	P1	16:25	12.0	98.2	-	3.88	8.23	-	-
TAY	08/22/17	P2	16:42	40.0	98.5	-	4.38	8.27	-	-
TAY	08/22/17	P3	16:52	40.0	98.5	-	4.38	8.25	-	-
TAY	08/22/17	P4	17:04	13.5	98.5	-	3.88	8.20	-	-
TAY	08/22/17	P5	17:13	12.0	98.4	-	3.88	8.22	-	-
TAY	09/11/18	P1	17:25	10.3	116.3	-	4.38	8.58	-	-
TAY	09/11/18	P2	18:02	24.8	114.7	-	5.35	8.47	-	-
TAY	09/11/18	P3	17:54	28.0	114.7	-	5.75	8.45	-	-
TAY	09/11/18	P4	17:46	11.5	114.7	-	4.75	8.50	-	-
TAY	09/11/18	P5	17:36	10.5	115.0	-	5.35	8.56	-	-
TAY	09/26/19	P1	17:29	11.0	105.6	-	4.75	8.24	74.9	54.0
TAY	09/26/19	P2	17:45	10.1	103.4	-	4.20	8.36	73.3	52.6
TAY	09/26/19	P3	17:51	11.0	102.5	-	4.60	8.31	72.6	52.3
TAY	09/26/19	P4	17:58	32.3	102.8	-	3.80	8.07	72.9	52.3
TAY	09/26/19	P5	18:05	32.8	102.9	-	4.50	8.00	73.0	52.2
TUR	06/21/14	TUR01	18:17	24.6	20.0	1.85	2.88	-	-	-
TUR	06/21/14	TUR03	18:35	29.2	20.0	1.20	2.25	-	-	-
TUR	06/21/14	TUR05	18:45	27.7	20.0	1.10	2.40	-	-	-
TUR	06/21/14	TUR07	18:55	14.3	20.0	1.35	2.25	-	-	-
TUR	06/21/14	TUR09	19:03	13.7	20.0	1.05	2.58	-	-	-

Table A4.1. Continued. Limnological characteristics of lakes and reservoirs sampled for *Mysis*. See Table A1.1 for water codes and sampling station coordinates. Turbidity and Secchi depth values are the average of two measurements recorded at the station; TDS is total dissolved solids.

Water code	Date	Station	Time	Depth (m)	Conductivity ( $\mu\text{S}/\text{cm}$ )	Turbidity (NTU)	Secchi (m)	pH	TDS (ppm)	Salinity (mg/L)
TUR	09/21/14	TUR01	13:38	24.9	30.0	0.18	3.13	-	-	-
TUR	09/21/14	TUR03	13:35	32.8	30.0	0.27	3.18	-	-	-
TUR	09/21/14	TUR05	13:29	30.9	30.0	0.52	2.75	-	-	-
TUR	09/21/14	TUR07	13:23	16.3	30.0	0.37	3.40	-	-	-
TUR	09/21/14	TUR09	13:18	17.0	30.0	0.68	2.40	-	-	-
UCL	09/04/14	UCL01	11:52	23.5	10.0	0.78	-	-	-	-
UCL	07/06/16	UCL01	19:30	22.0	17.3	1.73	-	-	-	-
UCL	07/06/16	UCL02	-	15.0	-	-	-	-	-	-
UCL	07/06/16	UCL03	-	17.0	-	-	-	-	-	-
UST	07/15/15	UST01	16:43	6.4	80.0	1.30	-	-	-	-
UST	07/15/15	UST02	17:03	6.2	80.0	1.50	5.05	-	-	-
UST	07/15/15	UST03	17:11	7.3	90.0	1.55	-	-	-	-
UTL	06/22/14	UTL01	19:32	28.9	60.0	3.00	0.95	-	-	-
UTL	06/22/14	UTL02	19:50	18.7	60.0	3.35	1.20	-	-	-
UTL	06/22/14	UTL03	19:55	22.0	60.0	3.05	1.05	-	-	-
UTL	07/22/14	UTL01	21:15	29.1	70.0	1.25	-	-	-	-
UTL	06/04/19	UTL01	12:50	23.1	92.8	5.22	1.55	8.99	66.1	50.1
WCR	08/23/14	WCR01	19:25	25.8	130.0	1.35	-	-	-	-
WCR	08/23/14	WCR02	20:05	22.4	130.0	1.40	-	-	-	-
WCR	08/23/14	WCR03	19:53	16.0	140.0	1.10	-	-	-	-
YAM	07/14/15	YAM01	18:10	15.5	90.0	0.53	-	-	-	-
YAM	07/14/15	YAM02	18:19	21.0	100.0	0.53	-	-	-	-
YAM	07/14/15	YAM03	18:27	24.6	100.0	0.53	-	-	-	-
YAM	08/29/18	N/A	11:30	3.3	89.3	3.67	-	9.13	62.0	57.8

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## **Appendix 5 - Zooplankton data**

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Table A5.1. Density (individuals/L) of crustacean zooplankton taxa sampled at Blue Mesa Reservoir, Gunnison County, Colorado. Taxa were not identified to species in 2016.

Taxon	Station			Mean	SD
	P3	P1	P2		
08/01/11					
<i>Bosmina longirostris</i>	0.00	0.00	0.45	0.23	0.32
<i>Ceriodaphnia quadrangula</i>	0.00	0.27	0.00	0.14	0.19
<i>Daphnia</i> spp.	2.95	6.43	3.04	4.73	2.40
<i>Daphnia mendotae</i>	0.35	0.98	0.33	0.65	0.46
<i>Daphnia pulicaria</i>	6.66	12.33	5.99	9.16	4.48
<i>Diacyclops b. thomasi</i>	12.96	8.19	7.36	7.77	0.59
<i>Leptodiatomus nudus</i>	2.67	8.16	16.56	12.36	5.94
Sum	25.58	36.35	33.71	35.03	--
08/20/12					
<i>Bosmina longirostris</i>	1.20	3.00	15.00	6.40	7.50
<i>Ceriodaphnia quadrangula</i>	5.00	4.10	5.70	4.93	0.80
<i>Daphnia</i> spp.	1.50	2.20	4.30	2.67	1.46
<i>Daphnia mendotae</i>	1.20	0.50	0.50	0.73	0.40
<i>Daphnia pulicaria</i>	1.90	4.60	13.60	6.70	6.13
<i>Diacyclops b. thomasi</i>	9.00	5.60	9.20	7.93	2.02
<i>Leptodiatomus nudus</i>	4.80	4.60	1.90	3.77	1.62
Sum	24.60	24.60	50.20	33.13	--
08/11/16					
<i>Bosmina</i> spp.	0.26	0.26	2.40	0.97	1.24
<i>Ceriodaphnia</i> spp.	0.00	0.00	0.00	0.00	0.00
<i>Daphnia</i> spp.	8.16	4.85	12.93	8.65	4.06
<i>Daphnia mendotae</i>	--	--	--	--	--
<i>Daphnia pulicaria</i>	--	--	--	--	--
Cyclopoid	21.31	10.72	11.84	14.62	5.82
Calanoid	8.55	6.41	8.12	7.69	1.13
Sum	38.28	22.24	35.29	31.94	

Table A5.2. Density (individuals/L) of crustacean zooplankton taxa sampled at Boulder Reservoir, Boulder County, Colorado, on 07/10/18.

Taxon	Station			Mean	SD
	BLD01	BLD02	BLD03		
<i>Bosmina longirostris</i>	0.51	0.85	0.17	0.51	0.34
Copepod nauplius	1.70	2.55	2.38	2.21	0.45
<i>Daphnia galeata</i>	0.51	0.00	0.34	0.28	0.26
<i>Daphnia pulex/pulicaria</i>	0.51	0.85	0.00	0.45	0.43
<i>Daphnia neonates</i>	1.02	0.68	0.00	0.57	0.52
<i>Diatom thomasi</i>	1.19	0.00	0.68	0.62	0.60
<i>Leptodiptomus connexus</i>	0.51	0.00	0.00	0.17	0.29
<i>Leptodiptomus nudus</i>	6.47	5.79	9.36	7.21	1.90
Sum	12.42	10.72	12.93	12.02	--

Table A5.3. Density (individuals/L) of crustacean zooplankton taxa sampled at Carter Reservoir, Larimer County, Colorado.

Taxon	Station					Mean	SD
	CAR01	CAR03	CAR05	CAR07	CAR09		
05/02/14							
Copepod nauplius	0.19	0.47	0.47	0.00	0.00	0.22	0.23
Copepod	0.03	0.07	0.00	0.03	0.07	0.04	0.03
<i>Daphnia pulicaria/pulex</i>	0.00	0.00	0.00	0.03	0.00	0.01	0.01
<i>Daphnia</i> spp.	0.00	0.07	0.00	0.00	0.00	0.01	0.03
<i>Diacyclops thomasi</i>	4.56	9.84	17.21	2.95	1.74	7.26	6.36
<i>Leptodiptomus nudus</i>	0.49	2.56	3.16	0.84	0.62	1.53	1.23
Sum	5.26	13.01	20.83	3.84	2.43	9.08	--
05/28/14							
Copepod nauplius	2.79	1.24	1.95	3.72	0.93	2.13	1.02
Copepod	0.23	0.00	0.00	0.00	0.00	0.05	0.09
<i>Daphnia pulicaria/pulex</i>	0.00	0.16	0.00	0.00	0.00	0.03	0.06
<i>Diacyclops thomasi</i>	42.32	25.42	45.48	36.27	46.81	39.26	7.82
<i>Leptodiptomus nudus</i>	15.11	7.44	9.49	16.44	11.47	11.99	3.37
Sum	60.46	34.26	56.92	56.43	59.21	53.46	--
06/20/14							
<i>Bosmina longirostris</i>	0.37	0.21	0.00	0.00	0.00	0.12	0.15
Copepod nauplius	0.19	0.21	0.00	0.19	0.00	0.12	0.10
<i>Daphnia galeata</i>	0.74	2.39	1.86	0.56	1.74	1.46	0.70
<i>Daphnia pulicaria/pulex</i>	10.60	6.30	5.81	5.58	3.91	6.44	2.23
<i>Daphnia</i> spp.	0.56	0.87	0.23	0.19	0.87	0.54	0.29
<i>Daphnia neonates</i>	0.00	1.30	0.47	0.56	0.00	0.47	0.48
<i>Diacyclops thomasi</i>	10.05	19.75	16.97	12.46	16.71	15.19	3.47
<i>Leptodiptomus nudus</i>	3.91	12.37	12.56	12.65	12.58	10.81	3.45
Sum	26.42	43.40	37.90	32.18	35.81	35.14	--
07/24/14							
<i>Alona guttata</i>	0.07	0.00	0.00	0.00	0.00	0.01	0.03
<i>Bosmina longirostris</i>	0.00	0.11	0.00	0.00	0.00	0.02	0.04
Copepod nauplius	0.00	0.00	0.00	0.16	0.00	0.03	0.06
Copepod	0.00	0.11	0.00	0.00	0.00	0.02	0.04
<i>Daphnia galeata</i>	0.00	0.00	0.16	0.00	0.31	0.09	0.12
<i>Daphnia pulicaria/pulex</i>	2.17	3.47	3.56	0.00	3.56	2.55	1.38
<i>Daphnia</i> spp.	0.39	0.43	0.47	1.09	1.40	0.76	0.41
<i>Diacyclops thomasi</i>	4.42	4.56	6.51	4.65	6.05	5.24	0.87
<i>Leptodiptomus nudus</i>	7.13	10.31	10.39	10.39	11.32	9.91	1.44
Sum	14.18	18.99	21.09	16.29	22.64	18.64	--

Table A5.3. Continued. Density (individuals/L) of crustacean zooplankton taxa sampled at Carter Reservoir, Larimer County, Colorado.

Taxon	Station					Mean	SD
	CAR01	CAR03	CAR05	CAR07	CAR09		
08/17/14							
<i>Bosmina longirostris</i>	0.00	0.12	0.37	0.00	0.28	0.15	0.15
Copepod nauplius	0.12	0.25	0.12	0.00	0.28	0.15	0.10
<i>Daphnia galeata</i>	0.25	0.12	0.00	0.25	0.19	0.16	0.09
<i>Daphnia pulicaria/pulex</i>	2.86	2.60	1.49	2.23	1.86	2.21	0.49
<i>Daphnia</i> spp.	0.12	0.25	0.12	0.25	0.19	0.19	0.06
<i>Daphnia</i> neonates	0.49	0.49	0.12	0.12	0.28	0.30	0.17
<i>Diacyclops thomasi</i>	2.35	1.98	3.60	2.98	1.30	2.44	0.79
<i>Diaphanosoma brachyurum</i>	0.00	0.00	0.37	0.00	0.09	0.09	0.14
<i>Leptodiatomus nudus</i>	14.39	17.49	17.11	10.54	11.16	14.14	2.90
Sum	20.58	23.30	23.30	16.37	15.63	19.84	--
09/24/14							
<i>Bosmina longirostris</i>	0.00	0.00	0.00	0.37	0.00	0.07	0.15
Copepod nauplius	0.07	0.77	0.93	0.37	1.55	0.74	0.51
Copepod	0.12	0.16	0.00	0.49	0.00	0.15	0.18
<i>Daphnia galeata</i>	0.12	0.31	0.23	0.00	0.16	0.16	0.10
<i>Daphnia pulicaria/pulex</i>	1.05	2.95	2.09	0.25	0.31	1.33	1.05
<i>Daphnia</i> spp.	0.12	0.77	0.93	0.00	0.93	0.55	0.41
<i>Daphnia</i> neonates	0.00	0.31	0.70	0.00	0.16	0.23	0.26
<i>Diacyclops thomasi</i>	1.80	4.81	7.44	4.84	7.75	5.33	2.16
<i>Diaphanosoma birgei</i>	0.00	0.00	0.00	0.25	0.00	0.05	0.10
<i>Diaphanosoma brachyurum</i>	0.12	0.00	0.00	0.49	0.31	0.18	0.19
<i>Leptodiatomus nudus</i>	3.16	9.92	17.67	5.58	10.23	9.31	4.96
Sum	6.56	20.00	30.00	12.65	21.39	18.12	--
10/21/14							
<i>Bosmina longirostris</i>	0.00	0.00	0.00	0.12	0.25	0.07	0.10
Copepod nauplius	0.93	0.49	0.62	0.37	0.74	0.63	0.19
Copepod	0.09	0.00	0.00	0.00	0.00	0.02	0.04
<i>Daphnia galeata</i>	0.00	0.37	0.00	0.00	0.00	0.07	0.15
<i>Daphnia pulicaria/pulex</i>	0.47	0.25	0.47	0.49	0.37	0.41	0.09
<i>Daphnia</i> spp.	0.19	0.49	0.62	0.87	1.37	0.71	0.40
<i>Daphnia</i> neonates	0.09	0.00	0.00	0.12	0.12	0.07	0.06
<i>Diacyclops thomasi</i>	9.58	12.03	17.05	15.13	6.95	12.15	3.65
<i>Diaphanosoma brachyurum</i>	0.00	0.12	0.62	1.74	0.87	0.67	0.62
<i>Leptodiatomus nudus</i>	5.67	8.06	16.44	11.16	6.07	9.48	3.98
Sum	5.67	8.06	16.44	11.16	6.07	9.48	--

Table A5.3. Continued. Density (individuals/L) of crustacean zooplankton taxa sampled at Carter Reservoir, Larimer County, Colorado.

Taxon	Station					Mean	SD
	CAR01	CAR03	CAR05	CAR07	CAR09		
11/23/14							
<i>Bosmina longirostris</i>	0.05	0.19	0.07	0.09	0.05	0.09	0.05
Copepod nauplius	0.05	0.19	0.07	0.00	0.09	0.08	0.06
Copepod	0.05	0.00	0.00	0.05	0.09	0.04	0.03
<i>Daphnia</i> spp.	0.09	0.00	0.16	0.09	0.05	0.08	0.05
<i>Diacyclops thomasi</i>	1.86	9.39	8.60	5.12	6.79	6.35	2.69
<i>Leptodiptomus nudus</i>	0.60	5.49	6.90	2.93	2.56	3.70	2.23
Sum	2.70	15.25	15.81	8.28	9.63	10.33	--
12/17/14							
Copepod nauplius	0.00	0.07	0.00	0.07	0.00	0.03	0.03
Copepod spp.	0.09	0.00	0.00	0.16	0.00	0.05	0.06
<i>Diacyclops thomasi</i>	8.19	7.13	2.70	8.91	5.52	6.49	2.21
<i>Leptodiptomus nudus</i>	11.25	4.28	1.61	7.52	5.14	5.96	3.25
Sum	19.53	11.48	4.31	16.66	10.66	12.53	--
01/21/15							
<i>Bosmina longirostris</i>	0.00	0.00	0.00	0.00	0.05	0.01	0.02
Copepod nauplius	0.00	0.07	0.00	0.03	0.00	0.02	0.03
Copepod	0.01	0.00	0.37	0.14	0.14	0.13	0.13
<i>Diacyclops thomasi</i>	0.75	7.75	4.28	2.14	3.30	3.64	2.37
<i>Leptodiptomus nudus</i>	0.35	3.72	2.56	1.42	3.26	2.26	1.23
Sum	1.12	11.53	7.21	3.73	6.74	6.07	--
02/18/15							
<i>Bosmina longirostris</i>	0.00	0.00	0.00	0.00	0.07	0.01	0.03
Copepod	0.00	0.00	0.00	0.12	0.03	0.03	0.05
<i>Diacyclops thomasi</i>	2.95	1.53	4.03	1.55	1.93	2.40	0.96
<i>Leptodiptomus nudus</i>	1.21	0.65	2.33	1.49	0.96	1.33	0.57
Sum	4.16	2.19	6.35	3.16	2.98	3.77	--
03/20/15							
<i>Bosmina longirostris</i>	0.07	0.00	0.00	0.00	0.00	0.01	0.03
Copepod nauplius	0.21	0.12	0.09	0.00	0.05	0.09	0.07
Copepod	0.09	0.00	0.00	0.00	0.05	0.03	0.04
<i>Diacyclops thomasi</i>	3.10	4.46	10.14	4.59	2.70	5.00	2.68
<i>Leptodiptomus nudus</i>	1.24	4.77	10.14	3.10	3.30	4.51	3.03
Sum	4.71	9.36	20.37	7.68	6.09	9.64	--

Table A5.3. Continued. Density (individuals/L) of crustacean zooplankton taxa sampled at Carter Reservoir, Larimer County, Colorado.

Taxon	Station					Mean	SD
	CAR01	CAR03	CAR05	CAR07	CAR09		
04/15/15							
<i>Bosmina longirostris</i>	0.00	0.12	0.00	0.00	0.03	0.03	0.05
Copepod nauplius	0.09	0.37	0.07	0.03	0.01	0.11	0.13
Copepod	0.09	0.37	0.07	0.05	0.05	0.12	0.12
<i>Daphnia galeata</i>	0.00	0.00	0.00	0.02	0.00	0.00	0.01
<i>Daphnia pulicaria/pulex</i>	0.00	0.00	0.07	0.00	0.02	0.02	0.03
<i>Daphnia</i> spp.	0.09	0.12	0.00	0.02	0.02	0.05	0.05
<i>Diacyclops thomasi</i>	6.14	10.79	6.82	1.38	0.43	5.11	3.80
<i>Leptodiatomus nudus</i>	7.07	4.59	0.25	0.20	0.03	2.43	2.89
Sum	13.49	16.36	7.26	1.69	0.58	7.88	--
05/14/15							
Copepod nauplius	0.11	1.67	4.46	7.19	4.96	3.68	2.50
Copepod	0.00	0.00	0.00	1.74	1.24	0.60	0.75
<i>Daphnia pulicaria/pulex</i>	0.11	0.00	0.00	0.00	0.00	0.02	0.04
<i>Diacyclops thomasi</i>	19.86	47.62	43.90	39.93	24.81	35.22	10.92
<i>Leptodiatomus nudus</i>	0.98	3.35	10.17	18.60	14.63	9.54	6.63
Sum	21.06	52.64	58.53	67.46	45.63	49.07	--
06/16/15							
<i>Bosmina longirostris</i>	0.31	0.00	0.00	0.00	0.00	0.06	0.12
Copepod nauplius	3.72	0.93	1.86	0.62	0.62	1.55	1.18
Copepod	0.93	0.93	0.23	1.24	0.93	0.85	0.33
Cyclopoid	0.62	0.00	0.00	0.00	0.00	0.12	0.25
<i>Daphnia galeata</i>	0.31	0.00	0.47	0.62	0.62	0.40	0.23
<i>Daphnia pulicaria/pulex</i>	0.00	0.00	0.23	0.31	0.00	0.11	0.13
<i>Diacyclops thomasi</i>	30.39	29.76	28.14	27.90	17.67	26.77	4.65
<i>Leptodiatomus nudus</i>	21.70	22.63	16.04	15.19	13.02	17.72	3.77
Sum	57.97	54.25	46.97	45.88	32.87	47.59	--

Table A5.3. Continued. Density (individuals/L) of crustacean zooplankton taxa sampled at Carter Reservoir, Larimer County, Colorado.

Taxon	Station					Mean	SD
	CAR01	CAR03	CAR05	CAR07	CAR09		
07/17/15							
<i>Bosmina longirostris</i>	0.00	0.00	0.00	0.00	0.16	0.03	0.06
Copepod nauplius	0.00	0.16	0.00	0.31	0.16	0.12	0.12
Copepod	0.00	0.16	0.00	0.00	0.16	0.06	0.08
<i>Daphnia galeata</i>	1.55	0.77	1.86	0.00	0.16	0.87	0.74
<i>Daphnia pulicaria/pulex</i>	13.95	8.99	5.95	3.26	2.79	6.99	4.13
<i>Daphnia</i> spp.	0.77	2.17	0.56	1.09	0.77	1.07	0.57
<i>Daphnia</i> neonates	0.77	0.16	0.56	0.31	0.31	0.42	0.22
<i>Diacyclops thomasi</i>	9.69	13.33	9.67	5.74	10.85	9.86	2.45
<i>Diaphanosoma brachyurum</i>	0.39	0.00	0.00	0.31	0.00	0.14	0.17
<i>Leptodiatomus nudus</i>	31.39	12.86	18.60	14.88	11.63	17.87	7.16
Sum	58.52	38.60	37.20	25.89	26.98	37.44	--
08/10/15							
	<u>CAR03</u>	<u>CAR05</u>	<u>CAR07</u>	<u>CAR09</u>	<u>CAR10</u>		
Copepod nauplius	0.00	0.47	0.16	0.00	0.23	0.17	0.19
<i>Daphnia galeata</i>	0.47	0.00	0.00	0.16	0.23	0.17	0.19
<i>Daphnia pulicaria/pulex</i>	8.06	2.63	0.31	1.55	0.70	2.65	3.16
<i>Daphnia</i> spp.	1.40	1.55	0.93	1.70	3.95	1.91	1.18
<i>Daphnia</i> neonates	0.31	0.77	1.86	0.00	0.23	0.63	0.74
<i>Diacyclops thomasi</i>	6.05	10.54	10.54	7.13	1.86	7.22	3.61
<i>Diaphanosoma brachyurum</i>	0.47	2.48	7.44	2.48	3.26	3.23	2.57
<i>Leptodiatomus nudus</i>	8.37	10.54	25.74	13.64	16.04	14.87	6.74
Sum	25.11	28.98	46.97	26.68	26.51	30.85	--
09/11/15							
	<u>CAR01</u>	<u>CAR03</u>	<u>CAR05</u>	<u>CAR07</u>	<u>CAR09</u>		
<i>Bosmina longirostris</i>	0.09	0.00	0.00	0.00	0.16	0.05	0.07
Copepod nauplius	0.37	0.62	0.47	0.09	0.23	0.36	0.20
Copepod	0.00	0.47	0.00	0.00	0.00	0.09	0.21
<i>Daphnia galeata</i>	0.09	0.00	0.28	0.00	0.00	0.07	0.12
<i>Daphnia pulicaria/pulex</i>	0.74	0.93	0.28	0.28	0.62	0.57	0.29
<i>Daphnia</i> spp.	0.09	0.16	0.00	0.05	0.07	0.07	0.06
<i>Daphnia</i> neonates	0.09	0.00	0.00	0.05	0.16	0.06	0.07
<i>Diacyclops thomasi</i>	2.14	3.26	2.70	1.58	2.02	2.34	0.65
<i>Diaphanosoma brachyurum</i>	0.09	0.00	0.37	0.00	0.00	0.09	0.16
<i>Leptodiatomus nudus</i>	7.91	17.67	6.32	5.49	6.12	8.70	5.09
Sum	11.63	23.10	10.42	7.53	9.38	12.41	--

Table A5.3. Continued. Density (individuals/L) of crustacean zooplankton taxa sampled at Carter Reservoir, Larimer County, Colorado.

Taxon	Station					Mean	SD
	CAR01	CAR03	CAR05	CAR07	CAR09		
10/07/15							
<i>Alona guttata</i>	0.07	0.00	0.00	0.00	0.00	0.01	0.03
<i>Bosmina longirostris</i>	0.07	0.00	0.00	0.00	0.00	0.01	0.03
Copepod nauplius	0.07	0.12	0.07	0.44	0.37	0.22	0.17
<i>Daphnia galeata</i>	0.07	0.07	0.00	0.00	0.00	0.03	0.04
<i>Daphnia pulicaria/pulex</i>	1.32	0.07	0.23	0.00	0.28	0.38	0.54
<i>Daphnia</i> spp.	0.16	0.37	0.62	0.87	1.21	0.65	0.41
<i>Daphnia neonates</i>	0.47	0.19	0.23	0.31	0.74	0.39	0.23
<i>Diacyclops thomasi</i>	3.26	2.23	3.33	3.41	4.74	3.39	0.89
<i>Diaphanosoma brachyurum</i>	1.24	0.93	0.77	0.62	3.81	1.48	1.33
<i>Leptodiptomus nudus</i>	10.77	8.19	5.97	4.28	6.60	7.16	2.46
Sum	17.50	12.16	11.24	9.92	17.77	13.72	--
11/10/15							
Copepod nauplius	0.60	1.05	0.98	0.87	1.00	0.90	0.18
<i>Daphnia pulicaria/pulex</i>	0.09	0.00	0.00	0.00	0.00	0.02	0.04
<i>Daphnia</i> spp.	0.00	0.00	0.00	0.19	0.62	0.16	0.27
<i>Diacyclops thomasi</i>	6.05	7.93	13.35	10.42	18.72	11.29	4.98
<i>Diaphanosoma brachyurum</i>	0.05	0.00	0.00	0.07	0.37	0.10	0.16
<i>Leptodiptomus nudus</i>	2.56	6.07	8.79	4.65	15.51	7.52	5.01
Sum	9.35	15.06	23.11	16.18	36.22	19.98	--
12/09/15							
<i>Bosmina longirostris</i>	0.00	0.00	0.04	0.00	0.00	0.01	0.02
Copepod nauplius	0.09	0.00	0.06	0.00	0.02	0.03	0.04
<i>Diacyclops thomasi</i>	4.03	3.88	2.53	1.95	1.56	2.79	1.12
<i>Leptodiptomus nudus</i>	3.04	3.91	1.26	1.95	1.61	2.36	1.09
Sum	7.16	7.79	3.89	3.91	3.19	5.19	--
03/08/16							
<i>Bosmina longirostris</i>	--	0.00	0.00	0.00	0.01	0.00	0.00
Copepod nauplius	--	0.11	0.12	0.24	0.18	0.16	0.06
<i>Daphnia galeata</i>	--	0.00	0.01	0.01	0.02	0.01	0.01
<i>Daphnia pulicaria/pulex</i>	--	0.02	0.01	0.02	0.22	0.07	0.10
<i>Daphnia</i> spp.	--	0.01	0.00	0.01	0.15	0.04	0.07
<i>Diacyclops thomasi</i>	--	0.49	0.84	1.19	0.89	0.85	0.29
<i>Leptodiptomus nudus</i>	--	0.29	0.45	0.39	0.09	0.30	0.16
Sum	--	0.81	1.29	1.61	1.36	1.27	--



Table A5.3. Continued. Density (individuals/L) of crustacean zooplankton taxa sampled at Carter Reservoir, Larimer County, Colorado.

Taxon	Station					Mean	SD
	CAR01	CAR03	CAR05	CAR07	CAR09		
04/16/16							
<i>Bosmina longirostris</i>	0.07	0.00	0.00	0.00	0.00	0.01	0.03
Copepod nauplius	0.37	0.37	0.16	0.33	0.03	0.25	0.15
<i>Daphnia pulex/pulex</i>	0.07	0.00	0.00	0.00	0.00	0.01	0.03
<i>Diacyclops thomasi</i>	5.46	8.25	3.97	3.30	2.86	4.77	2.18
<i>Leptodiptomus nudus</i>	1.05	2.05	0.74	1.16	0.49	1.10	0.59
Sum	7.01	10.67	4.87	4.79	3.38	6.14	--
05/04/16							
Copepod nauplius	4.19	1.95	4.84	1.63	1.77	2.87	1.52
<i>Diacyclops thomasi</i>	27.72	16.82	16.99	12.58	11.25	17.07	6.47
<i>Leptodiptomus nudus</i>	0.74	0.21	2.98	0.76	0.19	0.98	1.15
Sum	32.65	18.98	24.81	14.97	13.21	20.92	--
06/01/16							
Copepod nauplius	1.24	6.20	2.72	5.58	7.75	4.70	2.66
<i>Diacyclops thomasi</i>	51.46	63.25	70.92	36.27	50.53	54.49	13.26
<i>Leptodiptomus nudus</i>	2.17	10.85	5.81	7.44	10.54	7.36	3.59
Sum	54.87	80.31	79.45	49.30	68.82	66.55	--
06/30/16							
<i>Bosmina longirostris</i>	1.16	0.00	0.77	0.39	1.93	0.85	0.74
Copepod nauplius	3.10	1.16	0.39	1.16	1.55	1.47	1.00
<i>Daphnia galeata</i>	0.00	0.39	0.00	0.39	0.39	0.23	0.21
<i>Daphnia pulex/pulex</i>	0.39	0.77	5.04	3.49	2.72	2.48	1.93
<i>Daphnia</i> spp.	0.39	0.77	0.39	0.39	0.39	0.47	0.17
<i>Daphnia</i> neonates	0.00	0.00	1.16	0.77	0.39	0.47	0.50
<i>Diacyclops thomasi</i>	22.09	30.62	37.60	27.90	22.48	28.14	6.41
<i>Leptodiptomus nudus</i>	44.95	34.49	31.00	36.04	24.81	34.26	7.37
Sum	72.08	68.21	76.35	70.54	54.66	68.37	--

Table A5.3. Continued. Density (individuals/L) of crustacean zooplankton taxa sampled at Carter Reservoir, Larimer County, Colorado.

Taxon	Station					Mean	SD
	CAR01	CAR03	CAR05	CAR07	CAR09		
08/02/16							
Copepod nauplius	0.93	1.21	0.00	0.17	1.70	0.80	0.71
Copepod	2.02	1.81	0.00	3.07	0.00	1.38	1.35
<i>Daphnia galeata</i>	0.16	0.60	0.00	0.00	2.02	0.56	0.85
<i>Daphnia pulicaria/pulex</i>	3.41	3.63	7.07	3.41	3.41	4.19	1.61
<i>Daphnia</i> spp.	0.31	0.40	0.00	0.51	0.31	0.31	0.19
<i>Daphnia</i> neonates	0.00	0.00	0.37	0.00	0.00	0.07	0.17
<i>Diacyclops thomasi</i>	10.85	10.07	10.42	12.45	8.99	10.56	1.26
<i>Diaphanosoma birgei</i>	0.00	0.40	0.00	0.00	0.00	0.08	0.18
<i>Diaphanosoma brachyurum</i>	0.00	0.00	0.19	0.00	0.00	0.04	0.08
<i>Leptodiptomus connexus</i>	0.47	0.81	0.00	0.17	0.00	0.29	0.35
<i>Leptodiptomus nudus</i>	14.42	30.23	34.41	28.48	46.04	30.72	11.40
Sum	32.56	49.17	52.46	48.25	62.48	48.98	--
08/25/16							
<i>Bosmina longirostris</i>	0.00	0.62	0.16	0.00	0.16	0.19	0.26
Copepod nauplius	0.00	0.00	0.16	0.00	0.00	0.03	0.07
<i>Daphnia galeata</i>	0.00	0.47	0.00	0.00	0.00	0.09	0.21
<i>Daphnia pulicaria/pulex</i>	0.14	1.40	0.16	2.23	2.33	1.25	1.07
<i>Daphnia</i> spp.	0.00	0.16	0.62	0.00	0.16	0.19	0.26
<i>Diacyclops thomasi</i>	4.09	8.68	7.75	6.14	6.05	6.54	1.76
<i>Diaphanosoma birgei</i>	0.27	0.00	0.31	0.00	0.00	0.12	0.16
<i>Diaphanosoma brachyurum</i>	0.00	1.55	1.40	2.05	2.02	1.40	0.83
<i>Leptodiptomus connexus</i>	0.00	1.70	0.00	0.00	0.31	0.40	0.74
<i>Leptodiptomus nudus</i>	10.91	14.26	14.72	26.23	17.37	16.70	5.80
Sum	15.41	28.83	25.27	36.65	28.38	26.91	--

Table A5.3. Continued. Density (individuals/L) of crustacean zooplankton taxa sampled at Carter Reservoir, Larimer County, Colorado.

Taxon	Station					Mean	SD
	CAR01	CAR03	CAR05	CAR07	CAR09		
09/29/16							
<i>Bosmina longirostris</i>	0.25	0.00	0.12	0.00	0.00	0.07	0.11
Copepod nauplius	0.62	0.65	1.24	0.28	0.83	0.72	0.35
<i>Daphnia galeata</i>	0.25	0.00	0.12	0.00	0.00	0.07	0.11
<i>Daphnia pulicaria/pulex</i>	0.12	0.28	0.25	0.00	0.94	0.32	0.36
<i>Daphnia rosea</i>	0.00	0.00	0.00	0.00	0.59	0.12	0.26
<i>Daphnia</i> spp.	0.12	0.28	0.49	0.19	0.47	0.31	0.17
<i>Diacyclops thomasi</i>	6.45	7.72	6.58	5.30	8.48	6.91	1.23
<i>Diaphanosoma birgei</i>	0.00	0.28	0.00	0.19	0.00	0.09	0.13
<i>Diaphanosoma brachyurum</i>	0.25	0.00	0.00	0.00	0.00	0.05	0.11
<i>Leptodiptomus nudus</i>	10.54	14.97	10.91	8.37	11.19	11.20	2.39
Sum	18.60	24.18	19.71	14.32	22.50	19.86	--
10/25/16							
Copepod nauplius	1.00	0.20	0.70	0.23	0.18	0.46	0.37
<i>Daphnia pulicaria/pulex</i>	0.00	0.00	0.08	0.07	0.08	0.05	0.04
<i>Daphnia</i> spp.	0.00	0.09	0.08	0.07	0.08	0.07	0.04
<i>Diacyclops thomasi</i>	17.46	9.32	6.85	7.21	7.12	9.59	4.51
<i>Leptodiptomus nudus</i>	9.23	5.10	4.60	5.51	5.21	5.93	1.87
Sum	27.98	14.90	12.32	13.56	12.75	16.30	--
11/28/16							
Copepod nauplius	0.33	0.10	0.00	0.17	0.07	0.14	0.13
<i>Daphnia</i> spp.	0.00	0.00	0.09	0.00	0.00	0.02	0.04
<i>Diacyclops thomasi</i>	6.78	8.49	6.60	5.27	4.88	6.41	1.43
<i>Diaphanosoma birgei</i>	0.00	0.00	0.00	0.00	0.16	0.03	0.07
<i>Diaphanosoma brachyurum</i>	0.00	0.00	0.19	0.00	0.00	0.04	0.08
<i>Leptodiptomus nudus</i>	3.52	4.19	4.74	2.51	4.03	3.80	0.84
Sum	10.63	12.79	11.63	7.95	9.14	10.43	--
12/28/16							
Copepod nauplius	0.08	0.00	0.00	0.09	0.37	0.11	0.15
<i>Diacyclops thomasi</i>	2.43	2.18	3.52	3.44	2.98	2.91	0.60
<i>Leptodiptomus nudus</i>	3.18	5.52	2.93	4.09	4.93	4.13	1.11
Sum	5.69	7.70	6.45	7.63	8.28	7.15	--

Table A5.3. Continued. Density (individuals/L) of crustacean zooplankton taxa sampled at Carter Reservoir, Larimer County, Colorado.

Taxon	Station					Mean	SD
	CAR01	CAR03	CAR05	CAR07	CAR09		
01/24/17							
Copepod nauplius	--	--	--	0.08	0.00	0.04	0.06
<i>Diacyclops thomasi</i>	--	--	--	1.53	2.08	1.81	0.39
<i>Leptodiptomus nudus</i>	--	--	--	1.69	1.65	1.67	0.03
Sum	--	--	--	3.31	3.73	3.52	--
02/27/17							
Copepod nauplius	0	0.10	0.00	0.33	0.16	0.12	0.14
<i>Daphnia</i> spp.	0.00	0.10	0.00	0.00	0.00	0.02	0.05
<i>Diacyclops thomasi</i>	3.91	1.53	0.93	1.84	1.79	2.00	1.13
<i>Leptodiptomus nudus</i>	1.67	2.25	1.67	0.84	0.39	1.37	0.74
Sum	5.58	3.99	2.60	3.01	2.33	3.50	--
03/21/17							
Copepod nauplius	0.19	0.37	0.67	0.70	0.34	0.45	0.22
Copepod	0.09	0.00	0.00	0.00	0.00	0.02	0.04
<i>Diacyclops thomasi</i>	3.91	5.02	3.93	4.25	4.77	4.38	0.50
<i>Leptodiptomus nudus</i>	3.44	3.35	1.51	2.17	2.34	2.56	0.82
Sum	7.63	8.74	6.11	7.12	7.46	7.41	--
04/25/17							
Copepod nauplius	3.49	2.21	1.70	3.10	7.67	3.63	2.37
Cyclopoid	0.00	0.00	0.00	0.47	0.00	0.09	0.21
<i>Daphnia</i> spp.	0.14	0.00	0.00	0.00	0.00	0.03	0.06
<i>Diacyclops thomasi</i>	10.60	32.23	41.60	24.34	34.95	28.75	11.88
<i>Leptodiptomus nudus</i>	6.00	1.02	0.68	1.86	6.99	3.31	2.96
Sum	20.23	35.47	43.99	29.76	49.62	35.81	--
05/23/17							
<i>Bosmina longirostris</i>	1.24	1.24	0.31	0.31	1.24	0.87	0.51
Copepod nauplius	7.44	7.44	5.89	2.79	2.79	5.27	2.35
<i>Daphnia ambigua</i>	0.00	0.00	0.31	0.00	0.00	0.06	0.14
<i>Daphnia</i> spp.	0.31	0.00	0.00	0.00	0.00	0.06	0.14
<i>Daphnia</i> neonates	0.31	0.00	0.00	0.00	0.00	0.06	0.14
<i>Diacyclops thomasi</i>	52.09	64.80	80.61	66.66	92.71	71.37	15.63
<i>Leptodiptomus nudus</i>	36.27	27.28	20.46	16.44	10.23	22.14	10.04
Sum	97.65	100.76	107.58	86.19	106.96	99.83	--

Table A5.3. Continued. Density (individuals/L) of crustacean zooplankton taxa sampled at Carter Reservoir, Larimer County, Colorado.

Taxon	Station					Mean	SD
	CAR01	CAR03	CAR05	CAR07	CAR09		
08/23/17							
<i>Bosmina longirostris</i>	0.00	0.12	0.00	0.00	0.00	0.02	0.05
Copepod nauplius	0.25	0.00	0.00	0.49	0.00	0.15	0.22
<i>Daphnia longiremis</i>	0.62	0.74	0.37	0.87	0.87	0.69	0.21
<i>Daphnia pulicaria/pulex</i>	0.25	0.49	0.25	0.12	0.37	0.30	0.14
<i>Daphnia neonates</i>	0.12	0.37	0.12	0.12	0.00	0.15	0.14
<i>Diacyclops thomasi</i>	1.74	1.24	1.37	2.48	1.00	1.56	0.58
<i>Leptodiptomus connexus</i>	1.37	1.86	1.98	2.60	4.59	2.48	1.26
<i>Leptodiptomus nudus</i>	0.74	2.35	1.98	1.61	3.60	2.06	1.05
Sum	5.10	7.18	6.07	8.30	10.42	7.41	--
08/08/18							
<i>Bosmina longirostris</i>	0.00	0.31	0.00	0.28	0.16	0.15	0.15
Copepod nauplius	0.00	0.00	0.00	0.09	0.00	0.02	0.04
<i>Daphnia ambigua</i>	1.55	1.09	0.00	0.00	0.00	0.53	0.74
<i>Daphnia</i> spp.	0.00	0.16	0.00	0.09	0.00	0.05	0.07
<i>Daphnia pulicaria/pulex</i>	2.17	0.47	1.24	0.28	0.47	0.92	0.79
<i>Daphnia neonates</i>	0.31	0.77	0.00	0.00	0.00	0.22	0.34
<i>Diacyclops thomasi</i>	3.41	4.19	2.17	0.74	2.33	2.57	1.31
<i>Leptodiptomus connexus</i>	11.00	8.37	5.89	2.14	4.65	6.41	3.41
Sum	18.44	15.35	9.29	3.63	7.60	10.86	--
08/29/19							
<i>Ceriodaphnia quadrangula</i>	0.00	0.00	0.00	0.00	0.23	0.05	0.10
Copepod nauplius	0.70	0.47	0.47	0.23	1.16	0.61	0.35
<i>Daphnia longiremis</i>	2.56	7.21	6.28	9.30	5.81	6.23	2.45
<i>Daphnia pulicaria/pulex</i>	0.00	2.79	2.09	3.72	0.93	1.91	1.47
<i>Daphnia neonates</i>	0.70	1.63	1.16	1.40	3.02	1.58	0.87
<i>Diacyclops thomasi</i>	3.49	4.88	6.98	8.37	3.95	5.53	2.08
<i>Leptodiptomus judayi</i>	6.74	7.67	4.19	8.37	3.49	6.09	2.15
<i>Leptodiptomus nudus</i>	3.49	6.05	5.81	3.26	2.56	4.23	1.59
Sum	17.68	30.70	26.98	34.65	21.15	26.23	--

Table A5.4. Density (individuals/L) of crustacean zooplankton taxa sampled at Chalk Lake, Summit County, Colorado. Relative abundance (%) of crustacean zooplankton taxa sampled with a horizontal tow at Chalk Lake, Eagle County, Colorado, on 08/25/17.

Taxon	Station
	CHK01
<i>Bosmina longirostris</i>	4.79
Copepod nauplius	2.44
<i>Daphnia ambigua</i>	8.41
<i>Daphnia neonates</i>	2.44
<i>Diacyclops thomasi</i>	30.11
<i>Leptodiptomus connexus</i>	15.64
<i>Leptodiptomus nudus</i>	36.17
Sum	100.00

Table A5.5. Density (individuals/L) of crustacean zooplankton taxa sampled at Chambers Lake, Larimer County, Colorado, on 08/01/16.

Taxon	Station			Mean	SD
	CHM01	CHM02	CHM03		
Copepod nauplius	0.93	0.62	0.47	0.67	0.24
<i>Daphnia pulicaria/pulex</i>	0.16	0.00	0.00	0.05	0.09
<i>Diacyclops thomasi</i>	104.64	58.76	60.76	74.72	25.93
Sum	105.73	59.38	61.23	75.45	--

Table A5.6 Density (individuals/L) of crustacean zooplankton taxa sampled at Chapman Reservoir, Pitkin County, Colorado, on 06/21/16.

Taxon	Station		Mean	SD
	CHP02	CHP03		
<i>Bosmina longirostris</i>	0.00	0.47	0.23	0.33
Copepod nauplius	0.93	0.00	0.47	0.66
<i>Daphnia galeata</i>	7.77	15.35	11.56	5.36
<i>Daphnia longiremis</i>	0.00	0.47	0.23	0.33
<i>Daphnia</i> spp.	0.93	0.00	0.47	0.66
<i>Diacyclops thomasi</i>	2.46	7.44	4.95	3.52
<i>Mesocyclops edax</i>	5.91	0.47	3.19	3.85
Sum	18.00	24.18	21.09	--

Table A5.7. Density (individuals/L) of crustacean zooplankton taxa sampled at Chatfield Reservoir, Jefferson County, Colorado.

Taxon	Station				Mean	SD
	CHA01	CHA03	CHA5	CHA07		
04/14/15						
<i>Bosmina longirostris</i>	0.31	2.48	0.93	1.86	1.40	0.97
Copepod nauplius	4.81	6.20	5.27	5.58	5.47	0.58
Cyclopoid	0.00	0.00	0.00	0.62	0.16	0.31
<i>Daphnia galeata</i>	2.17	5.89	2.17	3.10	3.33	1.76
<i>Daphnia pulicaria/pulex</i>	2.95	8.06	3.72	18.60	8.33	7.21
<i>Daphnia</i> spp.	0.16	0.62	0.00	2.48	0.82	1.14
<i>Daphnia</i> neonates	4.49	2.79	4.96	8.68	5.23	2.48
<i>Diacyclops thomasi</i>	14.57	37.83	46.81	79.99	44.80	27.11
<i>Leptodiptomus nudus</i>	1.55	4.34	0.93	1.24	2.02	1.57
Sum	31.01	68.22	64.79	122.15	71.54	--
07/10/17						
<i>Bosmina longirostris</i>	0.19	0.00	0.37	0.23	0.20	0.15
Copepod nauplius	7.07	7.44	3.16	0.23	4.48	3.43
<i>Daphnia galeata</i>	0.00	1.86	0.19	0.00	0.51	0.90
<i>Daphnia longiremis</i>	0.93	2.79	2.60	1.86	2.05	0.85
<i>Daphnia pulicaria/pulex</i>	2.42	1.30	1.67	0.00	1.35	1.01
<i>Daphnia rosea</i>	1.49	0.00	0.00	1.40	0.72	0.83
<i>Daphnia</i> spp.	0.19	0.00	0.00	0.00	0.05	0.09
<i>Daphnia</i> neonates	0.19	1.30	1.49	0.70	0.92	0.59
<i>Diacyclops thomasi</i>	17.49	8.74	4.09	3.49	8.45	6.46
<i>Leptodiptomus nudus</i>	10.05	7.81	2.05	2.56	5.62	3.94
<i>Leptodora kindtii</i>	0.00	0.00	0.37	0.00	0.09	0.19
<i>Mesocyclops edax</i>	5.21	3.72	1.12	1.16	2.80	2.01
Sum	45.20	34.97	17.11	11.63	27.23	--

Table A5.8. Density (individuals/L) of crustacean zooplankton taxa sampled at Cheesman Lake, Jefferson County, Colorado, on 05/29/14.

Taxon	Station					Mean	SD
	CHE01	CHE02	CHE03	CHE04	CHE05		
<i>Bosmina longirostris</i>	5.46	5.00	2.48	4.03	2.48	3.89	1.39
Copepod nauplius	0.74	0.59	1.09	1.00	0.00	0.68	0.43
<i>Daphnia galeata</i>	5.21	5.60	4.34	4.23	12.09	6.30	3.29
<i>Daphnia pulicaria/pulex</i>	9.18	8.25	6.51	7.46	12.09	8.70	2.14
<i>Daphnia</i> spp.	1.24	0.00	0.62	1.21	3.41	1.30	1.29
<i>Daphnia</i> neonates	2.73	4.12	1.86	2.21	1.24	2.43	1.09
<i>Diacyclops thomasi</i>	13.14	20.03	9.92	13.51	19.53	15.23	4.39
<i>Leptodiptomus nudus</i>	1.49	1.47	1.55	2.62	1.55	1.74	0.50
Sum	39.19	45.06	28.39	36.27	52.40	40.26	--

Table A5.9. Density (individuals/L) of crustacean zooplankton taxa sampled at Clear Creek Reservoir, Chaffee County, Colorado, on 09/21/14.

Taxon	Station			Mean	SD
	CLE01	CLE02	CLE03		
<i>Bosmina longirostris</i>	3.60	3.23	1.86	2.90	0.92
<i>Chydorus sphaericus</i>	0.37	0.00	0.12	0.16	0.19
<i>Daphnia galeata</i>	6.32	5.09	5.21	5.54	0.68
<i>Daphnia pulicaria/pulex</i>	1.12	0.12	1.98	1.07	0.93
<i>Daphnia</i> spp.	0.87	0.74	1.61	1.07	0.47
<i>Daphnia</i> neonates	0.49	0.25	0.87	0.54	0.31
<i>Diacyclops thomasi</i>	3.84	6.32	7.19	5.79	1.74
<i>Leptodiptomus nudus</i>	2.98	3.10	2.73	2.93	0.19
Sum	19.59	18.85	21.56	20.00	--

Table A5.10. Density (individuals/L) of crustacean zooplankton taxa sampled at Crystal Lake, Lake County, Colorado, on 06/22/16.

Taxon	Station		Mean	SD
	CRY02	CRY03		
<i>Bosmina longirostris</i>	0.00	0.93	0.47	0.66
<i>Ceriodaphnia quadrangula</i>	23.72	3.72	13.72	14.14
Copepod nauplius	24.18	8.37	16.28	11.18
<i>Daphnia rosea</i>	0.00	1.86	0.93	1.32
<i>Daphnia</i> spp.	1.40	2.79	2.09	0.99
<i>Diacyclops thomasi</i>	15.81	4.65	10.23	7.89
Sum	65.11	22.32	43.72	--



Table A5.11. Density (individuals/L) of crustacean zooplankton taxa sampled at Deep Lake, Garfield County, Colorado, on 07/25/19.

Taxon	Station			Mean	SD
	DEE01	DEE02	DEE03		
<i>Bosmina longirostris</i>	0.00	0.23	0.47	0.23	0.24
Copepod nauplius	2.79	2.56	3.26	2.87	0.36
<i>Daphnia ambigua</i>	3.95	1.63	3.02	2.87	1.17
<i>Daphnia pulex/pulex</i>	1.16	2.33	2.33	1.94	0.68
<i>Daphnia neonates</i>	0.70	0.47	0.70	0.62	0.13
<i>Diacyclops thomasi</i>	19.53	13.02	16.74	16.43	3.27
<i>Leptodiptomus judayi</i>	0.00	0.00	0.93	0.31	0.54
<i>Leptodiptomus nudus</i>	0.23	0.00	0.00	0.08	0.13
Sum	28.36	20.24	27.45	25.35	--

Table A5.12. Density (individuals/L) of crustacean zooplankton taxa sampled at Diemer Lake, Pitkin County, Colorado.

Taxon	Station			Mean	SD
	DIE01	DIE02	DIE03		
07/27/16					
<i>Ceriodaphnia quadrangula</i>	0.37	0.00	0.00	0.12	0.21
Copepod nauplius	3.12	0.00	1.86	1.66	1.57
<i>Daphnia galeata</i>	1.16	2.33	3.26	2.25	1.05
<i>Daphnia neonates</i>	0.00	2.33	0.47	0.93	1.23
<i>Diacyclops thomasi</i>	0.37	1.40	0.00	0.59	0.72
<i>Leptodiptomus nudus</i>	8.93	6.51	10.23	8.56	1.89
Sum	13.95	12.56	15.81	14.11	--
08/26/17					
<i>Bosmina longirostris</i>	0.37	0.79	13.95	5.04	7.72
Copepod nauplius	3.49	0.79	0.79	1.69	1.56
<i>Daphnia ambigua</i>	1.95	2.33	4.65	2.98	1.46
<i>Daphnia neonates</i>	1.53	3.86	17.81	7.74	8.80
<i>Diacyclops thomasi</i>	1.16	0.00	8.51	3.22	4.61
<i>Leptodiptomus judayi</i>	0.00	0.79	0.00	0.26	0.46
<i>Leptodiptomus nudus</i>	1.16	7.77	4.65	4.53	3.30
Sum	9.67	16.32	50.37	25.45	--

Table A5.12. Continued. Density (individuals/L) of crustacean zooplankton taxa sampled at Dillon Reservoir, Summit County, Colorado.

Taxon	Station					Mean	SD
	DILP1	DILP2	DILP3	DILP4	DILP5		
05/26/14							
Copepod nauplius	0.01	--	0.07	0.12	--	0.07	0.06
<i>Daphnia pulicaria/pulex</i>	0.00	--	0.00	0.01	--	0.00	0.01
<i>Diacyclops thomasi</i>	0.21	--	0.45	0.01	--	0.22	0.22
Sum	0.22	--	0.51	0.14	--	0.29	--
06/24/14							
Copepod nauplius	4.45	0.09	0.00	0.33	0.00	0.97	1.95
Copepod	0.00	0.00	0.25	0.00	0.00	0.05	0.11
Cyclopoid	0.00	0.00	0.00	0.00	0.49	0.10	0.22
<i>Diacyclops thomasi</i>	4.99	9.30	6.70	12.70	6.70	8.08	3.01
<i>Leptodiptomus nudus</i>	3.14	0.00	0.12	0.00	0.12	0.68	1.38
Sum	12.58	9.39	7.07	13.02	7.31	9.88	--
07/21/14							
<i>Bosmina longirostris</i>	1.95	0.21	1.67	4.21	8.31	3.27	3.16
Copepod nauplius	0.70	0.33	0.09	0.12	0.00	0.25	0.28
<i>Daphnia galeata</i>	0.00	0.00	0.09	0.25	0.12	0.09	0.10
<i>Daphnia pulicaria/pulex</i>	1.40	0.11	0.28	0.12	0.00	0.38	0.58
<i>Daphnia neonates</i>	0.00	0.21	0.00	0.74	2.11	0.61	0.89
<i>Diacyclops thomasi</i>	13.81	14.44	40.74	39.44	43.28	30.34	14.87
<i>Leptodiptomus nudus</i>	0.00	0.00	0.00	0.00	0.37	0.07	0.17
Sum	17.86	15.30	42.88	44.89	54.19	35.02	--
08/19/14							
<i>Bosmina longirostris</i>	6.74	10.60	24.81	13.95	69.48	25.12	25.70
Copepod nauplius	0.00	0.14	0.00	0.31	0.84	0.26	0.35
<i>Daphnia galeata</i>	0.23	0.00	0.00	0.31	2.65	0.64	1.13
<i>Diacyclops thomasi</i>	18.37	22.88	41.23	44.02	67.95	38.89	19.71
<i>Leptodiptomus nudus</i>	0.70	0.00	0.00	0.00	0.14	0.17	0.30
Sum	26.04	33.62	66.04	58.59	141.05	65.07	--

Table A5.12. Continued. Density (individuals/L) of crustacean zooplankton taxa sampled at Dillon Reservoir, Summit County, Colorado.

Taxon	Station					Mean	SD
	DILP1	DILP2	DILP3	DILP4	DILP5		
09/21/14							
<i>Alona guttata</i>	0.31	0.00	0.00	0.00	0.00	0.06	0.14
<i>Bosmina longirostris</i>	8.99	6.20	2.17	10.85	2.17	6.08	3.93
Copepod nauplius	1.86	0.00	0.62	1.86	1.86	1.24	0.88
<i>Daphnia galeata</i>	0.00	0.00	0.00	0.62	0.00	0.12	0.28
<i>Diacyclops thomasi</i>	45.58	66.66	44.02	96.43	85.57	67.65	23.43
Sum	56.74	72.87	46.81	109.76	89.60	75.16	--
10/19/14							
<i>Bosmina longirostris</i>	1.40	1.55	0.23	1.55	1.24	1.19	0.55
<i>Diacyclops thomasi</i>	38.13	57.67	44.41	42.79	119.06	60.41	33.58
Sum	39.53	59.22	44.65	44.34	120.29	61.61	--
11/22/14							
<i>Bosmina longirostris</i>	0.00	0.31	0.00	1.63	2.56	0.90	1.15
<i>Diacyclops thomasi</i>	9.30	26.04	11.16	30.69	55.11	26.46	18.49
<i>Leptodiptomus nudus</i>	0.00	0.16	0.00	0.00	0.00	0.03	0.07
Sum	9.30	26.51	11.16	32.32	57.67	27.39	--
08/12/15							
<i>Bosmina longirostris</i>	10.07	7.91	2.33	10.23	3.26	6.76	3.75
Copepod nauplius	0.00	0.00	0.00	0.00	0.16	0.03	0.07
<i>Daphnia galeata</i>	0.00	0.23	0.00	0.23	0.62	0.22	0.25
<i>Diacyclops thomasi</i>	23.56	23.95	30.93	25.11	35.65	27.84	5.28
<i>Leptodiptomus nudus</i>	0.16	0.00	0.00	0.00	0.00	0.03	0.07
Sum	33.79	32.09	33.25	35.58	39.69	34.88	--
08/03/16							
<i>Bosmina longirostris</i>	8.31	9.67	11.72	6.82	8.37	8.98	1.84
Copepod nauplius	0.12	0.19	0.37	0.31	0.37	0.27	0.11
<i>Daphnia galeata</i>	0.00	0.00	0.00	0.16	0.19	0.07	0.09
<i>Daphnia pulicaria/pulex</i>	0.00	0.37	0.00	0.00	0.00	0.07	0.17
<i>Diacyclops thomasi</i>	15.88	22.32	26.97	28.99	45.58	27.95	11.07
<i>Leptodiptomus nudus</i>	0.87	1.30	0.00	0.00	0.00	0.43	0.61
Sum	25.17	33.86	39.07	36.27	54.51	37.77	--

Table A5.12. Continued. Density (individuals/L) of crustacean zooplankton taxa sampled at Dillon Reservoir, Summit County, Colorado.

Taxon	Station					Mean	SD
	DILP1	DILP2	DILP3	DILP4	DILP5		
08/24/17							
<i>Bosmina longirostris</i>	11.53	8.86	8.46	10.30	7.44	9.32	1.61
Copepod nauplius	0.19	0.20	0.40	0.12	0.70	0.32	0.23
<i>Daphnia ambigua</i>	0.93	1.81	0.60	0.00	1.63	1.00	0.74
<i>Daphnia longiremis</i>	2.60	1.00	0.40	1.00	9.77	2.95	3.90
<i>Daphnia pulicaria/pulex</i>	0.19	0.00	0.00	0.00	0.00	0.04	0.08
<i>Daphnia rosea</i>	0.19	0.00	0.00	1.12	2.09	0.68	0.92
<i>Daphnia</i> spp.	0.00	0.00	0.20	0.00	0.00	0.04	0.09
<i>Daphnia</i> neonate	0.74	0.20	0.20	0.62	0.47	0.45	0.24
<i>Diacyclops thomasi</i>	21.76	20.96	35.67	25.92	46.97	30.26	11.02
<i>Leptodiptomus judayi</i>	0.00	0.40	0.40	0.37	0.47	0.33	0.19
Sum	38.13	33.45	46.35	39.45	69.53	45.38	--
08/09/18							
<i>Bosmina longirostris</i>	14.88	7.72	7.60	9.58	2.79	8.51	4.36
<i>Daphnia ambigua</i>	0.00	0	0.77	0.09	0.16	0.20	0.32
<i>Daphnia pulicaria/pulex</i>	0.00	0.00	0.77	0.00	0.00	0.15	0.35
<i>Diacyclops thomasi</i>	51.46	34.60	38.91	38.51	69.29	46.55	14.21
<i>Leptodiptomus nudus</i>	0.00	0.09	0.00	0.28	0.16	0.11	0.12
Sum	66.35	42.41	48.05	48.46	72.40	55.53	--
09/23/19							
<i>Bosmina longirostris</i>	10.54	8.74	--	5.58	5.95	7.70	2.36
Copepod nauplius	0.00	0.19	--	0.00	0.00	0.05	0.10
<i>Daphnia ambigua</i>	6.70	5.39	--	6.70	10.05	7.21	1.99
<i>Diacyclops thomasi</i>	9.80	18.60	--	3.35	12.84	11.15	6.35
Sum	27.04	32.92	--	15.63	28.84	26.11	--

Table A5.13. Density (individuals/L) of crustacean zooplankton taxa sampled at Grand Lake, Grand County, Colorado, on 08/22/14.

Taxon	Station			Mean	SD
	GDLDTW	GDLMID	GDLNW		
<i>Bosmina longirostris</i>	0.31	0.00	0.00	0.10	0.18
Copepod nauplius	0.16	0.00	0.00	0.05	0.09
<i>Daphnia galeata</i>	0.62	0.70	0.70	0.67	0.04
<i>Daphnia pulicaria/pulex</i>	0.77	0.93	0.23	0.64	0.37
<i>Daphnia</i> spp.	0.31	0.00	0.00	0.10	0.18
<i>Daphnia</i> neonates	0.31	1.40	0.00	0.57	0.73
<i>Diacyclops thomasi</i>	23.72	44.41	35.11	34.41	10.37
<i>Leptodiptomus nudus</i>	0.62	2.56	0.93	1.37	1.04
Sum	26.82	49.99	36.97	37.93	--

Table A5.14. Density (individuals/L) of crustacean zooplankton taxa sampled at Green Mountain Reservoir, Summit County, Colorado, on 07/23/14.

Taxon	Station					Mean	SD
	GRE01	GRE03	GRE05	GRE07	GRE09		
<i>Bosmina longirostris</i>	9.30	1.40	1.53	0.20	0.40	2.57	3.81
Copepod nauplius	0.62	0.28	0.14	0.40	0.20	0.33	0.19
<i>Daphnia galeata</i>	2.48	2.79	1.81	0.81	1.21	1.82	0.83
<i>Daphnia pulicaria/pulex</i>	28.53	13.67	4.88	8.67	6.05	12.36	9.65
<i>Daphnia</i> spp.	9.92	2.51	0.00	1.00	2.42	3.17	3.92
<i>Daphnia</i> neonates	1.24	0.84	0.56	0.40	0.40	0.69	0.36
<i>Diacyclops thomasi</i>	47.13	23.16	15.35	17.93	17.93	24.30	13.07
<i>Leptodiptomus nudus</i>	5.58	0.56	0.00	0.00	0.60	1.35	2.38
Sum	104.81	45.20	24.28	29.42	29.22	46.58	--

Table A5.15. Density (individuals/L) of crustacean zooplankton taxa sampled at Gross Reservoir, Boulder County, Colorado.

Taxon	Station			Mean	SD
	GRO02	GRO03	GRO04		
05/30/14					
<i>Bosmina longirostris</i>	12.71	16.12	23.25	17.36	5.38
Copepod nauplius	0.31	0.00	0.47	0.26	0.24
<i>Daphnia galeata</i>	0.00	0.00	0.23	0.08	0.13
<i>Diacyclops thomasi</i>	18.30	12.71	19.77	16.93	3.72
<i>Leptodiaptomus judayi</i>	0.31	0.00	0.00	0.10	0.18
<i>Leptodiaptomus nudus</i>	0.00	0.31	0.00	0.10	0.18
Sum	31.62	29.14	43.72	34.83	--
08/28/19					
<i>Bosmina longirostris</i>	0.31	0.00	0.62	0.31	0.31
Copepod nauplius	1.24	0.62	0.31	0.72	0.47
<i>Daphnia neonates</i>	1.55	0.31	0.00	0.62	0.82
<i>Daphnia pulicaria/pulex</i>	5.58	3.10	3.10	3.93	1.43
<i>Diacyclops thomasi</i>	16.74	22.01	15.19	17.98	3.58
<i>Leptodiaptomus nudus</i>	2.79	2.48	0.62	1.96	1.17
Sum	28.21	28.52	19.84	25.52	--

Table A5.16. Density (individuals/L) of crustacean zooplankton taxa sampled at Homestake Reservoir, Pitkin County, Colorado, on 08/10/18.

Taxon	Station			Mean	SD
	HOM01	HOM02	HOM03		
<i>Bosmina longirostris</i>	1.95	6.70	3.81	4.15	2.39
Copepod nauplius	0.00	0.12	0.00	0.04	0.07
<i>Daphnia pulicaria/pulex</i>	0.00	0.62	0.37	0.33	0.31
<i>Daphnia neonates</i>	0.00	0.12	0.09	0.07	0.06
<i>Diacyclops thomasi</i>	2.23	11.78	12.56	8.86	5.75
<i>Leptodiaptomus nudus</i>	0.00	0.62	0.65	0.42	0.37
<i>Leptodora kindtii</i>	0.37	2.35	1.86	1.53	1.03
Sum	4.55	22.31	19.34	15.40	--

Table A5.17. Density (individuals/L) of crustacean zooplankton taxa sampled at Horsetooth Reservoir, Larimer County, Colorado.

Taxon	Station					Mean	SD
	HST01	HST02	HST05	HST07	HST09		
07/13/15							
<i>Alona guttata</i>	0.05	0.00	0.00	0.00	0.00	0.01	0.02
<i>Bosmina longirostris</i>	1.26	1.49	1.30	3.28	0.31	1.53	1.08
Copepod nauplius	0.23	0.07	0.62	0.37	0.00	0.26	0.25
Copepod	0.00	0.07	0.00	0.00	0.00	0.01	0.03
<i>Daphnia galeata</i>	1.21	1.00	2.17	1.55	4.03	1.99	1.22
<i>Daphnia</i> spp.	0.19	0.31	0.56	0.44	0.37	0.37	0.14
<i>Daphnia</i> neonates	0.05	0.19	0.44	0.07	2.60	0.67	1.09
<i>Diacyclops thomasi</i>	4.28	5.02	7.81	5.58	1.93	4.92	2.13
<i>Leptodiptomus nudus</i>	0.37	0.87	1.55	0.68	0.31	0.76	0.50
Sum	7.63	8.99	14.45	11.97	9.54	10.52	--
06/08/16							
	HST01	HST02	HST05	HST07	HST09		
<i>Bosmina longirostris</i>	0.51	0.86	0.47	5.77	3.69	2.26	2.38
Copepod nauplius	0.89	0.00	0.31	0.00	1.52	0.54	0.65
<i>Daphnia galeata</i>	4.58	3.24	4.03	7.44	14.32	6.72	4.54
<i>Daphnia pulicaria/pulex</i>	0.00	0.00	0.00	0.00	0.21	0.04	0.10
<i>Daphnia</i> spp.	0.00	0.17	0.00	0.00	0.00	0.03	0.07
<i>Daphnia</i> neonates	1.01	1.37	3.26	1.86	6.30	2.76	2.15
<i>Diacyclops thomasi</i>	22.75	17.74	11.63	42.23	39.93	26.85	13.59
<i>Leptodiptomus connexus</i>	0.00	0.34	0.00	0.56	0.21	0.22	0.24
<i>Mesocyclops edax</i>	0.38	0.00	0.00	0.00	0.00	0.08	0.17
Sum	30.13	23.71	19.68	57.85	66.19	39.51	--
05/22/17							
	HST01	HST02	HST03	HST05	HST07		
<i>Bosmina longirostris</i>	16.28	26.04	10.70	10.85	15.19	15.81	6.25
Copepod nauplius	0.47	1.00	0.77	1.40	0.93	0.91	0.34
<i>Daphnia</i> neonates	0.16	0.00	0.00	0.16	0.00	0.06	0.09
<i>Diacyclops thomasi</i>	17.83	21.70	15.97	15.04	8.06	15.72	4.98
<i>Leptodiptomus connexus</i>	0.16	0.00	0.00	0.00	0.00	0.03	0.07
<i>Leptodiptomus nudus</i>	0.00	0.62	0.00	0.00	0.16	0.16	0.27
Sum	34.89	49.36	27.44	27.45	24.34	32.70	--

Table A5.17. Continued. Density (individuals/L) of crustacean zooplankton taxa sampled at Horsetooth Reservoir, Larimer County, Colorado.

Taxon	Station					Mean	SD
	HST01	HST02	HST03	--	--		
08/22/17							
<i>Bosmina longirostris</i>	2.17	7.13	1.55	--	--	3.62	3.06
Copepod nauplius	0.00	1.09	0.47	--	--	0.52	0.55
<i>Daphnia galeata</i>	0.47	0.93	1.40	--	--	0.93	0.47
<i>Daphnia</i> spp.	0.62	0.47	0.31	--	--	0.47	0.16
<i>Daphnia</i> neonates	0.77	0.62	1.24	--	--	0.88	0.32
<i>Diacyclops thomasi</i>	16.58	11.00	12.40	--	--	13.33	2.90
<i>Leptodiptomus connexus</i>	0.47	1.55	0.16	--	--	0.73	0.73
<i>Leptodiptomus nudus</i>	0.62	0.00	0.16	--	--	0.26	0.32
<i>Leptodora kindtii</i>	0.00	0.16	0.00	--	--	0.05	0.09
Sum	21.70	22.96	17.67	--	--	20.78	--
09/05/18							
	HST02	HST03	HST05	HST07	HST09		
<i>Bosmina longirostris</i>	3.72	5.21	3.16	1.86	2.02	3.19	1.37
Copepod nauplius	2.05	3.72	6.51	3.95	3.26	3.90	1.63
<i>Daphnia galeata</i>	7.07	5.39	8.00	6.05	15.19	8.34	3.96
<i>Daphnia</i> neonates	2.05	0.56	0.93	1.86	1.70	1.42	0.64
<i>Diacyclops thomasi</i>	10.05	15.25	16.37	10.70	14.26	13.33	2.81
<i>Leptodiptomus nudus</i>	7.25	10.05	12.09	13.49	21.70	12.91	5.44
Sum	32.19	40.18	47.06	37.90	58.12	43.09	--

Table A5.18. Density (individuals/L) of crustacean zooplankton taxa sampled at Ivanhoe Lake, Pitkin County, Colorado, on 07/28/16.

Taxon	Station			Mean	SD
	IVA01	IVA02	IVA03		
<i>Bosmina longirostris</i>	11.63	12.65	22.26	15.51	5.86
<i>Daphnia longiremis</i>	0.00	2.23	0.00	0.74	1.29
<i>Daphnia pulicaria/pulex</i>	17.67	6.32	14.28	12.76	5.83
<i>Daphnia</i> neonates	1.40	0.37	0.00	0.59	0.72
<i>Diacyclops thomasi</i>	75.80	66.97	46.17	62.98	15.21
Sum	106.50	88.55	82.71	92.59	--



Table A5.19. Density (individuals/L) of crustacean zooplankton taxa sampled at Jefferson Lake, Park County, Colorado.

Taxon	Station			Mean	SD
	JEF01	JEF03	JEF05		
08/11/15					
<i>Bosmina longirostris</i>	7.93	8.68	4.88	7.17	2.01
<i>Chydorus sphaericus</i>	0.25	0.00	0.00	0.08	0.14
<i>Daphnia galeata</i>	12.65	11.51	9.07	11.07	1.83
<i>Daphnia pulicaria/pulex</i>	5.95	8.03	6.51	6.83	1.07
<i>Daphnia</i> spp.	1.74	1.09	0.47	1.10	0.64
<i>Daphnia neonates</i>	0.49	0.44	0.93	0.62	0.27
<i>Diacyclops thomasi</i>	10.42	17.58	13.95	13.98	3.58
<i>Leptodiatomus nudus</i>	0.25	0.00	0.00	0.08	0.14
Sum	39.69	47.32	35.81	40.94	--
06/07/18					
<i>Bosmina longirostris</i>	0.31	1.16	1.16	0.88	0.49
Copepod nauplius	0.00	0.47	0.47	0.31	0.27
<i>Daphnia ambigua</i>	0.16	1.63	0.47	0.75	0.78
<i>Daphnia rosea</i>	0.16	0.47	2.09	0.91	1.04
<i>Daphnia neonates</i>	0.47	0.70	2.09	1.09	0.88
<i>Diacyclops thomasi</i>	2.95	21.39	26.51	16.95	12.39
Sum	4.04	25.81	32.79	20.88	--
07/14/18					
<i>Bosmina longirostris</i>	5.24	0.77	1.09	2.37	2.49
<i>Ceriodaphnia quadrangula</i>	0.00	0.00	0.16	0.05	0.09
Copepod nauplius	0.81	0.77	0.00	0.53	0.46
<i>Daphnia ambigua</i>	36.88	11.93	3.88	17.56	17.21
<i>Daphnia rosea</i>	2.82	0.62	0.00	1.15	1.48
<i>Daphnia neonates</i>	0.60	0.93	0.00	0.51	0.47
<i>Diacyclops thomasi</i>	6.25	5.42	2.79	4.82	1.81
Sum	52.60	20.45	7.92	26.99	--
08/11/18					
<i>Bosmina longirostris</i>	3.35	1.55	1.09	2.00	1.19
<i>Daphnia ambigua</i>	7.81	6.51	3.26	5.86	2.35
<i>Daphnia rosea</i>	2.23	0.62	1.86	1.57	0.84
<i>Daphnia neonates</i>	2.05	2.02	0.31	1.46	1.00
<i>Diacyclops thomasi</i>	5.39	4.03	4.65	4.69	0.68
Sum	20.83	14.73	11.16	15.58	--

Table A5.19. Continued. Density (individuals/L) of crustacean zooplankton taxa sampled at Jefferson Lake, Park County, Colorado.

Taxon	Station			Mean	SD
	JEF01	JEF03	JEF05		
09/06/18					
<i>Bosmina longirostris</i>	7.91	5.12	3.56	5.53	2.20
Copepod nauplius	0.16	0.00	0.00	0.00	0.09
<i>Daphnia ambigua</i>	7.60	13.18	5.27	8.68	4.06
<i>Daphnia pulicaria/pulex</i>	0.00	0.16	0.00	0.05	0.09
<i>Daphnia rosea</i>	0.16	0.31	0.93	0.00	0.41
<i>Daphnia neonates</i>	0.31	0.77	1.09	0.72	0.39
<i>Diacyclops thomasi</i>	4.19	2.95	3.88	3.67	0.64
Sum	20.31	22.48	14.73	18.66	--
10/04/18					
<i>Bosmina longirostris</i>	18.14	9.77	5.27	11.06	6.53
Copepod nauplius	0.16	0.93	1.24	0.78	0.56
<i>Daphnia ambigua</i>	1.40	3.41	2.63	2.48	1.02
<i>Daphnia neonates</i>	0.31	1.40	0.77	0.82	0.55
<i>Diacyclops thomasi</i>	10.54	13.95	14.88	13.12	2.29
Sum	30.54	29.46	24.80	28.26	--

Table A5.20. Density (individuals/L) of crustacean zooplankton taxa sampled at Lake Estes, Larimer County, Colorado.

Taxon	Station			Mean	SD
	EST01	EST02	EST03		
05/31/14					
<i>Bosmina longirostris</i>	0.08	0.06	0.01	0.05	0.04
Copepod nauplius	0.11	0.05	0.01	0.06	0.05
<i>Diacyclops thomasi</i>	0.50	0.33	0.12	0.32	0.19
Harpacticoid	0.01	0.00	0.00	0.00	0.01
Sum	0.71	0.44	0.14	0.43	--
08/27/18					
<i>Bosmina longirostris</i>	0.01	0.01	0.00	0.01	0.01
Copepod nauplius	0.01	0.01	0.00	0.01	0.01
<i>Ceriodaphnia quadrangula</i>	0.01	0.00	0.00	0.00	0.01
<i>Daphnia galeata</i>	0.01	0.00	0.00	0.00	0.01
<i>Daphnia pulicaria/pulex</i>	0.00	0.03	0.01	0.01	0.02
<i>Daphnia neonates</i>	0.02	0.00	0.01	0.01	0.01
<i>Diacyclops thomasi</i>	0.11	0.07	0.04	0.07	0.04
Sum	0.17	0.12	0.06	0.12	--

Table A5.21. Density (individuals/L) of crustacean zooplankton taxa sampled at Lake Granby, Grand County, Colorado.

Taxon	Station*					Mean	SD
	P1	P2	P3	P4	P5		
08/30/11							
<i>Bosmina longirostris</i>	0.00	0.00	0.00	0.10	0.10	0.04	0.05
<i>Daphnia galeata</i>	1.10	1.40	1.00	1.20	0.70	1.08	0.26
<i>Daphnia pulicaria/pulex</i>	1.50	1.70	1.60	2.60	0.60	1.60	0.71
<i>Daphnia</i> spp.	1.30	0.80	0.70	0.90	0.20	0.78	0.40
<i>Diacyclops thomasi</i>	6.00	5.60	16.50	8.20	8.10	8.88	4.42
<i>Diaphanosoma brachyurum</i>	0.20	0.30	0.60	0.60	0.40	0.42	0.18
<i>Leptodiptomus nudus</i>	0.50	1.10	0.60	0.70	1.80	0.94	0.53
Sum	10.60	10.90	21.00	14.30	11.90	13.74	--
09/18/12							
<i>Daphnia galeata</i>	0.10	0.10	0.10	0.00	0.01	0.06	0.05
<i>Daphnia pulicaria/pulex</i>	0.20	1.00	0.30	0.30	0.20	0.40	0.34
<i>Daphnia</i> spp.	0.00	0.40	0.00	0.20	0.10	0.14	0.17
<i>Diacyclops thomasi</i>	5.00	9.50	11.30	3.60	7.40	7.36	3.15
<i>Diaphanosoma brachyurum</i>	0.20	0.70	0.40	0.00	0.10	0.28	0.28
<i>Leptodiptomus nudus</i>	2.00	1.10	4.30	0.60	2.10	2.02	1.42
Sum	7.50	12.80	16.40	4.70	9.91	10.26	--
09/05/13							
<i>Alona affinis</i>	0.00	0.00	0.02	0.00	0.00	0.00	0.01
<i>Daphnia galeata</i>	0.44	0.10	0.55	0.34	0.41	0.37	0.17
<i>Daphnia pulicaria/pulex</i>	1.32	0.32	1.08	0.68	1.22	0.92	0.42
<i>Daphnia</i> spp.	0.78	0.24	1.15	0.62	0.89	0.74	0.34
<i>Diacyclops thomasi</i>	2.63	1.32	1.99	0.75	1.52	1.64	0.71
<i>Leptodiptomus nudus</i>	1.72	0.60	1.98	2.01	5.78	2.42	1.97
Sum	6.89	2.58	6.77	4.40	9.82	6.09	--

\*CPW stations

Table A5.21. Continued. Density (individuals/L) of crustacean zooplankton taxa sampled at Lake Granby, Grand County, Colorado.

Taxon	Station					Mean	SD
	GRB1	GRB3	GRB5	GRB7	GRB9		
08/21/14							
<i>Bosmina longirostris</i>	0.31	0.12	0.16	0.19	0.31	0.22	0.09
Copepod nauplius	0.31	0.12	0.31	0.37	1.55	0.53	0.58
<i>Daphnia galeata</i>	0.00	0.12	0.00	0.93	1.55	0.52	0.70
<i>Daphnia pulicaria/pulex</i>	2.02	1.61	0.62	3.72	11.47	3.89	4.38
<i>Daphnia</i> spp.	0.00	0.25	0.00	0.37	0.31	0.19	0.18
<i>Daphnia</i> neonates	0.31	0.37	0.00	0.00	0.00	0.14	0.19
<i>Diacyclops thomasi</i>	18.44	11.65	25.89	19.53	22.95	19.69	5.36
<i>Leptodiptomus nudus</i>	6.35	4.84	5.27	5.02	13.33	6.96	3.61
Sum	27.74	19.09	32.25	30.14	51.46	32.13	--
08/13/15							
<i>Bosmina longirostris</i>	0.12	0.25	0.00	0.74	0.93	0.41	0.41
Copepod nauplius	0.00	0.00	0.00	0.37	0.00	0.07	0.17
<i>Daphnia galeata</i>	0.87	0.74	0.62	0.74	2.60	1.12	0.84
<i>Daphnia pulicaria/pulex</i>	0.25	1.00	1.00	4.84	11.16	3.65	4.57
<i>Daphnia</i> spp.	0.00	0.00	0.25	0.74	0.93	0.39	0.43
<i>Daphnia</i> neonates	0.49	0.49	0.62	2.98	1.12	1.14	1.06
<i>Diacyclops thomasi</i>	21.33	24.56	20.34	18.97	16.37	20.31	3.02
<i>Leptodiptomus nudus</i>	0.87	1.00	1.61	2.79	2.42	1.74	0.85
Sum	23.92	28.03	24.44	32.18	35.53	28.82	--

Table A5.21. Continued. Density (individuals/L) of crustacean zooplankton taxa sampled at Lake Granby, Grand County, Colorado.

Taxon	Station*					Mean	SD
	P1	P2	P3	P4	P5		
09/07/16							
<i>Bosmina longirostris</i>	0.08	0.13	0.00	0.00	0.11	0.06	0.06
<i>Daphnia pulicaria/pulex</i>	0.00	0.07	0.10	0.00	0.11	0.05	0.05
<i>Daphnia rosea</i>	0.00	0.20	0.00	0.00	0.00	0.04	0.09
<i>Daphnia</i> spp.	0.24	0.27	0.39	0.53	0.63	0.41	0.17
<i>Diacyclops thomasi</i>	10.34	9.85	13.81	15.37	14.00	12.67	2.44
<i>Leptodiptomus nudus</i>	2.21	2.39	3.45	1.79	1.79	2.33	0.68
<i>Leptodiptomus</i> spp.	0.47	0.07	0.00	0.63	0.53	0.19	0.22
Sum	13.34	12.98	17.75	18.32	17.17	15.75	--
09/18/17							
<i>Bosmina longirostris</i>	0.00	0.30	0.22	0.25	0.33	0.22	0.13
<i>Daphnia pulicaria/pulex</i>	1.35	1.12	0.93	0.00	1.36	0.95	0.56
<i>Diacyclops thomasi</i>	0.64	0.65	0.64	0.70	0.64	0.65	0.03
<i>Diaphanosoma brachyurum</i>	0.00	0.79	0.68	0.70	6.00	1.63	2.46
<i>Leptodiptomus nudus</i>	0.63	0.68	0.75	0.73	0.72	0.70	0.05
<i>Leptodora kindtii</i>	0.00	0.00	0.00	0.00	0.99	0.20	0.44
Sum	2.62	3.54	3.22	2.38	10.04	4.36	--
09/12/18							
Copepod nauplius	1.1	0.8	1.5	1.7	-	1.29	0.41
<i>Daphnia pulicaria/pulex</i>	0.7	0.6	0.6	0.1	-	0.48	0.29
<i>Diacyclops thomasi</i>	11.0	10.8	10.7	9.0	-	10.37	0.93
<i>Diaphanosoma brachyurum</i>	0.5	0.6	1.4	0.3	-	0.68	0.47
<i>Leptodiptomus nudus</i>	1.6	2.2	2.9	2.0	-	2.17	0.55
Sum	14.94	14.88	17.05	13.08	-	14.99	-
09/25/19							
Copepod nauplius	0.12	0.00	0.93	0.78	1.55	0.68	0.63
<i>Daphnia galeata/mendotae</i>	0.37	0.00	0.47	0.31	0.31	0.29	0.17
<i>Daphnia pulicaria/pulex</i>	0.12	0.00	0.00	0.00	0.47	0.12	0.20
<i>Daphnia</i> neonates	0.25	0.00	0.00	0.00	0.00	0.05	0.11
<i>Diacyclops thomasi</i>	17.24	0.00	21.86	11.63	20.77	14.30	8.93
<i>Leptodiptomus connexus</i>	0.00	0.00	0.31	0.00	0.16	0.09	0.14
<i>Leptodiptomus nudus</i>	0.12	0.00	2.33	0.16	3.26	1.17	1.51
Sum	18.23	0.00	25.89	12.87	26.51	16.70	--

\*CPW stations

Table A5.22. Density (individuals/L) of crustacean zooplankton taxa sampled at Lost Man Reservoir, Pitkin County, Colorado, on 06/22/16.

Taxon	Station			Mean	SD
	LMR01	LMR02	LMR03		
<i>Diacyclops thomasi</i>	0.00	0.05	0.00	0.02	0.03
Sum	0.00	0.05	0.00	0.02	--

Table A5.23. Density (individuals/L) of crustacean zooplankton taxa sampled at Lower Big Creek Lake, Jackson County, Colorado.

Taxon	Station			Mean	SD
	BCL01	BCL02	BCL04		
09/10/15					
<i>Bosmina longirostris</i>	0.74	0.16	0.56	0.49	0.30
Copepod	0.00	0.16	0.00	0.05	0.09
<i>Daphnia galeata</i>	0.56	0.47	0.00	0.34	0.30
<i>Daphnia pulicaria/pulex</i>	4.09	2.48	3.53	3.37	0.82
<i>Daphnia neonates</i>	0.37	0.77	0.74	0.63	0.22
<i>Daphnia</i> spp.	0.37	0.16	0.19	0.24	0.11
<i>Diacyclops thomasi</i>	26.79	30.54	33.11	30.15	3.18
Sum	32.92	34.74	38.13	35.26	--
09/04/18					
Copepod nauplius	0.31	0.00	0.16	0.16	0.16
<i>Daphnia pulicaria/pulex</i>	0.77	0.77	0.47	0.67	0.17
<i>Daphnia neonates</i>	0.31	0.16	0.16	0.21	0.09
<i>Diacyclops thomasi</i>	15.97	24.81	22.63	21.14	4.61
Sum	17.36	25.74	23.42	22.17	--
07/24/19					
Copepod nauplius	0.70	1.16	0.23	0.70	0.47
<i>Daphnia pulicaria/pulex</i>	0.23	0.23	0.00	0.15	0.13
<i>Diacyclops thomasi</i>	76.50	65.11	50.92	64.18	12.82
Sum	77.43	66.50	51.15	65.03	--

Table A5.24. Density (individuals/L) of crustacean zooplankton taxa sampled at Lower Camp Lake, Larimer County, Colorado, on 07/07/16.

Taxon	Station		Mean	SD
	CMP01			
Copepod	0.37		0.37	--
<i>Daphnia galeata</i>	0.09		0.09	--
<i>Leptodiptomus nudus</i>	1.30		1.30	--
Sum	1.77		1.77	--

Table A5.25. Density (individuals/L) of crustacean zooplankton taxa sampled at Lower Twin Lake, Lake County, Colorado.

Taxon	Station				Mean	SD
	LTL01	--	LTL06	LTL07		
05/27/14						
<i>Bosmina longirostris</i>	0.00	--	0.00	0.01	0.00	0.01
Calanoid	0.01	--	0.00	0.00	0.00	0.01
Copepod nauplius	0.00	--	0.00	0.03	0.01	0.02
Copepod	0.00	--	0.08	0.00	0.03	0.05
Cyclopoid	0.00	--	0.00	0.03	0.01	0.02
<i>Diacyclops thomasi</i>	0.45	--	1.93	0.70	1.03	0.80
<i>Leptodiptomus connexus</i>	0.04	--	0.08	0.01	0.04	0.04
<i>Leptodiptomus judayi</i>	0.05	--	0.08	0.07	0.07	0.02
<i>Leptodora kindtii</i>	0.00	--	0.00	0.04	0.01	0.02
Sum	0.54	--	2.19	0.88	1.20	--
07/22/14						
	LTL01	LTL03	LTL05	LTL07		
<i>Bosmina longirostris</i>	0.33	0.00	0.21	0.19	0.18	0.14
Calanoid	0.00	0.42	0.00	0.00	0.10	0.21
<i>Daphnia pulicaria/pulex</i>	0.11	0.00	0.00	0.00	0.03	0.06
<i>Daphnia</i> spp.	0.00	0.00	0.11	0.00	0.03	0.06
<i>Daphnia</i> neonates	0.00	0.00	0.00	0.07	0.02	0.03
<i>Diacyclops thomasi</i>	7.05	9.75	6.95	4.53	7.07	2.13
<i>Leptodiptomus connexus</i>	4.99	6.82	6.62	2.30	5.18	2.09
<i>Leptodiptomus judayi</i>	0.00	1.40	0.00	0.00	0.35	0.70
Sum	12.48	18.38	13.90	7.08	12.96	--
08/19/14						
	LTL01	LTL03	LTL05	LTL07		
<i>Bosmina longirostris</i>	2.02	1.67	0.19	1.16	1.26	0.80
<i>Daphnia galeata</i>	0.16	0.47	0.47	0.31	0.35	0.15
<i>Daphnia pulicaria/pulex</i>	0.07	0.19	0.14	0.16	0.14	0.05
<i>Daphnia</i> spp.	0.07	0.00	0.05	0.00	0.03	0.04
<i>Daphnia</i> neonates	0.07	0.00	0.00	0.07	0.04	0.04
<i>Diacyclops thomasi</i>	10.39	7.25	6.00	11.78	8.86	2.69
<i>Leptodiptomus connexus</i>	0.00	0.37	0.28	0.07	0.18	0.17
Sum	12.79	9.95	7.12	13.56	10.85	--



Table A5.25. Continued. Density (individuals/L) of crustacean zooplankton taxa sampled at Lower Twin Lake, Lake County, Colorado.

Taxon	Station				Mean	SD
	LTL01	LTL03	LTL05	LTL07		
09/25/14						
<i>Bosmina longirostris</i>	6.40	1.40	2.09	3.65	3.38	2.22
<i>Daphnia galeata</i>	0.87	0.00	0.07	0.07	0.25	0.41
<i>Daphnia pulicaria/pulex</i>	0.76	0.37	0.93	0.31	0.59	0.30
<i>Daphnia</i> spp.	0.21	0.19	0.00	0.00	0.10	0.12
<i>Daphnia</i> neonates	0.21	0.09	0.07	0.00	0.10	0.09
<i>Diacyclops thomasi</i>	18.77	12.09	9.14	14.42	13.61	4.06
<i>Leptodiptomus connexus</i>	0.00	0.19	0.16	0.39	0.18	0.16
Sum	27.22	14.32	12.47	18.83	18.21	--
10/20/14						
<i>Bosmina longirostris</i>	0.77	0.00	0.00	0.16	0.23	0.37
<i>Daphnia galeata</i>	0.00	0.62	0.19	0.16	0.24	0.27
<i>Daphnia pulicaria/pulex</i>	0.77	2.33	0.37	0.00	0.87	1.02
<i>Daphnia rosea</i>	0.00	0.00	0.37	0.00	0.09	0.19
<i>Daphnia</i> spp.	0.00	0.00	0.09	0.16	0.06	0.08
<i>Daphnia</i> neonates	0.00	0.16	0.19	0.00	0.09	0.10
<i>Diacyclops thomasi</i>	20.16	20.00	9.39	17.83	16.84	5.08
<i>Leptodiptomus connexus</i>	0.31	0.16	0.00	0.31	0.19	0.15
Sum	22.01	23.26	10.60	18.61	18.62	--
11/21/14						
<i>Bosmina longirostris</i>	0.16	0.03	0.02	0.03	0.06	0.07
<i>Daphnia galeata</i>	0.09	0.00	0.01	0.02	0.03	0.04
<i>Daphnia lumholtzi</i>	0.74	0.25	0.05	0.00	0.26	0.34
<i>Daphnia pulicaria/pulex</i>	0.07	0.03	0.01	0.02	0.03	0.02
<i>Daphnia</i> spp.	0.00	0.00	0.01	0.00	0.00	0.00
<i>Diacyclops thomasi</i>	4.16	2.70	1.16	2.12	2.53	1.25
<i>Leptodiptomus connexus</i>	0.12	0.07	0.03	0.25	0.12	0.10
Sum	5.34	3.07	1.28	2.44	3.03	--

Table A5.26. Density (individuals/L) of crustacean zooplankton taxa sampled at McIntyre Lake, Larimer County, Colorado, on 07/08/16.

Taxon	Station		Mean	SD
	MCL01	MCL02		
<i>Bosmina longirostris</i>	0.03	0.02	0.02	0.01
Copepod nauplius	0.30	0.46	0.38	0.11
<i>Daphnia galeata</i>	0.06	0.05	0.05	0.01
<i>Daphnia pulicaria/pulex</i>	0.06	0.00	0.03	0.04
<i>Daphnia</i> spp.	0.01	0.00	0.00	0.01
<i>Daphnia</i> neonates	0.06	0.00	0.03	0.04
<i>Diacyclops thomasi</i>	0.47	0.67	0.57	0.14
<i>Leptodiptomus nudus</i>	0.06	0.07	0.06	0.01
Sum	1.02	1.26	1.14	--

Table A5.27. Density (individuals/L) of crustacean zooplankton taxa sampled at Mount Elbert Forebay, Lake County, Colorado, on 09/08/15.

Taxon	Station			Mean	SD
	MEF01	MEF02	MEF03		
<i>Bosmina longirostris</i>	1.84	24.30	18.60	14.92	11.68
<i>Daphnia galeata</i>	0.02	0.00	0.12	0.05	0.07
<i>Daphnia pulicaria/pulex</i>	0.07	0.25	0.25	0.19	0.11
<i>Daphnia</i> spp.	0.03	0.12	0.00	0.05	0.06
<i>Daphnia</i> neonates	0.02	0.00	0.12	0.05	0.07
<i>Diacyclops thomasi</i>	2.06	15.25	12.77	10.03	7.01
<i>Leptodiptomus nudus</i>	0.00	0.00	0.12	0.04	0.07
Sum	4.04	39.93	31.99	25.32	--

Table A5.28. Density (individuals/L) of crustacean zooplankton taxa sampled at Mount Elbert Forebay, Lake County, Colorado, on 08/30/18.

Taxon	Station	Mean	SD
	MEF03		
<i>Bosmina longirostris</i>	1.40	1.40	--
<i>Daphnia pulicaria/pulex</i>	0.31	0.31	--
<i>Diacyclops thomasi</i>	2.48	2.48	--
Sum	4.19	4.19	--

Table A5.29. Density (individuals/L) of crustacean zooplankton taxa sampled at Norrie Lake, Pitkin County, Colorado, on 06/21/16.

Taxon	Station		Mean	SD
	NOR01			
<i>Daphnia ambigua</i>	0.28		0.28	--
<i>Diacyclops thomasi</i>	1.67		1.67	--
Sum	1.95		1.95	--

Table A5.30. Density (individuals/L) of crustacean zooplankton taxa sampled at Pinewood Reservoir, Larimer County, Colorado, on 05/01/14.

Taxon	Station			Mean	SD
	PIN01	PIN02	PIN03		
<i>Bosmina longirostris</i>	0.00	0.00	0.01	0.00	0.01
<i>Daphnia galeata</i>	0.00	0.00	0.01	0.00	0.01
<i>Daphnia pulicaria/pulex</i>	0.01	0.01	0.00	0.01	0.01
<i>Diacyclops thomasi</i>	0.11	0.40	0.09	0.20	0.17
<i>Leptodiptomus nudus</i>	0.04	0.02	0.00	0.02	0.02
Sum	0.16	0.43	0.11	0.23	--

Table A5.31. Density (individuals/L) of crustacean zooplankton taxa sampled at Pueblo Reservoir, Pueblo County, Colorado, on 10/23/14.

Taxon	Station					Mean	SD
	PUE01	PUE03	PUE05	PUE07	PUE09		
<i>Bosmina longirostris</i>	0.29	1.09	0.47	0.16	0.31	0.46	0.37
Copepod nauplius	0.25	0.62	0.93	0.31	0.16	0.45	0.32
<i>Daphnia galeata</i>	0.14	0.31	0.00	1.09	4.96	1.30	2.09
<i>Daphnia</i> spp.	0.00	0.00	0.00	0.00	0.93	0.19	0.42
<i>Daphnia</i> neonates	0.02	0.00	0.00	0.00	1.86	0.38	0.83
<i>Diacyclops thomasi</i>	0.89	1.40	4.49	3.26	2.33	2.47	1.45
<i>Leptodiptomus connexus</i>	0.20	0.62	0.62	0.00	0.00	0.29	0.32
<i>Leptodiptomus judayi</i>	0.00	0.00	0.00	0.62	0.31	0.19	0.28
<i>Leptodiptomus nudus</i>	0.07	0.00	0.00	0.00	0.62	0.14	0.27
Sum	1.85	4.04	6.51	5.43	11.47	5.86	--

Table A5.32. Density (individuals/L) of crustacean zooplankton taxa sampled at Pueblo Reservoir, Pueblo County, Colorado, on 07/10/17.

Taxon	Station					Mean	SD
	PUE03	PUE04	PUE05	PUE07	PUE09		
<i>Bosmina longirostris</i>	0.87	0.47	0.93	3.26	7.28	2.56	2.86
Copepod nauplius	0.37	0.65	1.86	1.70	1.70	1.26	0.69
<i>Daphnia ambigua</i>	2.60	0.09	1.55	1.09	0.00	1.07	1.08
<i>Daphnia galeata</i>	0.87	0.00	0.00	0.00	0.16	0.20	0.38
<i>Daphnia longiremis</i>	1.12	0.00	5.27	1.40	1.40	1.84	2.01
<i>Daphnia pulicaria/pulex</i>	0.00	0.09	0.16	0.00	0.00	0.05	0.07
<i>Daphnia rosea</i>	0.00	0.00	0.00	0.62	0.00	0.12	0.28
<i>Daphnia neonates</i>	0.25	0.00	0.77	0.93	0.47	0.48	0.38
<i>Diacyclops thomasi</i>	12.03	3.63	9.61	6.35	5.74	7.47	3.33
<i>Leptodiptomus connexus</i>	2.23	1.40	1.86	1.40	1.86	1.75	0.36
<i>Leptodiptomus judayi</i>	1.00	0.65	0.00	0.00	0.00	0.33	0.47
<i>Leptodiptomus nudus</i>	1.74	1.30	2.02	2.48	2.63	2.04	0.54
<i>Mesocyclops edax</i>	3.47	2.33	5.12	4.34	1.70	3.39	1.40
Sum	26.54	10.60	29.15	23.57	22.94	22.56	--

Table A5.33. Density (individuals/L) of crustacean zooplankton taxa sampled at Rawah Lake #1, Larimer County, Colorado, on 07/07/16.

Taxon	Station		Mean	SD
	RW101	RW102		
<i>Bosmina longirostris</i>	0.28	0.03	0.16	0.18
Copepod nauplius	0.12	0.03	0.08	0.07
Copepod	0.09	0.09	0.09	0.00
<i>Daphnia galeata</i>	0.06	0.03	0.05	0.02
<i>Diacyclops thomasi</i>	0.03	0.09	0.06	0.04
<i>Leptodiptomus nudus</i>	0.71	0.40	0.56	0.22
Sum	1.30	0.68	0.99	--

Table A5.34. Density (individuals/L) of crustacean zooplankton taxa sampled at Rawah Lake #2, Larimer County, Colorado, on 07/09/16.

Taxon	Station		Mean	SD
	RW201	RW202		
<i>Bosmina longirostris</i>	0.19	0.06	0.12	0.09
Copepod nauplius	1.07	0.16	0.61	0.65
<i>Daphnia galeata</i>	0.07	0.06	0.07	0.01
<i>Daphnia</i> spp.	0.03	0.00	0.02	0.02
<i>Diacyclops thomasi</i>	0.14	0.06	0.10	0.05
Sum	1.50	0.34	0.92	--

Table A5.35. Density (individuals/L) of crustacean zooplankton taxa sampled at Rawah Lake #3, Larimer County, Colorado, on 07/09/16.

Taxon	Station			Mean	SD
	RW301	RW302	RW303		
<i>Bosmina longirostris</i>	0.12	0.06	0.06	0.08	0.04
Copepod nauplius	2.55	1.28	3.05	2.29	0.91
Copepod	0.00	0.00	0.01	0.00	0.01
<i>Daphnia galeata</i>	0.05	0.05	0.02	0.04	0.02
<i>Daphnia</i> spp.	0.00	0.02	0.03	0.02	0.01
<i>Leptodiptomus nudus</i>	0.04	0.03	0.04	0.03	0.01
Sum	2.75	1.43	3.20	2.46	--

Table A5.36. Density (individuals/L) of crustacean zooplankton taxa sampled at Rawah Lake #4, Larimer County, Colorado, on 07/09/16.

Taxon	Station	Mean	SD
	RW403		
Copepod nauplius	23.81	23.81	--
Copepod	0.12	0.12	--
Sum	23.93	23.93	--

Table A5.37. Density (individuals/L) of crustacean zooplankton taxa sampled at Ruedi Reservoir, Pitkin County, Colorado, on 06/25/14.

Taxon	Station					Mean	SD
	RUE01	RUE03	RUE05	RUE07	RUE09		
<i>Bosmina longirostris</i>	0.00	0.00	0.00	0.47	0.00	0.09	0.21
<i>Ceriodaphnia</i> spp.	0.00	0.00	0.00	0.00	0.23	0.05	0.10
Copepod nauplius	0.23	0.00	0.00	0.00	2.09	0.47	0.92
Cyclopoid	0.00	0.00	0.00	0.00	0.23	0.05	0.10
<i>Daphnia galeata</i>	0.00	0.00	0.00	0.23	0.00	0.05	0.10
<i>Diacyclops thomasi</i>	73.94	102.31	48.37	42.09	34.65	60.27	27.76
<i>Leptodiptomus connexus</i>	0.00	0.00	0.00	0.00	0.23	0.05	0.10
<i>Leptodiptomus nudus</i>	0.47	0.47	0.00	0.00	0.00	0.19	0.25
Sum	74.64	102.78	48.37	42.79	37.44	61.20	--

Table A5.38. Density (individuals/L) of crustacean zooplankton taxa sampled at Sellar Lake, Pitkin County, Colorado, on 07/27/16.

Taxon	Station			Mean	SD
	SEL01	SEL02	SEL03		
<i>Ceriodaphnia quadrangula</i>	0.19	0.00	0.00	0.06	0.11
Copepod nauplius	0.93	0.66	3.88	1.82	1.78
<i>Daphnia galeata</i>	1.95	2.21	9.30	4.49	4.17
<i>Daphnia pulicaria/pulex</i>	0.00	0.22	0.00	0.07	0.13
<i>Daphnia</i> spp.	0.09	0.00	0.00	0.03	0.05
<i>Daphnia neonates</i>	0.09	1.11	2.33	1.18	1.12
<i>Diacyclops thomasi</i>	0.00	0.00	2.33	0.78	1.34
<i>Holopedium gibberum</i>	0.37	0.00	0.00	0.12	0.21
<i>Leptodiptomus nudus</i>	2.33	6.20	13.18	7.23	5.50
Sum	5.95	10.41	31.00	15.79	--

Table A5.39. Density (individuals/L) of crustacean zooplankton taxa sampled at Shadow Mountain Reservoir, Grand County, Colorado, on 08/22/14.

Taxon	Station		
	SHA01	Mean	SD
Copepod nauplius	0.31	0.31	--
<i>Daphnia galeata</i>	3.72	3.72	--
<i>Daphnia pulicaria/pulex</i>	2.17	2.17	--
<i>Daphnia</i> spp.	0.31	0.31	--
<i>Daphnia</i> neonates	0.93	0.93	--
<i>Diatom thomasi</i>	51.78	51.78	--
<i>Leptodiatomus nudus</i>	7.75	7.75	--
Sum	66.96	66.96	--

Table A5.40. Density (individuals/L) of crustacean zooplankton taxa sampled at Stillwater Reservoir, Garfield County, Colorado, on 07/16/15.

Taxon	Station			Mean	SD
	STI01	STI02	STI03		
<i>Bosmina longirostris</i>	1.24	0.00	0.00	0.41	0.71
<i>Chydorus sphaericus</i>	0.31	0.00	0.00	0.10	0.18
Copepod nauplius	0.62	0.00	0.47	0.36	0.32
<i>Daphnia galeata</i>	9.30	10.00	9.30	9.53	0.40
<i>Daphnia pulicaria/pulex</i>	4.96	3.72	9.30	5.99	2.93
<i>Daphnia</i> spp.	0.31	0.47	1.40	0.72	0.59
<i>Daphnia</i> neonates	3.41	4.88	4.65	4.32	0.79
<i>Diatom thomasi</i>	25.11	16.28	22.32	21.24	4.52
<i>Leptodiatomus nudus</i>	1.24	1.16	0.70	1.03	0.29
Sum	46.50	36.51	48.13	43.71	--

Table A5.41. Density (individuals/L) of crustacean zooplankton taxa sampled at Strontia Springs Reservoir, Douglas County, Colorado, on 07/13/18.

Taxon	Station			Mean	SD
	STR01	STR02	STR03		
<i>Bosmina longirostris</i>	0.37	0.09	0.49	0.32	0.21
Copepod nauplius	0.74	0.00	0.00	0.25	0.43
<i>Daphnia galeata</i>	0.19	0.37	1.12	0.56	0.49
<i>Daphnia longiremis</i>	3.53	4.28	5.95	4.59	1.24
<i>Daphnia</i> spp.	0.19	0.37	0.25	0.27	0.09
<i>Daphnia</i> neonates	0.28	0.65	1.00	0.64	0.36
<i>Diacyclops thomasi</i>	1.76	1.40	2.23	1.80	0.42
<i>Leptodora kindtii</i>	0.00	0.00	0.12	0.04	0.07
Sum	7.06	7.16	11.16	8.46	--

Table A5.42. Density (individuals/L) of crustacean zooplankton taxa sampled at Sugarbowl Lake, Larimer County, Colorado, on 07/08/16.

Taxon	Station			Mean	SD
	SUG01	SUG02	SUG03		
<i>Bosmina longirostris</i>	0.33	0.28	0.20	0.27	0.07
Calanoid	0.02	0.11	0.00	0.04	0.06
Copepod nauplius	0.02	0.02	0.00	0.01	0.01
<i>Daphnia galeata</i>	0.41	0.35	0.30	0.35	0.05
<i>Daphnia pulicaria/pulex</i>	0.04	0.04	0.00	0.03	0.03
<i>Daphnia</i> spp.	0.07	0.04	0.00	0.04	0.03
<i>Daphnia</i> neonates	0.00	0.00	0.02	0.01	0.01
<i>Diacyclops thomasi</i>	0.00	0.04	0.02	0.02	0.02
<i>Leptodiptomus nudus</i>	0.02	0.02	0.04	0.03	0.01
Sum	0.91	0.91	0.59	0.80	--



Table A5.43. Density (individuals/L) of crustacean zooplankton taxa sampled at Taylor Park Reservoir, Gunnison County, Colorado.

Taxon	Station*					Mean	SD
	P1	P2	P3	P4	P5		
06/15/10							
<i>Leptodiptomus nudus</i>	0.1	0.0	0.0	0.0	0.0	0.0	0.03
<i>Diacyclops b. thomasi</i>	23.2	10.3	13.7	9.9	16.6	14.7	5.46
Sum	23.3	10.3	13.7	9.9	16.6	14.8	--
08/19/12							
<i>Bosmina longirostris</i>	0.00	0.00	0.00	0.00	0.01	0.00	0.00
<i>Daphnia galeata</i>	0.00	0.00	0.00	0.30	0.00	0.06	0.13
<i>Daphnia pulex/pulicaria</i>	2.20	0.60	2.90	3.60	1.30	2.12	1.20
<i>Daphnia</i> spp.	0.50	0.80	0.10	1.30	0.20	0.58	0.49
<i>Diacyclops thomasi</i>	2.40	1.20	0.70	1.40	3.00	1.74	0.94
<i>Leptodiptomus nudus</i>	20.70	8.60	2.30	1.80	5.60	7.80	7.72
Sum	25.80	11.20	6.00	8.40	10.11	12.30	--
08/22/13							
<i>Alona affinis</i>	0	0	0.2	0	0	0.04	0.09
<i>Daphnia galeata</i>	0.44	0.1	0.55	0.34	0.41	0.37	0.17
<i>Daphnia pulex/pulicaria</i>	1.32	0.32	1.08	0.68	1.22	0.92	0.42
<i>Daphnia</i> spp.	0.78	0.24	1.15	0.62	0.89	0.74	0.34
<i>Diacyclops thomasi</i>	2.63	1.32	1.99	0.75	1.52	1.64	0.71
<i>Leptodiptomus nudus</i>	1.72	0.6	1.98	2.01	5.78	2.42	1.97
Sum	6.89	2.58	6.95	4.40	9.82	6.13	--
05/02/14							
Copepod nauplius	0.31	0.00	0.00	0.31	0.00	0.12	0.17
<i>Daphnia galeata</i>	0.00	0.00	0.47	0.00	0.62	0.22	0.30
<i>Daphnia</i> neonate	0.00	0.00	0.00	0.31	0.00	0.06	0.14
<i>Diacyclops thomasi</i>	72.24	60.46	121.85	98.90	53.02	81.29	28.59
<i>Leptodiptomus nudus</i>	0.00	0.00	0.00	0.31	0.31	0.12	0.17
Sum	72.55	60.46	122.31	99.82	53.95	81.82	--
08/22/17							
<i>Daphnia pulex/pulicaria</i>	3.82	1.18	1.18	4.21	2.05	2.49	1.45
<i>Diacyclops thomasi</i>	8.53	9.63	10.66	11.13	12.47	10.48	1.49
<i>Leptodiptomus nudus</i>	0.95	1.34	4.42	1.50	4.10	2.46	1.66
Sum	13.30	12.15	16.26	16.84	18.62	15.43	--

\*CPW stations

Table A5.44. Continued. Density (individuals/L) of crustacean zooplankton taxa sampled at Taylor Park Reservoir, Gunnison County, Colorado.

Taxon	Station*					Mean	SD
	P1	P2	P3	P4	P5		
09/11/18							
Copepod nauplius	0.2	0.1	0.1	0.1	0.6	0.22	0.22
<i>Daphnia pulicaria/pulex</i>	0.2	1.3	3.7	1.3	2.6	1.82	1.36
<i>Daphnia neonates</i>	0.0	0.1	0.0	0.0	0.0	0.02	0.02
<i>Diacyclops thomasi</i>	3.0	2.2	2.9	2.4	2.5	2.60	0.34
<i>Leptodiptomus nudus</i>	0.2	0.4	0.2	0.4	0.3	0.29	0.09
Sum	3.6	4.0	6.9	4.2	6.1	4.9	-
09/26/19							
Copepod nauplius	0.00	0.42	0.33	0.68	0.78	0.44	0.31
<i>Daphnia galeata/mendotae</i>	0.37	0.00	0.11	0.34	0.78	0.32	0.30
<i>Daphnia pulicaria/pulex</i>	0.19	0.14	0.22	1.02	0.16	0.34	0.38
<i>Diacyclops thomasi</i>	8.74	10.46	6.51	6.65	8.22	8.12	1.63
<i>Leptodiptomus nudus</i>	4.84	0.56	0.87	1.02	2.64	1.98	1.79
<i>Leptodiptomus spp.</i>	0.19	0.00	0.00	0.00	0.00	0.04	0.08
Sum	14.32	11.58	8.03	9.72	12.56	11.24	--

\*CPW stations

Table A5.45. Density (individuals/L) of crustacean zooplankton taxa sampled at Turquoise Lake, Lake County, Colorado, on 09/21/14.

Taxon	Station					Mean	SD
	TUR01	TUR03	TUR05	TUR07	TUR09		
<i>Bosmina longirostris</i>	1.00	1.49	0.65	1.02	0.93	1.02	0.30
<i>Daphnia galeata</i>	0.12	0.56	0.65	0.19	0.19	0.34	0.24
<i>Daphnia pulicaria/pulex</i>	0.81	0.84	3.16	1.95	0.56	1.46	1.09
<i>Daphnia spp.</i>	0.07	0.09	0.28	0.09	0.09	0.12	0.09
<i>Daphnia neonates</i>	0.00	0.19	0.47	0.09	0.09	0.17	0.18
<i>Diacyclops thomasi</i>	8.62	8.74	8.56	13.02	13.39	10.47	2.51
<i>Holopedium gibberum</i>	0.12	1.21	1.49	0.74	1.02	0.92	0.52
Sum	10.73	13.11	15.25	17.11	16.28	14.50	--

Table A5.46. Density (individuals/L) of crustacean zooplankton taxa sampled at Upper Big Creek Lake, Jackson County, Colorado, on 07/24/19.

Taxon	Station			Mean	SD
	BCU01	BCU02	BCU03		
<i>Bosmina longirostris</i>	0.52	0.00	0.25	0.26	0.26
Copepod nauplius	1.81	0.74	0.25	0.93	0.80
<i>Diacyclops thomasi</i>	22.74	12.30	16.73	17.26	5.24
Sum	25.07	13.04	17.23	18.19	--

Table A5.47. Density (individuals/L) of crustacean zooplankton taxa sampled at Upper Camp Lake, Larimer County, Colorado, on 07/06/16.

Taxon	Station			Mean	SD
	UCL01	UCL02	UCL03		
<i>Bosmina longirostris</i>	0.00	0.37	0.00	0.12	0.21
Copepod nauplius	4.46	0.56	3.91	2.98	2.11
<i>Daphnia galeata</i>	0.19	0.19	0.37	0.25	0.11
<i>Holopedium gibberum</i>	0.19	0.37	1.67	0.74	0.81
<i>Leptodiatomus nudus</i>	39.81	41.30	28.65	36.58	6.91
Sum	44.65	42.79	34.60	40.68	--

Table A5.48. Density (individuals/L) of crustacean zooplankton taxa sampled at Upper Stillwater Reservoir, Garfield County, Colorado, on 05/02/14.

Taxon	Station			Mean	SD
	UST01	UST02	UST03		
<i>Bosmina longirostris</i>	72.55	13.02	2.06	29.21	37.93
<i>Chydorus sphaericus</i>	0.00	0.37	0.20	0.19	0.19
<i>Daphnia galeata</i>	24.81	5.77	0.45	10.34	12.81
<i>Daphnia pulicaria/pulex</i>	0.00	0.37	0.04	0.14	0.20
<i>Daphnia</i> spp.	1.24	2.42	0.12	1.26	1.15
<i>Daphnia neonates</i>	11.78	3.16	0.45	5.13	5.92
<i>Diacyclops thomasi</i>	5.58	5.58	1.85	4.34	2.15
<i>Leptodiatomus nudus</i>	0.00	0.00	0.01	0.00	0.01
Sum	115.96	30.69	5.17	50.61	--

Table A5.49 Density (individuals/L) of crustacean zooplankton taxa sampled at Upper Twin Lake, Lake County, Colorado, on 07/22/14.

Taxon	Station			Mean	SD
	UTL01	UTL02	UTL03		
<i>Bosmina longirostris</i>	0.00	0.13	0.00	0.04	0.08
Calanoid	0.44	0.13	0.40	0.32	0.17
Copepod nauplius	0.00	0.26	0.00	0.09	0.15
Cyclopoid	0.29	0.00	0.00	0.10	0.17
<i>Daphnia</i> spp.	0.00	0.00	0.13	0.04	0.08
<i>Diatocyclops thomasi</i>	1.15	1.40	2.78	1.78	0.88
<i>Leptodiatomus connexus</i>	1.59	1.15	1.06	1.27	0.28
<i>Leptodiatomus judayi</i>	1.15	0.13	0.53	0.60	0.52
Sum	4.62	3.21	4.90	4.24	--

Table A5.50. Density (individuals/L) of crustacean zooplankton taxa sampled at Willow Creek Reservoir, Grand County, Colorado, on 08/23/14.

Taxon	Station			Mean	SD
	WCR01	WCR02	WCR03		
<i>Bosmina longirostris</i>	1.55	0.37	0.37	0.77	0.68
Calanoid	0.00	0.19	0.00	0.06	0.11
<i>Daphnia galeata</i>	2.48	9.86	4.09	5.48	3.88
<i>Daphnia pulicaria/pulex</i>	0.16	0.56	3.35	1.35	1.74
<i>Daphnia</i> spp.	0.16	0.00	0.19	0.11	0.10
<i>Daphnia neonates</i>	0.16	0.37	0.56	0.36	0.20
<i>Diatocyclops thomasi</i>	15.35	16.00	19.53	16.96	2.25
<i>Leptodiatomus nudus</i>	0.31	0.00	0.00	0.10	0.18
<i>Leptodora kindtii</i>	0.00	0.19	0.00	0.06	0.11
Sum	20.17	27.53	28.09	25.26	--

Table A5.51. Density (individuals/L) of crustacean zooplankton taxa sampled at Yamcolo Reservoir, Garfield County, Colorado, on 07/14/15.

Taxon	Station			Mean	SD
	YAM01	YAM02	YAM03		
<i>Bosmina longirostris</i>	12.37	8.68	8.68	9.91	2.13
Copepod nauplius	2.95	2.17	0.54	1.89	1.23
<i>Daphnia galeata</i>	3.53	4.88	4.88	4.43	0.78
<i>Daphnia pulicaria/pulex</i>	35.93	30.39	20.62	28.98	7.75
<i>Daphnia</i> spp.	1.18	1.09	1.09	1.12	0.05
<i>Diacyclops thomasi</i>	48.90	42.86	70.53	54.10	14.55
<i>Leptodiptomus nudus</i>	0.00	0.00	1.09	0.36	0.63
Sum	104.86	90.06	107.43	100.78	--

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## **Appendix 6 - Mysis population data**

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Table A6.1. Length-frequency distributions of *Mysis* sampled from multiple waters. Frequencies and totals are based on the total number of *Mysis* in the sample; in some cases, samples were split prior to making measurements and these measurement frequencies were scaled up to the total catch. “U” represents the number of individuals that could not be measured. See Table A1.1 for water body codes.

Water	Date	Total length (mm)													Total
		4	6	8	10	12	14	16	18	20	22	24	26	U	
BCL	09/09/15	0	0	1	1	3	5	1	0	0	0	0	0	0	11
BCL	09/04/18	4	199	414	234	145	26	46	13	4	0	0	0	0	1,085
BCL	07/24/19	6	672	1540	628	46	92	220	114	6	2	0	0	0	3,326
CAR	03/26/14	0	0	1	4	19	32	12	7	3	0	0	0	0	78
CAR	04/18/14	168	77	5	0	43	124	26	4	7	0	0	0	0	454
CAR	05/02/14	26	7	0	32	121	624	542	97	31	1	1	0	65	1,547
CAR	05/28/14	394	148	9	4	14	76	359	575	184	23	4	0	2	1,792
CAR	06/20/14	185	295	77	9	7	67	310	261	57	13	1	0	21	1,303
CAR	07/24/14	50	836	788	334	84	54	174	610	606	121	17	0	3	3,677
CAR	08/17/14	5	336	1051	817	348	109	358	432	266	23	28	8	28	3,809
CAR	09/24/14	0	101	887	759	371	181	291	537	259	42	12	1	0	3,441
CAR	10/21/14	0	51	770	662	550	342	129	245	148	19	4	0	0	2,920
CAR	11/23/14	0	10	502	690	256	292	303	370	193	28	0	0	0	2,644
CAR	12/17/14	0	9	535	1462	564	592	383	428	166	26	0	0	12	4,177
CAR	01/21/15	1	0	255	1384	460	235	188	54	10	3	0	0	1	2,591
CAR	02/18/15	13	0	8	489	506	177	74	80	20	3	0	0	1	1,371
CAR	03/20/15	151	7	2	58	717	534	140	120	135	24	0	0	0	1,888
CAR	04/15/15	914	377	25	8	221	608	130	74	25	0	2	0	2	2,386
CAR	05/14/15	1303	1450	388	27	48	714	669	135	124	13	4	0	0	4,875
CAR	06/16/15	450	658	731	513	93	137	368	98	34	9	4	0	0	3,095
CAR	07/17/15	119	710	1261	1242	522	420	1198	497	213	52	5	0	0	6,239
CAR	08/10/15	18	461	743	811	445	210	620	584	93	14	0	0	0	3,999
CAR	09/11/15	0	495	1034	1301	569	346	832	681	115	20	10	0	0	5,403
CAR	10/07/15	1	264	812	793	493	481	680	428	76	18	0	0	0	4,046

Table A6.1. Continued. Length-frequency distributions of *Mysis* sampled from multiple waters. Frequencies and totals are based on the total number of *Mysis* in the sample; in some cases, samples were split prior to making measurements and these measurement frequencies were scaled up to the total catch. “U” represents the number of individuals that could not be measured. See Table A1.1 for water body codes.

Water	Date	Total length (mm)													Total
		4	6	8	10	12	14	16	18	20	22	24	26	U	
CAR	11/10/15	0	137	1541	1688	515	366	651	204	44	4	4	1	0	5,155
CAR	12/09/15	0	39	811	1410	573	665	1027	358	51	6	0	0	0	4,940
CAR	03/08/16	0	1	291	1599	719	175	110	24	0	0	0	0	1	2,920
CAR	04/06/16	4	1	13	626	1707	598	208	127	1	0	0	0	0	3,285
CAR	05/04/16	308	34	1	42	873	991	157	52	0	0	0	0	1	2,459
CAR	06/01/16	1353	363	43	2	194	1133	589	115	7	0	0	0	2	3,801
CAR	08/02/16	15	257	579	486	241	646	959	293	68	7	0	0	16	3,567
CAR	08/25/16	5	152	628	455	350	385	680	349	65	4	0	0	32	3,105
CAR	09/29/16	0	18	440	349	218	258	574	360	75	12	0	0	1	2,305
CAR	10/25/16	0	22	528	563	250	232	460	530	163	60	4	0	2	2,814
CAR	11/28/16	0	16	400	867	323	1073	797	165	0	0	0	0	16	3,657
CAR	12/28/16	0	0	101	500	240	513	253	53	8	0	0	0	28	1,696
CAR	01/24/17	0	0	45	186	84	146	44	4	0	0	0	0	4	513
CAR	02/27/17	4	0	8	655	377	123	110	46	3	0	0	0	3	1,329
CAR	03/21/17	33	0	0	115	585	189	84	37	3	1	0	0	6	1,053
CAR	04/25/17	227	30	1	1	106	407	126	21	8	1	0	0	9	937
CAR	05/23/17	379	190	47	3	4	153	280	79	23	1	0	0	4	1,163
CAR	08/23/17	0	139	319	234	361	339	157	394	197	70	18	0	6	2,234
CAR	08/08/18	9	280	505	494	401	281	158	262	129	30	0	0	2	2,551
CAR	08/29/19	2	80	1032	1130	862	430	284	542	230	30	0	0	16	4,638
CHM	08/01/16	10	271	677	358	46	38	236	392	106	24	0	0	0	2,158
DIL	09/10/10	1	34	429	344	419	323	107	30	2	0	0	0	51	1,740
DIL	06/07/11	407	120	4	5	95	208	130	41	3	1	0	0	29	1,043
DIL	07/06/11	48	165	42	8	21	63	59	14	3	0	0	0	12	435



Table A6.1. Continued. Length-frequency distributions of *Mysis* sampled from multiple waters. Frequencies and totals are based on the total number of *Mysis* in the sample; in some cases, samples were split prior to making measurements and these measurement frequencies were scaled up to the total catch. “U” represents the number of individuals that could not be measured. See Table A1.1 for water body codes.

Water	Date	Total length (mm)													Total
		4	6	8	10	12	14	16	18	20	22	24	26	U	
DIL	08/03/11	14	163	220	71	59	70	101	36	7	1	0	0	33	775
DIL	09/30/11	1	1	28	156	163	91	181	195	42	3	1	0	17	879
DIL	05/21/12	600	185	7	6	52	92	41	3	3	0	0	0	1	990
DIL	06/18/12	127	384	247	73	18	51	46	10	4	0	0	0	0	960
DIL	07/17/12	10	129	235	295	177	67	65	26	3	0	0	0	1	1,008
DIL	08/12/12	0	20	211	254	520	450	137	44	7	2	0	0	0	1,645
DIL	09/13/12	0	1	55	187	260	604	359	137	41	7	0	0	1	1,652
DIL	08/06/13	5	152	547	293	101	21	36	28	8	0	0	0	28	1,219
DIL	05/26/14	1260	122	5	2	51	230	170	49	10	0	0	0	0	1,899
DIL	06/23/14	657	288	27	1	21	200	109	31	5	0	1	0	0	1,340
DIL	07/20/14	104	986	503	144	72	147	197	53	18	2	0	0	0	2,226
DIL	07/21/14	74	653	380	156	88	161	208	50	14	3	1	0	0	1,788
DIL	08/18/14	3	76	399	261	217	143	191	74	20	2	0	0	0	1,386
DIL	09/20/14	0	4	104	526	328	393	320	145	31	1	0	0	0	1,852
DIL	10/19/14	0	0	12	258	266	197	519	205	37	7	0	0	1	1,502
DIL	11/22/14	0	0	0	85	176	465	509	165	13	1	0	0	0	1,414
DIL	08/12/15	1	102	345	308	256	260	242	64	8	1	0	0	0	1,587
DIL	08/03/16	3	82	403	553	333	113	125	48	16	0	0	0	0	1,676
DIL	08/24/17	2	11	92	178	253	239	194	51	3	0	0	0	3	1,026
DIL	08/09/18	1	15	188	382	492	282	40	41	30	3	0	0	1	1,475
DIL	09/23/19	0	0	2	13	19	52	115	82	23	0	0	0	0	306
EST	05/31/14	0	2	0	0	0	0	0	0	0	0	0	0	4	6
GDL	08/22/14	34	400	318	158	816	834	194	16	0	0	0	0	0	2,770
GRO	05/30/14	60	34	6	0	0	1	1	0	1	0	0	0	1	104

Table A6.1. Continued. Length-frequency distributions of *Mysis* sampled from multiple waters. Frequencies and totals are based on the total number of *Mysis* in the sample; in some cases, samples were split prior to making measurements and these measurement frequencies were scaled up to the total catch. “U” represents the number of individuals that could not be measured. See Table A1.1 for water body codes.

Water	Date	Total length (mm)													Total
		4	6	8	10	12	14	16	18	20	22	24	26	U	
GRO	08/28/19	0	0	60	198	183	337	105	37	21	12	0	0	0	953
HST	07/13/15	0	0	0	1	0	1	0	0	0	1	0	0	0	3
HST	06/08/16	0	1	0	0	0	0	0	0	0	0	0	0	0	1
JEF	02/08/15	217	610	289	136	20	51	166	36	9	2	0	0	0	1,536
JEF	06/17/18	126	70	7	1	20	119	41	6	8	2	0	0	0	400
JEF	07/14/18	137	177	103	30	11	70	136	35	6	2	0	0	0	707
JEF	08/11/18	31	198	147	91	56	36	135	47	15	1	1	0	0	758
JEF	09/06/18	3	60	185	134	105	46	39	60	14	7	2	0	0	655
JEF	10/04/18	0	13	66	46	57	90	45	62	7	1	0	0	1	388
GRB	08/29/11	1	53	463	424	194	574	862	191	17	1	0	0	0	2,780
GRB	09/18/12	0	44	584	761	995	947	348	115	9	0	0	0	0	3,801
GRB	09/04/13	0	20	102	256	321	428	315	326	89	9	0	0	0	1,866
GRB	08/21/14	0	24	680	1604	1472	1084	468	520	320	24	0	0	20	6,216
GRB	08/13/15	3	136	545	417	188	94	318	185	43	7	0	0	0	1,936
GRB	09/07/16	3	159	444	574	216	264	1997	1230	136	3	0	0	0	5,026
GRB	09/18/17	6	382	810	410	502	765	387	31	0	0	0	0	0	3,293
GRB	09/12/18	15	372	861	552	766	622	301	57	0	0	0	0	0	3,546
GRB	09/25/19	0	30	182	306	207	246	600	443	82	6	0	2	0	2,104
LTL	05/27/14	322	26	1	2	5	39	27	6	0	1	0	0	0	429
LTL	06/22/14	26	209	13	1	1	13	32	7	2	0	0	0	0	304
LTL	07/22/14	0	65	257	70	5	4	25	30	4	1	0	0	0	461
LTL	08/19/14	0	9	157	183	46	5	27	32	5	1	0	0	0	465
LTL	09/25/14	0	0	17	55	76	41	28	34	13	0	0	0	0	264
LTL	10/20/14	0	0	11	119	92	249	64	49	24	1	1	0	0	610

Table A6.1. Continued. Length-frequency distributions of *Mysis* sampled from multiple waters. Frequencies and totals are based on the total number of *Mysis* in the sample; in some cases, samples were split prior to making measurements and these measurement frequencies were scaled up to the total catch. “U” represents the number of individuals that could not be measured. See Table A1.1 for water body codes.

Water	Date	Total length (mm)													Total
		4	6	8	10	12	14	16	18	20	22	24	26	U	
LTL	11/21/14	0	0	0	33	45	88	49	18	6	1	0	0	0	240
MEF	09/08/15	0	1	20	52	25	3	1	0	0	0	0	0	0	102
RUE	06/25/14	476	876	516	140	23	33	202	63	11	5	0	0	0	2,345
SHA	08/22/14	0	0	1	4	16	33	10	4	0	0	0	0	0	68
TAY	06/14/10	160	325	22	8	368	115	6	2	0	0	0	0	0	1,006
TAY	08/19/12	0	28	178	311	544	333	120	61	8	0	0	0	0	1,583
TAY	08/11/13	0	7	84	130	175	160	44	82	56	3	0	0	0	741
TAY	06/26/14	288	831	226	4	3	132	273	65	7	2	0	0	1	1,832
TAY	08/22/17	30	327	548	485	391	499	25	1	0	0	0	0	0	2,306
TAY	09/11/18	0	53	317	254	836	505	330	38	2					2,335
TAY	09/26/19	0	4	29	120	194	467	390	155	71	12	2	0	3	1,447
TUR	06/21/14	2	6	1	0	0	0	0	0	0	0	0	0	0	9
UTL	06/22/14	0	0	1	3	5	2	2	0	0	0	0	0	0	13
UTL	07/22/14	12	9	9	1	14	9	2	2	0	0	0	0	0	58

Table A6.2. Number of *Mysis diluviana* captured by life stage/sex (J = juvenile, M = male, F = female, U = unknown) and density estimated from vertical tows with a 1.0-m diameter, 500- $\mu$ m mesh plankton net. See text for explanation of developmental stages of males and females.

Blue Mesa Reservoir, 07/31/11													
Station	Depth* (m)	Males					Females				U	Total	Density (ind./m <sup>2</sup> )
		J	M1	M2	M3	Total	F1	F2	F3	Total			
M1	14	0	0	0	0	0	0	0	0	0	0	0	0
M2	25	0	0	0	0	0	0	0	0	0	0	0	0
M3	31	0	0	0	0	0	0	0	0	0	0	0	0
M4	37	0	0	0	0	0	0	0	0	0	0	0	0
M5	42	0	0	0	0	0	0	0	0	0	0	0	0
M6	45	0	0	0	0	0	0	0	0	0	0	0	0
M7	55	0	0	0	0	0	0	0	0	0	0	0	0
M8	39	0	0	0	0	0	0	0	0	0	0	0	0
M9	14	0	0	0	0	0	0	0	0	0	0	0	0
M10	75	0	0	0	0	0	0	0	0	0	0	0	0
M11	30	0	0	0	0	0	0	0	0	0	0	0	0
M12	89	0	0	0	0	0	0	0	0	0	0	0	0
M13	21	0	0	0	0	0	0	0	0	0	0	0	0
M14	96	0	0	0	0	0	0	0	0	0	0	0	0
M15	84	0	0	0	0	0	0	0	0	0	0	0	0
Total		0	0	0	0	0	0	0	0	0	0	0	0
Mean		0	0	0	0	0	0	0	0	0	0	0	0
SD		0	0	0	0	0	0	0	0	0	0	0	0

\*station depths not recorded

Table A6.3. Number of *Mysis diluviana* captured by life stage/sex (J = juvenile, M = male, F = female, U = unknown) and density estimated from vertical tows with a 1.0-m diameter, 500- $\mu$ m mesh plankton net. See text for explanation of developmental stages of males and females. Stations M1-M6 were not sampled in 2018.

Blue Mesa Reservoir, 09/10/18													
Station	Depth (m)	J	Males				Females				U	Total	Density (ind./m <sup>2</sup> )
			M1	M2	M3	Total	F1	F2	F3	Total			
M1	.	.	.	.	.	.	.	.	.	.	.	.	.
M2	.	.	.	.	.	.	.	.	.	.	.	.	.
M3	.	.	.	.	.	.	.	.	.	.	.	.	.
M4	.	.	.	.	.	.	.	.	.	.	.	.	.
M5	.	.	.	.	.	.	.	.	.	.	.	.	.
M6	.	.	.	.	.	.	.	.	.	.	.	.	.
M7	16.2	0	0	0	0	0	0	0	0	0	0	0	0
M8	29.5	0	0	0	0	0	0	0	0	0	0	0	0
M9	23.5	0	0	0	0	0	0	0	0	0	0	0	0
M10	34.5	0	0	0	0	0	0	0	0	0	0	0	0
M11	21.2	0	0	0	0	0	0	0	0	0	0	0	0
M12	25.5	0	0	0	0	0	0	0	0	0	0	0	0
M13	40.3	0	0	0	0	0	0	0	0	0	0	0	0
M14	33.8	0	0	0	0	0	0	0	0	0	0	0	0
M15	20.1	0	0	0	0	0	0	0	0	0	0	0	0
Total		0	0	0	0	0	0	0	0	0	0	0	0
Mean		0	0	0	0	0	0	0	0	0	0	0	0
SD		0	0	0	0	0	0	0	0	0	0	0	0

Table A6.4. Number of *Mysis diluviana* captured by life stage/sex (J = juvenile, M = male, F = female, U = unknown) and density estimated from vertical tows with a 1.0-m diameter, 500- $\mu$ m mesh plankton net. See text for explanation of developmental stages of males and females.

Carter Lake, 09/08/10													
Station	Depth (m)	Males					Females				U	Total	Density (ind./m <sup>2</sup> )
		J	M1	M2	M3	Total	F1	F2	F3	Total			
CAR01	11.0	141	1	0	0	1	0	0	0	0	130	272	346
CAR02	16.0	392	16	0	0	16	8	0	0	8	116	532	678
CAR03	30.0	108	48	0	0	48	48	0	0	48	44	248	316
CAR04	37.0	104	38	0	0	38	28	0	0	28	42	212	270
CAR05	24.0	149	7	0	0	7	14	0	0	14	83	253	322
CAR06	44.0	204	92	0	0	92	36	0	0	36	276	608	775
CAR07	44.0	208	184	0	0	184	16	0	0	16	272	680	866
CAR08	23.0	142	26	0	0	26	6	0	0	6	74	248	316
CAR09	35.0	176	68	0	0	68	28	0	0	28	88	360	459
CAR10	10.0	166	8	0	0	8	4	0	0	4	98	276	352
Total		1,790	488	0	0	488	188	0	0	188	1,223	3,689	N/M
Mean		179.0	48.80	0.00	0.00	48.80	18.80	0.00	0.00	18.80	122.30	368.90	469.94
SD		82.59	55.70	0.00	0.00	55.70	15.64	0.00	0.00	15.64	84.56	171.90	218.98

Table A6.5. Number of *Mysis diluviana* captured by life stage/sex (J = juvenile, M = male, F = female, U = unknown) and density estimated from vertical tows with a 1.0-m diameter, 500- $\mu$ m mesh plankton net. See text for explanation of developmental stages of males and females.

Carter Lake, 04/18/14													
Station	Depth (m)	Males					Females				U	Total	Density (ind./m <sup>2</sup> )
		J	M1	M2	M3	Total	F1	F2	F3	Total			
CAR01	.	.	.	.	.	.	.	.	.	.	.	.	.
CAR02	.	.	.	.	.	.	.	.	.	.	.	.	.
CAR03	.	.	.	.	.	.	.	.	.	.	.	.	.
CAR04	.	.	.	.	.	.	.	.	.	.	.	.	.
CAR05	.	.	.	.	.	.	.	.	.	.	.	.	.
CAR06	48.8	94	10	1	0	11	1	10	0	11	18	134	171
CAR07	.	.	.	.	.	.	.	.	.	.	.	.	.
CAR08	30.0	26	11	0	0	11	2	10	0	12	27	76	97
CAR09	40.8	71	11	10	0	21	3	9	2	14	32	138	176
CAR10	18.8	59	9	0	0	9	0	1	2	3	35	106	135
Total		250	41	11	0	52	6	30	4	40	112	454	N/M
Mean		62.50	10.25	2.75	0.00	13.00	1.50	7.50	1.00	10.00	28.00	113.50	144.59
SD		28.34	0.96	4.86	0.00	5.42	1.29	4.36	1.15	4.83	7.44	28.77	36.65

Table A6.6. Number of *Mysis diluviana* captured by life stage/sex (J = juvenile, M = male, F = female, U = unknown) and density estimated from vertical tows with a 1.0-m diameter, 500- $\mu$ m mesh plankton net. See text for explanation of developmental stages of males and females.

Carter Lake, 05/02/14													
Station	Depth (m)	Males					Females				U	Total	Density (ind./m <sup>2</sup> )
		J	M1	M2	M3	Total	F1	F2	F3	Total			
CAR01	16.0	1	0	0	0	0	0	1	0	1	1	3	4
CAR02	24.7	2	2	5	0	7	0	4	3	7	4	20	25
CAR03	37.9	5	16	1	0	17	0	4	2	6	16	44	56
CAR04	45.0	8	37	5	0	42	1	4	9	14	102	166	211
CAR05	30.5	0	21	10	0	31	4	36	9	49	37	117	149
CAR06	51.8	4	96	24	0	120	0	4	8	12	140	276	352
CAR07	51.7	8	152	76	0	228	0	0	40	40	496	644	820
CAR08	32.8	4	46	12	0	58	0	6	12	18	66	146	186
CAR09	42.1	2	34	16	0	50	0	0	6	6	64	122	155
CAR10	15.0	5	0	0	0	0	1	1	0	2	2	9	11
Total		39	404	149	0	553	6	60	89	155	800	1,547	N/M
Mean		3.90	40.40	14.90	0.00	55.30	0.60	6.00	8.90	15.50	80.00	154.70	197.07
SD		2.73	48.69	22.81	0.00	70.50	1.26	10.74	11.68	16.29	111.32	191.91	244.47



Table A6.7. Number of *Mysis diluviana* captured by life stage/sex (J = juvenile, M = male, F = female, U = unknown) and density estimated from vertical tows with a 1.0-m diameter, 500- $\mu$ m mesh plankton net. See text for explanation of developmental stages of males and females.

Carter Lake, 05/28/14													
Station	Depth (m)	Males					Females				U	Total	Density (ind./m <sup>2</sup> )
		J	M1	M2	M3	Total	F1	F2	F3	Total			
CAR01	15.8	40	0	0	0	0	1	0	0	1	0	41	52
CAR02	26.0	27	11	4	0	15	6	6	6	18	15	75	96
CAR03	36.8	100	13	1	0	14	4	5	2	11	24	149	190
CAR04	47.3	71	165	16	0	181	2	65	13	80	34	364	464
CAR05	30.5	37	32	5	0	37	5	8	4	17	20	111	141
CAR06	50.1	102	400	20	0	420	2	80	26	108	90	720	917
CAR07	50.0	52	138	10	0	148	4	24	3	31	47	278	354
CAR08	30.7	25	5	6	0	11	6	1	4	11	3	50	64
CAR09	42.3	117	29	9	0	38	2	19	4	25	17	197	251
CAR10	15.7	25	2	0	0	2	2	0	0	2	1	30	38
Total		596	793	71	0.00	864	34	208	62	304	251	2,015	N/M
Mean		59.60	79.30	7.10	0.00	86.40	3.40	20.80	6.20	30.40	25.10	201.50	256.69
SD		35.38	126.89	6.76	0.00	132.94	1.84	28.60	7.87	35.38	27.21	212.44	270.63

Table A6.8. Number of *Mysis diluviana* captured by life stage/sex (J = juvenile, M = male, F = female, U = unknown) and density estimated from vertical tows with a 1.0-m diameter, 500- $\mu$ m mesh plankton net. See text for explanation of developmental stages of males and females.

Carter Lake, 06/20/14													
Station	Depth (m)	Males					Females				U	Total	Density (ind./m <sup>2</sup> )
		J	M1	M2	M3	Total	F1	F2	F3	Total			
CAR01	17.0	16	10	0	0	10	16	6	1	23	11	60	76
CAR02	26.1	5	7	0	0	7	11	2	2	15	6	33	42
CAR03	36.9	5	14	1	0	15	4	4	2	10	11	41	52
CAR04	50.7	16	88	4	0	92	12	0	12	24	48	180	229
CAR05	30.9	2	11	0	0	11	8	4	3	15	7	35	45
CAR06	50.2	12	60	4	0	64	8	0	4	12	48	136	173
CAR07	50.9	68	80	8	0	88	12	0	4	16	32	204	260
CAR08	30.7	10	12	1	0	13	15	2	6	23	43	89	113
CAR09	41.9	133	24	9	0	33	5	0	0	5	37	208	265
CAR10	16.1	215	1	2	0	3	13	2	0	15	2	235	299
Total		482	307	29	0	336	104	20	34	158	245	1,221	N/M
Mean		48.2	30.70	2.90	0.00	33.60	10.40	2.00	3.40	15.80	24.50	122.10	155.54
SD		71.58	32.50	3.31	0.00	34.60	4.03	2.11	3.57	6.12	18.79	79.88	101.76

Table A6.9. Number of *Mysis diluviana* captured by life stage/sex (J = juvenile, M = male, F = female, U = unknown) and density estimated from vertical tows with a 1.0-m diameter, 500- $\mu$ m mesh plankton net. See text for explanation of developmental stages of males and females.

Carter Lake, 07/24/14													
Station	Depth (m)	Males					Females				U	Total	Density (ind./m <sup>2</sup> )
		J	M1	M2	M3	Total	F1	F2	F3	Total			
CAR01	12.0	164	1	0	0	1	1	0	0	1	41	207	264
CAR02	16.5	46	0	1	0	1	10	0	0	10	15	72	92
CAR03	34.3	104	72	0	0	72	76	0	0	76	96	348	443
CAR04	39.0	168	84	8	0	92	108	0	0	108	124	492	627
CAR05	24.0	152	24	2	0	26	24	0	0	24	44	246	313
CAR06	45.0	60	52	4	0	56	24	0	0	24	32	172	219
CAR07	46.4	108	208	0	0	208	24	0	0	24	108	448	571
CAR08	22.8	79	17	0	0	17	15	0	0	15	19	130	166
CAR09	37.1	530	40	2	0	42	12	0	0	12	66	650	828
CAR10	11.3	260	3	0	0	3	2	0	0	2	36	301	383
Total		1,671	501	17	0	518	296	0	0	296	581	3,066	N/M
Mean		167.10	50.10	1.70	0.00	51.80	29.60	0.00	0.00	29.60	58.10	306.60	390.57
SD		142.18	62.88	2.58	0.00	63.21	34.77	0.00	0.00	34.77	38.56	180.11	229.44

Table A6.10. Number of *Mysis diluviana* captured by life stage/sex (J = juvenile, M = male, F = female, U = unknown) and density estimated from vertical tows with a 1.0-m diameter, 500- $\mu$ m mesh plankton net. See text for explanation of developmental stages of males and females.

Carter Lake, 08/17/14													
Station	Depth (m)	Males					Females				U	Total	Density (ind./m <sup>2</sup> )
		J	M1	M2	M3	Total	F1	F2	F3	Total			
CAR01	11.0	141	1	0	0	1	0	0	0	0	130	272	346
CAR02	16.0	392	16	0	0	16	8	0	0	8	116	532	678
CAR03	30.0	108	48	0	0	48	48	0	0	48	44	248	316
CAR04	37.0	104	38	0	0	38	28	0	0	28	42	212	270
CAR05	24.0	298	14	0	0	14	28	0	0	28	166	506	645
CAR06	44.0	204	92	0	0	92	36	0	0	36	276	608	775
CAR07	44.0	52	46	0	0	46	4	0	0	4	68	170	217
CAR08	23.0	284	52	0	0	52	12	0	0	12	148	496	632
CAR09	35.0	176	68	0	0	68	28	0	0	28	88	360	459
CAR10	10.0	166	8	0	0	8	4	0	0	4	96	276	352
Total		1,925	383	0	0	383	196	0	0	196	1,176	3,680	N/M
Mean		19.25	38.30	0.00	0.00	38.30	19.60	0.00	0.00	19.60	117.60	368.00	468.79
SD		104.23	28.88	0.00	0.00	28.88	16.16	0.00	0.00	16.16	69.42	154.78	197.17

Table A6.11. Number of *Mysis diluviana* captured by life stage/sex (J = juvenile, M = male, F = female, U = unknown) and density estimated from vertical tows with a 1.0-m diameter, 500- $\mu$ m mesh plankton net. See text for explanation of developmental stages of males and females.

Carter Lake, 09/24/14													
Station	Depth (m)	Males					Females				U	Total	Density (ind./m <sup>2</sup> )
		J	M1	M2	M3	Total	F1	F2	F3	Total			
CAR01	13.0	44	13	0	0	13	0	0	0	0	64	121	154
CAR02	14.0	39	11	0	0	11	5	0	0	5	87	142	181
CAR03	30.0	100	36	36	0	72	80	0	0	80	56	308	392
CAR04	38.0	240	152	40	0	192	144	0	0	144	288	864	1,101
CAR05	23.0	156	36	0	0	36	32	0	0	32	128	352	448
CAR06	43.0	288	120	112	0	232	88	0	0	88	136	744	948
CAR07	43.0	216	48	32	0	80	56	0	4	60	100	456	581
CAR08	23.0	117	15	0	0	15	3	0	0	3	27	162	206
CAR09	33.0	124	21	2	0	23	20	0	0	20	45	212	270
CAR10	9.0	64	1	0	0	1	0	0	0	0	15	80	102
Total		1,388	453	222	0	675	428	0	4	432	946	3,441	N/M
Mean		138.80	45.30	22.20	0.00	67.50	42.80	0.00	0.40	43.20	94.60	344.10	438.34
SD		85.31	50.37	35.81	0.00	81.00	48.48	0.00	1.26	48.62	78.96	269.79	343.68

Table A6.12. Number of *Mysis diluviana* captured by life stage/sex (J = juvenile, M = male, F = female, U = unknown) and density estimated from vertical tows with a 1.0-m diameter, 500- $\mu$ m mesh plankton net. See text for explanation of developmental stages of males and females.

Carter Lake, 10/21/14													
Station	Depth (m)	Males					Females				U	Total	Density (ind./m <sup>2</sup> )
		J	M1	M2	M3	Total	F1	F2	F3	Total			
CAR01	13.3	220	84	0	0	84	72	0	0	72	212	588	749
CAR02	18.2	75	34	0	0	34	26	0	0	26	66	201	256
CAR03	30.0	75	11	7	0	18	17	2	0	19	23	135	172
CAR04	39.6	192	52	72	0	124	48	4	0	52	124	492	627
CAR05	24.6	264	20	4	0	24	28	0	0	28	108	424	540
CAR06	43.8	100	32	100	0	132	56	0	0	56	56	344	438
CAR07	44.4	48	28	60	0	88	44	0	0	44	84	264	336
CAR08	23.4	143	28	3	0	31	25	0	0	25	56	255	325
CAR09	36.0	30	10	16	0	26	34	0	0	34	13	103	131
CAR10	10.0	61	20	0	0	20	7	0	0	7	26	114	145
Total		1,208	319	262	0	581	357	6	0	363	768	2,920	N/M
Mean		120.80	31.90	26.20	0.00	58.10	35.70	0.60	0.00	36.30	76.80	292.00	371.97
SD		80.04	21.99	36.89	0.00	44.64	19.42	1.35	0.00	19.53	59.68	166.74	212.41

Table A6.13. Number of *Mysis diluviana* captured by life stage/sex (J = juvenile, M = male, F = female, U = unknown) and density estimated from vertical tows with a 1.0-m diameter, 500- $\mu$ m mesh plankton net. See text for explanation of developmental stages of males and females.

Carter Lake, 11/23/14													
Station	Depth (m)	Males					Females				U	Total	Density (ind./m <sup>2</sup> )
		J	M1	M2	M3	Total	F1	F2	F3	Total			
CAR01	10.1	36	8	3	0	11	21	0	0	21	7	75	96
CAR02	21.4	228	8	44	0	52	64	0	0	64	44	388	494
CAR03	28.9	94	9	23	0	32	33	3	0	36	33	195	248
CAR04	42.8	252	8	80	0	88	92	32	12	136	92	568	724
CAR05	22.5	75	4	17	0	21	42	10	0	52	45	193	246
CAR06	42.5	97	6	72	0	78	26	15	1	42	57	274	349
CAR07	47.0	24	0	248	0	248	40	40	12	92	28	392	499
CAR08	21.9	37	8	14	0	22	20	1	1	22	29	110	140
CAR09	34.9	76	0	160	0	160	60	28	20	108	36	380	484
CAR10	10.4	19	2	9	0	11	22	0	0	22	17	69	88
Total		938	53	670	0	723	420	129	46	595	388	2,644	N/M
Mean		93.80	5.30	67.00	0.00	72.30	42.00	12.90	4.60	59.50	38.80	264.40	336.82
SD		82.16	3.53	79.47	0.00	77.14	23.51	15.20	7.29	40.13	23.49	164.99	210.18

Table A6.14. Number of *Mysis diluviana* captured by life stage/sex (J = juvenile, M = male, F = female, U = unknown) and density estimated from vertical tows with a 1.0-m diameter, 500- $\mu$ m mesh plankton net. See text for explanation of developmental stages of males and females.

Carter Lake, 12/17/14													
Station	Depth (m)	Males					Females				U	Total	Density (ind./m <sup>2</sup> )
		J	M1	M2	M3	Total	F1	F2	F3	Total			
CAR01	11.3	180	6	12	0	18	70	2	2	74	118	390	497
CAR02	16.4	270	10	22	0	32	54	18	0	72	154	528	673
CAR03	28.7	78	0	62	0	62	10	24	4	38	38	216	275
CAR04	42.9	440	0	256	0	256	16	96	80	192	328	1,216	1,549
CAR05	22.9	89	4	34	0	38	10	14	1	25	37	189	241
CAR06	42.4	56	0	224	0	224	36	16	24	76	100	456	581
CAR07	43.1	18	0	132	0	132	16	10	0	26	18	194	247
CAR08	21.8	144	0	46	0	46	14	40	0	54	92	336	428
CAR09	34.4	104	4	160	0	164	24	52	16	92	40	400	510
CAR10	11.5	92	3	20	0	23	63	9	0	72	65	252	321
Total		1,471	27	968	0	995	313	281	127	721	990	4,177	N/M
Mean		147.10	2.70	96.80	0.00	99.50	31.30	28.10	12.70	72.10	99.00	417.70	532.10
SD		124.72	3.40	90.17	0.00	88.39	23.02	28.21	25.03	47.87	91.07	303.53	386.66



Table A6.15. Number of *Mysis diluviana* captured by life stage/sex (J = juvenile, M = male, F = female, U = unknown) and density estimated from vertical tows with a 1.0-m diameter, 500- $\mu$ m mesh plankton net. See text for explanation of developmental stages of males and females.

Carter Lake, 01/21/15													
Station	Depth (m)	Males					Females				U	Total	Density (ind./m <sup>2</sup> )
		J	M1	M2	M3	Total	F1	F2	F3	Total			
CAR01	13.1	70	1	1	0	2	9	10	0	19	65	156	199
CAR02	19.2	94	1	9	0	10	10	40	1	51	80	235	299
CAR03	34.4	38	2	6	0	8	8	23	1	32	29	107	136
CAR04	47.5	363	8	27	0	35	18	49	5	72	254	724	922
CAR05	29.4	19	0	1	0	1	3	2	0	5	13	38	
CAR06	48.5	91	0	115	0	115	7	33	1	41	79	326	415
CAR07	48.7	188	4	114	0	118	14	41	0	55	167	528	673
CAR08	27.8	122	0	39	0	39	3	16	0	19	59	239	304
CAR09	17.2	63	4	33	0	37	9	21	2	32	59	191	243
CAR10	13.1	15	0	15	0	15	2	1	0	3	14	47	60
Total		1,063	20	360	0	380	83	236	10	329	819	2,591	N/M
Mean		106.30	2.00	36.00	0.00	38.00	8.30	23.60	1.00	32.90	81.19	259.10	330.06
SD		103.82	2.62	43.39	0.00	43.74	5.03	16.77	1.56	22.29	74.81	217.61	277.21

Table A6.16. Number of *Mysis diluviana* captured by life stage/sex (J = juvenile, M = male, F = female, U = unknown) and density estimated from vertical tows with a 1.0-m diameter, 500- $\mu$ m mesh plankton net. See text for explanation of developmental stages of males and females.

Carter Lake, 02/18/15													
Station	Depth (m)	Males					Females				U	Total	Density (ind./m <sup>2</sup> )
		J	M1	M2	M3	Total	F1	F2	F3	Total			
CAR01	18.9	12	10	16	0	26	3	6	0	9	47	94	120
CAR02	24.9	9	1	6	0	7	3	5	3	11	52	79	101
CAR03	38.8	15	4	11	0	15	1	27	3	31	60	121	154
CAR04	52.3	35	16	11	0	27	1	32	2	35	124	221	282
CAR05	32.2	13	9	7	0	16	4	28	0	32	89	150	191
CAR06	51.8	12	12	52	0	64	8	60	6	74	94	244	311
CAR07	52.3	8	7	24	0	31	1	42	6	49	115	203	259
CAR08	29.7	14	13	16	0	29	3	23	0	26	121	190	242
CAR09	43.5	16	9	12	0	21	2	31	0	33	91	161	205
CAR10	13.8	9	2	7	0	9	1	1	0	2	10	30	38
Total		143	83	162	0	245	27	255	20	302	803	1,493	N/M
Mean		14.30	8.30	16.20	0.00	24.50	2.70	25.50	2.00	30.20	80.30	149.30	190.19
SD		7.75	4.85	13.694	0.00	16.72	2.16	18.11	2.45	20.92	37.14	68.17	86.84

Table A6.17. Number of *Mysis diluviana* captured by life stage/sex (J = juvenile, M = male, F = female, U = unknown) and density estimated from vertical tows with a 1.0-m diameter, 500- $\mu$ m mesh plankton net. See text for explanation of developmental stages of males and females.

Carter Lake, 03/20/15													
Station	Depth (m)	Males					Females				U	Total	Density (ind./m <sup>2</sup> )
		J	M1	M2	M3	Total	F1	F2	F3	Total			
CAR01	15.8	23	7	0	0	7	10	5	0	15	53	98	125
CAR02	23.6	32	7	3	0	10	5	32	1	38	69	149	190
CAR03	37.1	8	16	6	0	22	2	88	2	92	144	266	339
CAR04	51.2	12	24	28	0	52	8	84	0	92	136	292	372
CAR05	29.9	11	2	8	0	10	0	19	0	19	34	74	94
CAR06	30.9	8	36	18	0	54	2	102	0	104	126	292	372
CAR07	51.6	24	16	44	0	60	12	120	0	132	208	424	540
CAR08	31.1	32	7	13	0	20	0	28	9	37	77	166	211
CAR09	42.8	14	36	14	0	50	4	98	4	106	88	258	329
CAR10	14.3	11	0	2	0	2	0	1	0	1	3	17	22
Total		175	151	136	0	287	43	577	16	636	938	2,036	N/M
Mean		17.50	15.10	13.60	0.00	28.70	4.30	57.70	1.60	63.60	93.80	203.60	259.36
SD		9.43	13.13	13.63	0.00	22.66	4.37	44.86	2.91	46.37	60.37	123.93	157.87

Table A6.18. Number of *Mysis diluviana* captured by life stage/sex (J = juvenile, M = male, F = female, U = unknown) and density estimated from vertical tows with a 1.0-m diameter, 500- $\mu$ m mesh plankton net. See text for explanation of developmental stages of males and females.

Carter Lake, 04/15/15													
Station	Depth (m)	Males					Females				U	Total	Density (ind./m <sup>2</sup> )
		J	M1	M2	M3	Total	F1	F2	F3	Total			
CAR01	14.4	66	2	2	0	4	4	0	0	4	4	78	99
CAR02	25.6	185	14	14	0	28	7	26	5	38	19	270	344
CAR03	35.9	224	20	10	0	30	10	32	4	46	72	372	474
CAR04	46.0	196	18	42	0	60	6	34	4	44	64	364	464
CAR05	29.3	55	10	2	0	12	4	8	1	13	22	102	130
CAR06	48.8	194	20	2	0	22	2	20	0	22	36	274	349
CAR07	50.5	86	90	0	0	90	6	8	2	16	94	286	364
CAR08	30.0	52	22	0	0	22	4	20	0	24	54	152	194
CAR09	40.8	142	22	20	0	42	6	18	4	28	64	276	352
CAR10	18.8	118	18	0	0	18	0	2	4	6	70	212	270
Total		1,318	236	92	0	328	49	168	24	241	499	2,386	N/M
Mean		131.80	23.60	9.20	0.00	32.80	4.90	16.80	2.40	24.10	49.90	238.60	303.95
SD		65.24	24.14	13.44	0.00	25.48	2.77	11.97	2.01	14.94	28.45	101.14	128.84

Table A6.19. Number of *Mysis diluviana* captured by life stage/sex (J = juvenile, M = male, F = female, U = unknown) and density estimated from vertical tows with a 1.0-m diameter, 500- $\mu$ m mesh plankton net. See text for explanation of developmental stages of males and females.

Carter Lake, 05/14/15													
Station	Depth (m)	Males					Females				U	Total	Density (ind./m <sup>2</sup> )
		J	M1	M2	M3	Total	F1	F2	F3	Total			
CAR01	13.5	393	1	1	0	2	10	1	1	12	5	412	525
CAR02	27.7	382	6	2	0	8	18	4	2	24	6	420	535
CAR03	37.5	512	14	0	0	14	4	16	0	20	46	592	754
CAR04	52.1	422	14	2	0	16	14	20	0	34	20	492	627
CAR05	31.4	146	12	2	0	14	20	8	0	28	36	224	285
CAR06	51.4	382	64	10	0	74	34	12	8	54	68	578	736
CAR07	51.8	78	66	0	0	66	2	12	4	18	106	268	341
CAR08	30.5	108	172	4	0	176	40	48	16	104	280	668	851
CAR09	42.7	388	164	0	0	164	32	12	8	52	124	728	927
CAR10	15.5	354	24	0	0	24	48	2	0	50	68	496	632
Total		3,165	537	21	0	558	222	135	39	396	759	4,878	N/M
Mean		316.50	53.70	2.10	0.00	55.80	22.20	13.50	3.90	39.60	75.90	487.8	621.40
SD		148.97	64.33	3.07	0.00	64.86	15.62	13.56	5.30	27.16	82.01	162.44	206.93

Table A6.20. Number of *Mysis diluviana* captured by life stage/sex (J = juvenile, M = male, F = female, U = unknown) and density estimated from vertical tows with a 1.0-m diameter, 500- $\mu$ m mesh plankton net. See text for explanation of developmental stages of males and females.

Carter Lake, 06/16/15													
Station	Depth (m)	Males					Females				U	Total	Density (ind./m <sup>2</sup> )
		J	M1	M2	M3	Total	F1	F2	F3	Total			
CAR01	15.0	504	8	0	0	8	4	0	0	4	164	680	866
CAR02	25.8	86	1	1	0	2	17	0	0	17	22	127	162
CAR03	.	.	.	.	.	.	.	.	.	.	.	.	.
CAR04	.	.	.	.	.	.	.	.	.	.	.	.	.
CAR05	.	.	.	.	.	.	.	.	.	.	.	.	.
CAR06	.	.	.	.	.	.	.	.	.	.	.	.	.
CAR07	50.7	512	168	0	0	168	44	0	4	48	152	880	1,121
CAR08	.	.	.	.	.	.	.	.	.	.	.	.	.
CAR09	41.9	296	80	0	0	80	36	4	4	44	64	484	617
CAR10	13.6	760	32	0	0	32	52	0	0	52	80	924	1,177
Total		2,158	289	1	0	290	153	4	8	165	482	3,095	N/M
Mean		431.60	57.80	0.20	0.00	58.00	30.60	0.80	1.60	33.00	96.40	619.00	788.54
SD		253.66	68.94	0.45	0.00	68.73	19.74	1.79	2.19	21.24	60.24	326.02	415.31

Table A6.21. Number of *Mysis diluviana* captured by life stage/sex (J = juvenile, M = male, F = female, U = unknown) and density estimated from vertical tows with a 1.0-m diameter, 500- $\mu$ m mesh plankton net. See text for explanation of developmental stages of males and females.

Carter Lake, 07/17/15													
Station	Depth (m)	Males					Females				U	Total	Density (ind./m <sup>2</sup> )
		J	M1	M2	M3	Total	F1	F2	F3	Total			
CAR01	13.1	113	6	0	0	6	1	0	0	1	30	150	191
CAR02	26.2	280	36	0	0	36	32	0	0	32	128	476	606
CAR03	36.1	216	36	0	0	36	16	0	0	16	96	364	464
CAR04	44.5	472	344	0	0	344	216	0	0	216	304	1,336	1,702
CAR05	30.7	568	152	0	0	152	88	0	0	88	240	1,048	1,335
CAR06	49.9	320	336	0	0	336	160	0	0	160	320	1,136	1,447
CAR07	50.5	136	168	0	0	168	44	0	0	44	140	488	622
CAR08	27.2	184	52	0	0	52	24	0	0	24	60	320	408
CAR09	41.7	280	116	0	0	116	44	0	0	44	172	612	780
CAR10	15.4	199	12	0	0	12	23	0	0	23	75	309	394
Total		2,768	1,258	0	0	1,258	648	0	0	648	1,565	6,239	N\M
Mean		276.80	125.80	0.00	0.00	125.80	64.80	0.00	0.00	64.80	156.50	623.90	794.78
SD		145.22	126.15	0.00	0.00	126.15	70.13	0.00	0.00	70.13	101.33	404.60	515.42

Table A6.22. Number of *Mysis diluviana* captured by life stage/sex (J = juvenile, M = male, F = female, U = unknown) and density estimated from vertical tows with a 1.0-m diameter, 500- $\mu$ m mesh plankton net. See text for explanation of developmental stages of males and females.

Carter Lake, 08/10/15													
Station	Depth (m)	Males					Females				U	Total	Density (ind./m <sup>2</sup> )
		J	M1	M2	M3	Total	F1	F2	F3	Total			
CAR01	14.0	60	30	0	0	30	14	0	0	14	24	128	163
CAR02	23.7	32	15	0	0	15	5	0	0	5	18	70	89
CAR03	31.8	61	54	0	0	54	38	0	0	38	41	194	247
CAR04	46.2	96	136	0	0	136	120	0	0	120	132	484	617
CAR05	25.7	70	27	0	0	27	15	0	0	15	57	169	215
CAR06	46.0	152	232	0	0	232	152	0	0	152	240	776	989
CAR07	46.6	164	100	0	0	100	40	0	0	40	96	400	510
CAR08	27.0	138	54	0	0	54	32	0	0	32	76	300	382
CAR09	38.4	552	128	0	0	128	112	0	0	112	220	1,012	1,289
CAR10	12.4	354	23	0	0	23	22	0	0	22	67	466	594
Total		1,679	799	0	0	799	550	0	0	550	971	3,999	NM
Mean		167.90	79.90	0.00	0.00	79.90	55.00	0.00	0.00	55.00	97.10	399.90	509.43
SD		163.17	69.18	0.00	0.00	69.18	52.49	0.00	0.00	52.49	77.78	301.11	383.58



Table A6.23. Number of *Mysis diluviana* captured by life stage/sex (J = juvenile, M = male, F = female, U = unknown) and density estimated from vertical tows with a 1.0-m diameter, 500- $\mu$ m mesh plankton net. See text for explanation of developmental stages of males and females.

Carter Lake, 09/11/15													
Station	Depth (m)	Males					Females				U	Total	Density (ind./m <sup>2</sup> )
		J	M1	M2	M3	Total	F1	F2	F3	Total			
CAR01	11.3	59	0	0	0	0	7	0	0	7	23	89	113
CAR02	12.7	50	13	0	0	13	14	0	0	14	13	90	115
CAR03	24.1	72	76	2	0	78	54	0	0	54	44	248	316
CAR04	33.5	96	144	4	0	148	220	0	0	220	192	656	836
CAR05	18.2	81	19	0	0	19	32	0	0	32	51	183	233
CAR06	38.5	456	216	0	0	216	192	0	0	192	136	1,000	1,274
CAR07	38.6	400	140	0	0	140	80	0	0	80	204	824	1,050
CAR08	21.9	344	168	0	0	168	160	0	0	160	264	936	1,192
CAR09	30.2	552	112	0	0	112	136	0	0	136	288	1,088	1,386
CAR10	11.8	151	7	0	0	7	24	0	0	24	26	208	265
Total		2,261	895	6	0	901	919	0	0	919	1,241	5,322	N/M
Mean		226.10	89.50	0.60	0.00	90.10	91.90	0.00	0.00	91.90	124.10	532.20	677.96
SD		191.34	77.47	1.35	0.00	77.25	78.93	0.00	0.00	78.93	106.21	407.033	518.51

Table A6.24. Number of *Mysis diluviana* captured by life stage/sex (J = juvenile, M = male, F = female, U = unknown) and density estimated from vertical tows with a 1.0-m diameter, 500- $\mu$ m mesh plankton net. See text for explanation of developmental stages of males and females.

Carter Lake, 10/07/15													
Station	Depth (m)	Males					Females				U	Total	Density (ind./m <sup>2</sup> )
		J	M1	M2	M3	Total	F1	F2	F3	Total			
CAR01	11.2	16	36	2	0	38	62	2	0	64	78	196	250
CAR02	14.4	84	92	20	0	112	200	0	0	200	148	544	693
CAR03	20.3	72	72	36	0	108	84	0	0	84	68	332	423
CAR04	33.3	128	52	24	0	76	60	0	0	60	104	368	469
CAR05	14.4	224	30	10	0	40	24	0	0	24	52	340	433
CAR06	33.3	192	88	28	0	116	128	0	0	128	132	568	724
CAR07	34.2	200	144	44	0	188	80	0	0	80	188	656	836
CAR08	13.7	220	20	0	0	20	24	0	0	24	46	310	395
CAR09	26.4	212	116	12	0	128	116	0	0	116	88	544	693
CAR10	11.1	141	8	0	0	8	12	0	0	2	27	188	239
Total		1,489	658	176	0	834	790	2	0	792	931	4,046	N\M
Mean		148.90	65.80	17.60	0.00	83.40	79.00	0.20	0.00	79.20	93.10	404.60	515.41
SD		72.60	44.29	15.43	0.00	56.88	57.37	0.63	0.00	57.31	50.35	162.93	207.56

Table A6.25. Number of *Mysis diluviana* captured by life stage/sex (J = juvenile, M = male, F = female, U = unknown) and density estimated from vertical tows with a 1.0-m diameter, 500- $\mu$ m mesh plankton net. See text for explanation of developmental stages of males and females.

Carter Lake, 11/10/15													
Station	Depth (m)	Males					Females				U	Total	Density (ind./m <sup>2</sup> )
		J	M1	M2	M3	Total	F1	F2	F3	Total			
CAR01	11.4	276	6	0	0	6	12	2	0	14	52	348	443
CAR02	13.7	632	16	4	0	20	40	0	0	40	180	872	1,111
CAR03	18.3	302	24	36	0	60	68	2	0	70	130	562	716
CAR04	24.7	354	30	44	0	74	78	2	0	80	132	640	815
CAR05	12.5	330	4	4	0	8	30	0	0	30	50	418	532
CAR06	31.4	136	12	58	0	70	62	0	0	62	86	354	451
CAR07	31.2	142	12	100	0	112	56	2	0	58	98	410	522
CAR08	11.1	352	5	43	0	48	91	7	0	98	141	639	814
CAR09	23.8	112	56	184	0	240	100	0	0	100	144	596	759
CAR10	12.3	102	16	38	0	54	100	0	0	100	60	316	403
Total		2,738	181	511	0	692	637	15	0	652	1,073	5,155	N/M
Mean		273.80	18.10	51.10	0.00	69.20	63.70	1.50	0.00	65.20	107.30	515.50	656.69
SD		162.23	15.68	55.44	0.00	68.28	29.88	2.17	0.00	30.36	44.74	176.72	225.12

Table A6.26. Number of *Mysis diluviana* captured by life stage/sex (J = juvenile, M = male, F = female, U = unknown) and density estimated from vertical tows with a 1.0-m diameter, 500- $\mu$ m mesh plankton net. See text for explanation of developmental stages of males and females.

Carter Lake, 12/09/15													
Station	Depth (m)	Males					Females				U	Total	Density (ind./m <sup>2</sup> )
		J	M1	M2	M3	Total	F1	F2	F3	Total			
CAR01	11.0	172	0	28	0	28	136	8	0	144	72	416	530
CAR02	11.3	488	0	64	0	64	392	24	0	416	320	1,288	1,641
CAR03	16.6	206	2	38	0	40	94	4	0	98	70	414	527
CAR04	26.3	392	0	248	8	256	352	56	0	408	240	1,296	1,651
CAR05	11.1	55	4	1	0	5	4	0	0	4	18	82	104
CAR06	30.6	204	0	120	0	120	56	12	0	68	120	512	652
CAR07	31.0	128	0	320	0	320	104	8	0	112	128	688	876
CAR08	12.0	67	2	32	0	34	27	7	0	34	51	186	237
CAR09	23.0	188	16	232	0	248	48	8	0	56	232	724	922
CAR10	12.4	102	8	58	0	66	26	6	0	32	100	300	382
Total		2,002	32	1,141	8	1,181	1,239	133	0	1,372	1,351	5,906	NM
Mean		200.20	3.20	141.10	0.80	118.10	123.90	13.30	0.00	137.20	135.10	590.60	752.36
SD		139.16	5.18	111.88	2.53	113.72	137.06	16.26	0.00	150.60	97.24	419.78	534.75

Table A6.27. Number of *Mysis diluviana* captured by life stage/sex (J = juvenile, M = male, F = female, U = unknown) and density estimated from vertical tows with a 1.0-m diameter, 500- $\mu$ m mesh plankton net. See text for explanation of developmental stages of males and females.

Carter Lake, 03/08/16													
Station	Depth (m)	Males					Females				U	Total	Density (ind./m <sup>2</sup> )
		J	M1	M2	M3	Total	F1	F2	F3	Total			
CAR01	16.1	100	0	0	0	0	1	4	0	5	69	174	222
CAR02	27.0	67	3	3	1	7	3	26	0	29	112	215	274
CAR03	33.4	79	2	2	1	5	12	9	0	21	122	227	289
CAR04	45.7	176	8	12	44	64	4	52	0	56	300	596	759
CAR05	26.8	76	0	7	1	8	1	12	0	13	51	148	189
CAR06	42.9	108	14	10	0	24	10	20	0	30	280	442	563
CAR07	48.2	172	44	0	0	44	4	24	0	28	272	516	657
CAR08	26.6	93	1	2	1	4	0	12	0	12	147	256	326
CAR09	39.8	106	6	4	0	10	5	11	0	16	114	246	313
CAR10	14.0	43	3	0	1	4	0	5	1	6	47	100	127
Total		1,020	81	40	49	170	40	175	1	216	1,514	2,920	NM
Mean		102.00	8.10	4.00	4.90	17.00	4.00	17.50	0.10	21.60	151.40	292.00	371.97
SD		42.72	13.33	4.29	13.75	21.05	4.11	14.24	0.32	15.15	97.05	166.73	212.39

Table A6.28. Number of *Mysis diluviana* captured by life stage/sex (J = juvenile, M = male, F = female, U = unknown) and density estimated from vertical tows with a 1.0-m diameter, 500- $\mu$ m mesh plankton net. See text for explanation of developmental stages of males and females.

Carter Lake, 04/16/16													
Station	Depth (m)	Males					Females				U	Total	Density (ind./m <sup>2</sup> )
		J	M1	M2	M3	Total	F1	F2	F3	Total			
CAR01	18.0	1	4	0	1	5	1	7	0	8	91	105	134
CAR02	28.1	28	0	0	0	0	16	76	4	96	496	620	790
CAR03	37.4	28	36	4	0	40	0	88	28	116	348	532	678
CAR04	46.3	8	9	0	0	9	4	21	0	25	203	245	312
CAR05	32.3	9	4	0	1	5	1	35	0	36	169	219	279
CAR06	50.2	3	17	0	0	17	2	16	0	18	203	241	307
CAR07	50.8	32	40	0	0	40	0	40	8	48	508	628	800
CAR08	31.4	11	3	1	2	6	0	5	1	6	110	133	169
CAR09	41.1	4	4	0	0	4	4	16	0	20	364	392	499
CAR10	19.6	5	12	0	1	13	2	8	0	10	142	170	217
Total		129	129	5	5	139	30	312	41	383	2,634	3,285	N/M
Mean		12.90	12.90	0.50	0.50	13.90	3.00	31.20	4.10	38.30	263.40	328.50	418.47
SD		11.76	14.15	1.27	0.71	14.56	4.81	29.25	8.80	38.23	154.71	200.01	254.79

Table A6.29. Number of *Mysis diluviana* captured by life stage/sex (J = juvenile, M = male, F = female, U = unknown) and density estimated from vertical tows with a 1.0-m diameter, 500- $\mu$ m mesh plankton net. See text for explanation of developmental stages of males and females.

Carter Lake, 05/04/16													
Station	Depth (m)	Males					Females				U	Total	Density (ind./m <sup>2</sup> )
		J	M1	M2	M3	Total	F1	F2	F3	Total			
CAR01	19.5	8	34	0	0	34	0	7	1	8	110	160	204
CAR02	28.8	13	13	0	0	13	0	3	1	4	28	58	74
CAR03	36.3	5	12	0	0	12	0	5	0	5	28	50	64
CAR04	45.5	12	8	0	0	8	0	5	0	5	30	55	70
CAR05	30.6	7	14	0	1	15	0	6	0	6	40	68	87
CAR06	51.0	7	15	0	0	15	0	10	2	12	48	82	104
CAR07	51.4	8	144	0	0	144	0	40	4	44	608	804	1,024
CAR08	30.6	26	74	2	2	78	0	16	6	22	272	398	507
CAR09	42.6	212	52	0	0	52	4	68	8	80	268	612	780
CAR10	18.8	47	15	0	0	15	3	1	1	5	105	172	219
Total		345	381	2	3	386	7	161	23	191	1,537	2,459	N/M
Mean		34.50	38.10	0.20	0.30	38.60	0.70	16.10	2.30	19.10	153.70	245.90	313.25
SD		63.67	42.92	0.63	0.67	43.25	1.49	21.43	2.79	24.74	185.21	268.77	342.38

Table A6.30. Number of *Mysis diluviana* captured by life stage/sex (J = juvenile, M = male, F = female, U = unknown) and density estimated from vertical tows with a 1.0-m diameter, 500- $\mu$ m mesh plankton net. See text for explanation of developmental stages of males and females.

Carter Lake, 06/01/16													
Station	Depth (m)	Males					Females				U	Total	Density (ind./m <sup>2</sup> )
		J	M1	M2	M3	Total	F1	F2	F3	Total			
CAR01	18.8	396	6	0	0	6	21	1	0	22	47	471	600
CAR02	29.9	308	32	0	0	32	12	2	2	16	82	438	558
CAR03	36.6	88	62	0	0	62	28	4	12	44	112	306	390
CAR04	44.3	147	73	0	1	74	18	10	6	34	95	350	446
CAR05	30.9	196	30	0	0	30	12	2	4	18	72	316	403
CAR06	51.1	136	140	0	4	144	16	12	16	44	176	500	637
CAR07	51.6	148	92	0	0	92	6	12	12	30	168	438	558
CAR08	34.5	112	58	0	2	60	12	4	2	18	76	266	339
CAR09	43.4	128	156	0	0	156	8	12	8	28	260	572	729
CAR10	21.6	102	9	0	1	10	6	1	0	7	25	144	183
Total		1,761	658	0	8	666	139	60	62	261	1,113	3,801	N\M
Mean		176.10	65.80	0.00	0.80	66.60	13.90	6.00	6.20	26.10	111.30	380.10	484.20
SD		99.48	51.30	0.00	1.32	51.81	7.00	4.88	5.61	12.19	70.72	127.12	161.94



Table A6.31. Number of *Mysis diluviana* captured by life stage/sex (J = juvenile, M = male, F = female, U = unknown) and density estimated from vertical tows with a 1.0-m diameter, 500- $\mu$ m mesh plankton net. See text for explanation of developmental stages of males and females.

Carter Lake, 08/02/16													
Station	Depth (m)	Males					Females				U	Total	Density (ind./m <sup>2</sup> )
		J	M1	M2	M3	Total	F1	F2	F3	Total			
CAR01	14.4	112	7	0	0	7	1	0	0	1	142	262	334
CAR02	24.4	164	58	0	0	58	42	0	0	42	174	438	558
CAR03	31.9	124	59	1	0	60	34	0	0	34	61	279	355
CAR04	43.0	168	208	0	0	208	72	0	0	72	256	704	897
CAR05	26.9	105	29	0	0	29	25	0	0	25	32	191	243
CAR06	46.7	120	152	0	0	152	44	0	0	44	84	400	510
CAR07	47.7	96	272	0	0	272	56	0	0	56	264	688	876
CAR08	27.8	56	84	0	0	84	24	0	0	24	66	230	293
CAR09	39.2	92	60	0	0	60	24	0	0	24	80	256	326
CAR10	14.5	64	4	0	0	4	1	0	0	1	50	119	152
Total		1,101	933	1	0	934	323	0	0	323	1,209	3,567	N\M
Mean		110.10	93.30	0.10	0.00	93.40	32.30	0.00	0.00	32.30	120.90	356.70	454.39
SD		36.75	89.26	0.32	0.00	89.22	22.42	0.00	0.00	22.42	84.70	201.11	256.19

Table A6.32. Number of *Mysis diluviana* captured by life stage/sex (J = juvenile, M = male, F = female, U = unknown) and density estimated from vertical tows with a 1.0-m diameter, 500- $\mu$ m mesh plankton net. See text for explanation of developmental stages of males and females.

Carter Lake, 08/25/16													
Station	Depth (m)	Males					Females				U	Total	Density (ind./m <sup>2</sup> )
		J	M1	M2	M3	Total	F1	F2	F3	Total			
CAR01	14.1	72	24	0	0	24	24	0	0	24	134	254	324
CAR02	21.0	68	44	0	0	44	44	0	0	44	114	270	344
CAR03	26.9	176	102	4	0	106	56	0	0	56	70	408	520
CAR04	40.2	168	220	8	0	228	104	0	0	104	92	592	754
CAR05	20.5	136	16	0	0	16	22	0	0	22	58	232	296
CAR06	40.2	78	102	0	0	102	62	0	0	62	38	280	357
CAR07	41.3	112	176	12	0	188	56	0	0	56	96	452	576
CAR08	21.8	71	23	1	0	24	11	0	0	11	33	139	177
CAR09	34.3	116	124	4	0	128	36	0	0	36	92	372	474
CAR10	16.1	45	14	0	0	14	12	0	0	12	35	106	135
Total		1,042	845	29	0	874	427	0	0	427	762	3,105	N/M
Mean		104.20	84.50	2.90	0.00	87.40	42.70	0.00	0.00	42.70	76.20	310.50	395.54
SD		44.82	72.76	4.18	0.00	76.38	28.39	0.00	0.00	28.39	35.05	147.46	187.85

Table A6.33. Number of *Mysis diluviana* captured by life stage/sex (J = juvenile, M = male, F = female, U = unknown) and density estimated from vertical tows with a 1.0-m diameter, 500- $\mu$ m mesh plankton net. See text for explanation of developmental stages of males and females.

Carter Lake, 09/29/16													
Station	D4epth (m)	Males					Females				U	Total	Density (ind./m <sup>2</sup> )
		J	M1	M2	M3	Total	F1	F2	F3	Total			
CAR01	14.0	8	14	0	0	14	10	0	0	10	17	49	62
CAR02	14.3	8	6	0	0	6	5	0	0	5	7	26	33
CAR03	21.2	48	30	16	0	46	58	1	0	59	38	191	243
CAR04	34.2	84	148	100	0	248	160	0	0	160	60	552	703
CAR05	14.8	32	8	1	0	9	7	0	0	7	25	73	93
CAR06	35.1	204	104	104	0	208	168	0	0	168	136	716	912
CAR07	35.2	82	56	50	0	106	38	0	0	38	40	266	339
CAR08	16.8	108	31	4	0	35	29	0	0	29	44	216	275
CAR09	27.8	83	35	27	1	63	29	1	0	30	16	192	245
CAR10	11.1	16	4	0	0	4	1	0	0	1	3	24	31
Total		673	436	302	1	739	505	2	0	507	386	2,305	N\M
Mean		67.30	43.60	30.20	0.10	73.90	50.50	0.20	0.00	50.70	38.60	230.50	293.63
SD		59.97	47.43	41.09	0.32	87.58	62.35	0.42	0.00	62.33	38.59	232.33	295.96

Table A6.34. Number of *Mysis diluviana* captured by life stage/sex (J = juvenile, M = male, F = female, U = unknown) and density estimated from vertical tows with a 1.0-m diameter, 500- $\mu$ m mesh plankton net. See text for explanation of developmental stages of males and females.

Carter Lake, 10/25/16													
Station	Depth (m)	Males					Females				U	Total	Density (ind./m <sup>2</sup> )
		J	M1	M2	M3	Total	F1	F2	F3	Total			
CAR01	13.2	62	10	0	0	10	33	0	0	33	19	124	158
CAR02	13.9	44	6	4	0	10	14	0	0	14	22	90	115
CAR03	17.5	52	11	17	0	28	52	1	0	53	69	202	257
CAR04	27.5	104	16	68	0	84	80	0	0	80	48	316	403
CAR05	12.8	73	12	11	0	23	40	1	0	41	52	189	241
CAR06	31.7	52	20	188	0	208	112	16	0	128	84	472	601
CAR07	32.2	44	24	172	4	200	104	4	0	108	60	412	525
CAR08	13.3	124	7	11	0	18	26	0	0	26	39	207	264
CAR09	25.3	116	32	112	0	144	68	0	0	68	44	372	474
CAR10	13.9	210	42	26	0	68	102	0	0	102	50	430	548
Total		881	180	609	4	793	631	22	0	653	487	2,814	N/M
Mean		88.00	18.00	60.90	0.40	79.30	63.10	2.20	0.00	65.30	48.70	281.40	358.47
SD		52.27	11.69	71.67	1.26	77.91	35.33	5.01	0.00	38.42	19.75	136.08	173.35

Table A6.35. Number of *Mysis diluviana* captured by life stage/sex (J = juvenile, M = male, F = female, U = unknown) and density estimated from vertical tows with a 1.0-m diameter, 500- $\mu$ m mesh plankton net. See text for explanation of developmental stages of males and females.

Carter Lake, 11/28/16													
Station	Depth (m)	Males					Females				U	Total	Density (ind./m <sup>2</sup> )
		J	M1	M2	M3	Total	F1	F2	F3	Total			
CAR01	13.1	76	0	28	0	28	168	8	4	180	32	316	403
CAR02	14.2	104	8	72	4	84	156	16	0	172	32	392	499
CAR03	15.8	84	3	10	0	13	40	3	1	44	20	161	205
CAR04	26.0	240	12	164	4	180	92	24	0	116	96	632	805
CAR05	10.3	24	0	11	0	11	22	3	0	25	8	68	87
CAR06	29.5	76	12	90	0	102	88	12	0	100	64	342	436
CAR07	30.1	304	16	544	0	560	224	32	16	272	48	1,184	1,508
CAR08	12.3	60	2	36	6	44	40	8	0	48	14	166	211
CAR09	26.8	56	0	184	0	184	44	4	0	48	24	312	397
CAR10	12.5	48	1	4	0	5	20	3	0	23	8	84	107
Total		1,072	54	1,143	14	1,211	894	113	21	1,028	346	3,657	N\M
Mean		107.20	5.40	114.30	1.40	121.10	89.40	11.30	2.10	102.80	34.60	365.70	465.86
SD		90.76	6.06	163.86	2.32	167.90	70.74	9.97	5.04	82.63	27.87	332.82	423.97

Table A6.36. Number of *Mysis diluviana* captured by life stage/sex (J = juvenile, M = male, F = female, U = unknown) and density estimated from vertical tows with a 1.0-m diameter, 500- $\mu$ m mesh plankton net. See text for explanation of developmental stages of males and females.

Carter Lake, 12/28/16													
Station	Depth (m)	Males					Females				U	Total	Density (ind./m <sup>2</sup> )
		J	M1	M2	M3	Total	F1	F2	F3	Total			
CAR01	12.5	5	0	16	0	16	9	6	0	15	21	57	73
CAR02	13.1	37	1	56	6	63	15	17	0	32	35	167	213
CAR03	19.1	4	0	27	0	27	7	19	0	26	35	92	117
CAR04	20.5	32	2	28	0	30	2	14	0	16	46	124	158
CAR05	13.3	52	8	36	0	44	44	24	8	76	36	208	265
CAR06	32.6	26	0	140	2	142	8	10	2	20	10	198	252
CAR07	31.2	44	0	84	0	84	16	20	0	36	76	240	306
CAR08	17.1	61	5	36	4	45	15	26	0	41	45	192	245
CAR09	26.4	96	4	152	4	160	12	20	4	36	52	344	438
CAR10	11.3	7	0	21	1	22	4	9	0	13	32	74	94
Total		364	20	596	17	633	132	165	14	311	388	1,696	N\M
Mean		36.40	2.00	59.60	1.70	63.3	13.20	16.50	1.40	31.10	38.80	169.60	216.05
SD		28.84	2.79	49.64	2.21	50.61	11.82	6.60	2.67	18.64	17.88	86.97	110.79

Table A6.37. Number of *Mysis diluviana* captured by life stage/sex (J = juvenile, M = male, F = female, U = unknown) and density estimated from vertical tows with a 1.0-m diameter, 500- $\mu$ m mesh plankton net. See text for explanation of developmental stages of males and females.

Carter Lake, 01/27/17													
Station	Depth (m)	Males					Females				U	Total	Density (ind./m <sup>2</sup> )
		J	M1	M2	M3	Total	F1	F2	F3	Total			
CAR01	.	.	.	.	.	.	.	.	.	.	.	.	.
CAR02	.	.	.	.	.	.	.	.	.	.	.	.	.
CAR03	.	.	.	.	.	.	.	.	.	.	.	.	.
CAR04	.	.	.	.	.	.	.	.	.	.	.	.	.
CAR05	.	.	.	.	.	.	.	.	.	.	.	.	.
CAR06	.	.	.	.	.	.	.	.	.	.	.	.	.
CAR07	38.2	100	4	84	16	104	8	20	0	28	36	268	341
CAR08	19.8	25	2	7	2	11	6	6	0	12	18	66	84
CAR09	32.5	25	3	44	4	51	6	24	0	30	21	127	162
CAR10	12.8	9	0	21	5	26	9	4	0	13	4	52	66
Total		159	9	156	27	192	29	54	0	83	79	513	N\M
Mean		39.75	2.25	39.00	6.75	48.00	7.25	13.50	0.00	20.75	19.75	128.25	163.38
SD		40.87	1.71	33.66	6.29	40.82	1.50	9.98	0.00	9.57	13.12	98.69	125.72

Table A6.38. Number of *Mysis diluviana* captured by life stage/sex (J = juvenile, M = male, F = female, U = unknown) and density estimated from vertical tows with a 1.0-m diameter, 500- $\mu$ m mesh plankton net. See text for explanation of developmental stages of males and females.

Carter Lake, 02/27/17													
Station	Depth (m)	Males					Females				U	Total	Density (ind./m <sup>2</sup> )
		J	M1	M2	M3	Total	F1	F2	F3	Total			
CAR01	12.1	4	2	2	6	10	3	5	1	9	19	42	54
CAR02	34.8	20	7	7	0	14	2	10	2	14	44	92	117
CAR03	31.7	24	8	5	8	21	4	21	2	27	107	179	228
CAR04	39.0	43	4	10	14	28	4	19	5	28	238	337	429
CAR05	23.7	9	0	2	2	4	3	9	0	12	29	54	69
CAR06	45.5	36	10	5	4	19	7	32	1	40	180	275	350
CAR07	45.8	26	1	6	3	10	4	23	1	28	52	116	148
CAR08	26.7	21	5	1	4	10	3	14	2	19	68	118	150
CAR09	38.6	13	1	2	3	6	2	22	1	25	56	100	127
CAR10	13.9	3	0	0	0	0	0	1	0	1	12	16	20
Total		199	38	40	44	122	32	156	15	203	805	1,329	N\M
Mean		19.90	3.80	4.00	4.40	12.20	3.20	15.60	1.50	20.30	80.50	132.90	169.30
SD		13.14	3.58	3.13	4.17	8.47	1.81	9.48	1.43	11.47	74.11	102.95	131.15



Table A6.39. Number of *Mysis diluviana* captured by life stage/sex (J = juvenile, M = male, F = female, U = unknown) and density estimated from vertical tows with a 1.0-m diameter, 500- $\mu$ m mesh plankton net. See text for explanation of developmental stages of males and females.

Carter Lake, 03/21/17													
Station	Depth (m)	Males					Females				U	Total	Density (ind./m <sup>2</sup> )
		J	M1	M2	M3	Total	F1	F2	F3	Total			
CAR01	17.6	8	11	0	1	12	5	10	6	21	112	153	195
CAR02	27.8	11	12	0	1	13	1	17	1	19	148	191	243
CAR03	35.2	3	1	0	0	1	0	17	2	19	73	96	122
CAR04	41.3	3	4	1	1	6	0	8	4	12	48	69	88
CAR05	27.9	0	0	1	0	1	0	4	1	5	5	11	14
CAR06	48.3	11	6	2	3	11	3	14	3	20	174	216	275
CAR07	48.9	2	6	4	0	10	2	11	2	15	129	156	199
CAR08	29.0	2	1	2	0	3	1	9	0	10	58	73	93
CAR09	41.7	5	8	0	1	9	0	9	2	11	57	82	104
CAR10	13.2	0	0	0	0	0	0	4	0	4	3	7	9
Total		45	49	10	7	66	12	103	21	136	807	1,054	N\M
Mean		4.50	4.90	1.00	0.70	6.60	1.20	10.30	2.10	13.60	80.70	105.40	134.27
SD		4.14	4.46	1.33	0.95	5.02	1.69	4.62	1.85	6.19	58.23	71.48	91.06

Table A6.40. Number of *Mysis diluviana* captured by life stage/sex (J = juvenile, M = male, F = female, U = unknown) and density estimated from vertical tows with a 1.0-m diameter, 500- $\mu$ m mesh plankton net. See text for explanation of developmental stages of males and females.

Carter Lake, 04/25/17													
Station	Depth (m)	Males					Females				U	Total	Density (ind./m <sup>2</sup> )
		J	M1	M2	M3	Total	F1	F2	F3	Total			
CAR01	19.4	13	4	0	0	4	1	0	0	1	5	23	29
CAR02	30.8	38	5	0	0	5	1	3	0	4	18	65	83
CAR03	37.4	7	31	0	5	36	10	13	0	23	65	131	167
CAR04	44.6	21	54	0	2	56	10	19	0	29	94	200	255
CAR05	29.0	39	22	1	0	23	5	12	1	18	53	133	169
CAR06	50.5	32	9	2	0	11	3	3	0	6	43	92	117
CAR07	51.9	75	15	0	0	15	5	12	9	26	34	150	191
CAR08	32.7	11	18	0	0	18	3	8	0	11	22	62	79
CAR09	43.3	12	13	1	0	14	2	16	1	19	15	60	76
CAR10	22.0	11	0	0	0	0	1	3	1	5	5	21	27
Total		259	171	4	7	182	41	89	12	142	354	937	N\M
Mean		25.90	17.10	0.40	0.70	18.20	4.10	8.90	1.20	14.20	35.40	93.70	119.36
SD		20.95	15.91	0.70	1.64	16.85	3.45	6.44	2.78	10.08	28.73	58.36	74.35

Table A6.41. Number of *Mysis diluviana* captured by life stage/sex (J = juvenile, M = male, F = female, U = unknown) and density estimated from vertical tows with a 1.0-m diameter, 500- $\mu$ m mesh plankton net. See text for explanation of developmental stages of males and females.

Carter Lake, 05/23/17													
Station	Depth (m)	Males					Females				U	Total	Density (ind./m <sup>2</sup> )
		J	M1	M2	M3	Total	F1	F2	F3	Total			
CAR01	17.6	9	7	0	0	7	2	0	1	3	3	22	28
CAR02	30.5	5	10	0	0	10	6	2	2	10	3	28	36
CAR03	37.2	5	3	0	0	3	5	5	0	10	0	18	23
CAR04	47.4	1	5	0	0	5	1	1	0	2	1	9	11
CAR05	27.5	11	1	0	0	1	1	2	0	3	-	15	19
CAR06	51.0	7	25	0	0	25	12	2	1	15	13	60	76
CAR07	51.6	70	138	0	0	138	26	4	2	32	68	308	392
CAR08	33.9	113	17	0	0	17	24	2	0	26	16	172	219
CAR09	44.5	86	56	2	0	58	36	2	0	38	22	204	260
CAR10	20.1	312	1	0	0	1	14	0	0	14	0	327	417
Total		619	263	2	0	265	127	20	6	153	126	1,163	N\M
Mean		61.90	26.30	0.20	0.00	26.50	12.70	2.00	0.60	15.30	12.60	116.30	148.15
SD		96.84	42.64	0.63	0.00	42.80	12.21	1.56	0.84	12.68	20.99	126.15	160.71

Table A6.42. Number of *Mysis diluviana* captured by life stage/sex (J = juvenile, M = male, F = female, U = unknown) and density estimated from vertical tows with a 1.0-m diameter, 500- $\mu$ m mesh plankton net. See text for explanation of developmental stages of males and females.

Carter Lake, 08/23/17													
Station	Depth (m)	Males					Females				U	Total	Density (ind./m <sup>2</sup> )
		J	M1	M2	M3	Total	F1	F2	F3	Total			
CAR01	12.0	14	5	0	0	5	8	0	0	8	54	81	103
CAR02	15.0	20	23	0	0	23	28	0	0	28	58	129	164
CAR03	32.0	8	88	0	0	88	88	0	0	88	44	228	290
CAR04	43.0	40	96	0	0	96	64	8	0	72	40	248	316
CAR05	25.0	96	44	0	0	44	30	0	0	30	88	258	329
CAR06	44.0	36	80	0	0	80	80	0	0	80	60	256	326
CAR07	45.0	32	46	0	0	46	42	2	0	44	30	152	194
CAR08	27.0	136	32	0	0	32	40	0	0	40	168	376	479
CAR09	37.0	100	88	0	0	88	68	0	0	68	64	320	408
CAR10	11.0	82	26	0	0	26	6	0	0	6	72	186	237
Total		564	528	0	0	528	454	10	0	464	678	2,234	N\M
Mean		56.40	52.80	0.00	0.00	52.80	45.50	1.00	0.00	446.40	67.80	223.40	284.59
SD		43.72	32.54	0.00	0.00	32.54	28.68	2.54	0.00	29.33	38.87	88.94	113.30

Table A6.43. Number of *Mysis diluviana* captured by life stage/sex (J = juvenile, M = male, F = female, U = unknown) and density estimated from vertical tows with a 1.0-m diameter, 500- $\mu$ m mesh plankton net. See text for explanation of developmental stages of males and females.

Carter Lake, 08/18/18													
Station	Depth (m)	Males					Females				U	Total	Density (ind./m <sup>2</sup> )
		J	M1	M2	M3	Total	F1	F2	F3	Total			
CAR01	15.0	17	10	0	0	10	13	0	0	13	36	76	97
CAR02	22.8	30	18	0	0	18	26	0	0	26	65	139	177
CAR03	28.7	100	34	2	0	36	42	0	0	42	84	262	334
CAR04	37.0	106	52	0	0	52	58	0	0	58	68	284	362
CAR05	22.7	59	23	0	0	23	15	0	0	15	52	149	190
CAR06	42.3	220	116	0	0	116	136	0	0	136	152	624	795
CAR07	43.6	144	58	0	0	58	50	0	0	50	62	314	400
CAR08	26.0	126	15	0	0	15	9	0	0	9	52	202	257
CAR09	37.0	184	50	0	0	50	30	0	0	30	96	360	459
CAR10	17.2	51	12	0	0	12	22	0	0	22	56	141	180
Total		1,037	388	2	0	390	401	0	0	401	723	2,551	N\M
Mean		103.70	38.80	0.20	0.00	39.00	40.10	0.00	0.00	40.10	72.30	255.10	324.97
SD		66.53	32.40	0.63	0.00	32.37	37.39	0.00	0.00	37.39	32.72	157.80	201.01

Table A6.44. Number of *Mysis diluviana* captured by life stage/sex (J = juvenile, M = male, F = female, U = unknown) and density estimated from vertical tows with a 1.0-m diameter, 500- $\mu$ m mesh plankton net. See text for explanation of developmental stages of males and females.

Carter Lake, 08/29/19													
Station	Depth (m)	Males					Females				U	Total	Density (ind./m <sup>2</sup> )
		J	M1	M2	M3	Total	F1	F2	F3	Total			
CAR01	20.0	236	120	0	0	120	24	0	0	24	256	636	810
CAR02	20.4	172	80	0	0	80	36	0	0	36	276	564	718
CAR03	35.0	96	52	0	0	52	68	0	0	68	120	336	428
CAR04	42.0	212	192	0	0	192	224	0	0	224	152	780	994
CAR05	29.0	176	30	0	0	30	14	0	0	14	146	366	466
CAR06	49.0	432	224	16	0	240	120	0	0	120	232	1,024	1,304
CAR07	50.2	72	86	6	0	92	46	0	0	46	98	308	392
CAR08	31.0	174	18	0	0	18	8	0	0	8	56	256	326
CAR09	42.0	98	34	0	0	34	20	0	0	20	40	192	245
CAR10	14.5	78	28	0	0	28	4	0	0	4	66	176	224
Total		1,746	864	22	0	886	564	0	0	564	1,442	4,638	N/M
Mean		174.60	86.40	2.20	0.00	88.60	56.40	0.00	0.00	56.40	144.20	463.80	590.83
SD		107.15	71.84	5.20	0.00	75.35	68.36	0.00	0.00	68.36	85.06	279.59	356.17

Table A6.45. Number of *Mysis diluviana* captured by life stage/sex (J = juvenile, M = male, F = female, U = unknown) and density estimated from vertical tows with a 1.0-m diameter, 500- $\mu$ m mesh plankton net. See text for explanation of developmental stages of males and females.

Chambers Lake, 08/01/16													
Station	Depth (m)	Males					Females				U	Total	Density (ind./m <sup>2</sup> )
		J	M1	M2	M3	Total	F1	F2	F3	Total			
CHM01	16.4	260	24	4	0	28	54	0	0	54	48	390	497
CHM02	12.6	512	2	0	0	2	0	0	0	0	50	564	718
CHM03	20.4	124	23	0	0	23	30	0	0	30	23	200	255
CHM04	24.2	128	220	0	0	220	212	0	0	212	68	628	800
CHM05	24.5	174	70	0	0	70	106	0	0	106	26	376	479
Total		1,198	339	4	0	343	402	0	0	402	215	2,158	N/M
Mean		239.60	67.80	0.80	0.00	68.60	80.40	0.00	0.00	80.40	43.00	431.60	549.81
SD		161.82	88.64	1.79	0.00	88.16	83.18	0.00	0.00	83.18	18.63	169.24	215.59

Table A6.46. Number of *Mysis diluviana* captured by life stage/sex (J = juvenile, M = male, F = female, U = unknown) and density estimated from vertical tows with a 1.0-m diameter, 500- $\mu$ m mesh plankton net. See text for explanation of developmental stages of males and females.

Chatfield Reservoir, 04/14/15													
Station	Depth (m)	Males					Females				U	Total	Density (ind./m <sup>2</sup> )
		J	M1	M2	M3	Total	F1	F2	F3	Total			
CHA01	11.1	0	0	0	0	0	0	0	0	0	0	0	0
CHA02	10.4	0	0	0	0	0	0	0	0	0	0	0	0
CHA03	16.0	0	0	0	0	0	0	0	0	0	0	0	0
CHA04	17.2	0	0	0	0	0	0	0	0	0	0	0	0
CHA05	10.0	0	0	0	0	0	0	0	0	0	0	0	0
CHA06	14.8	0	0	0	0	0	0	0	0	0	0	0	0
CHA07	15.0	0	0	0	0	0	0	0	0	0	0	0	0
CHA08	10.6	0	0	0	0	0	0	0	0	0	0	0	0
Total		0	0	0	0	0	0	0	0	0	0	0	N/M
Mean		0	0	0	0	0	0	0	0	0	0	0	0
SD		0	0	0	0	0	0	0	0	0	0	0	0

Table A6.47. Number of *Mysis diluviana* captured by life stage/sex (J = juvenile, M = male, F = female, U = unknown) and density estimated from vertical tows with a 1.0-m diameter, 500- $\mu$ m mesh plankton net. See text for explanation of developmental stages of males and females.

Cheesman Lake, 05/29/14													
Station	Depth (m)	Males					Females				U	Total	Density (ind./m <sup>2</sup> )
		J	M1	M2	M3	Total	F1	F2	F3	Total			
CHE01	39.1	0	0	0	0	0	0	0	0	0	0	0	0
CHE02	51.3	0	0	0	0	0	0	0	0	0	0	0	0
CHE03	19.2	0	0	0	0	0	0	0	0	0	0	0	0
CHE04	62.0	0	0	0	0	0	0	0	0	0	0	0	0
CHE05	39.1	0	0	0	0	0	0	0	0	0	0	0	0
Total		0	0	0	0	0	0	0	0	0	0	0	N/M
Mean		0	0	0	0	0	0	0	0	0	0	0	0
SD		0	0	0	0	0	0	0	0	0	0	0	0

Table A6.48. Number of *Mysis diluviana* captured by life stage/sex (J = juvenile, M = male, F = female, U = unknown) and density estimated from vertical tows with a 1.0-m diameter, 500- $\mu$ m mesh plankton net. See text for explanation of developmental stages of males and females.

Clear Creek Reservoir, 09/21/14													
Station	Depth (m)	Males					Females				U	Total	Density (ind./m <sup>2</sup> )
		J	M1	M2	M3	Total	F1	F2	F3	Total			
CLE001	11.7	0	0	0	0	0	0	0	0	0	0	0	0
CLE002	15.4	0	0	0	0	0	0	0	0	0	0	0	0
CLE003	10.1	0	0	0	0	0	0	0	0	0	0	0	0
Total		0	0	0	0	0	0	0	0	0	0	0	N/M
Mean		0	0	0	0	0	0	0	0	0	0	0	0
SD		0	0	0	0	0	0	0	0	0	0	0	0



Table A6.49. Number of *Mysis diluviana* captured by life stage/sex (J = juvenile, M = male, F = female, U = unknown) and density estimated from vertical tows with a 1.0-m diameter, 500- $\mu$ m mesh plankton net. See text for explanation of developmental stages of males and females.

Dillon Reservoir, 09/08/10													
Station	Depth (m)	Males					Females				U	Total	Density (ind./m <sup>2</sup> )
		J	M1	M2	M3	Total	F1	F2	F3	Total			
DIL01	16.0	36	2	12	0	14	0	0	0	0	213	263	335
DIL02	32.0	42	16	45	0	61	0	11	0	11	99	213	271
DIL03	13.5	35	1	3	0	4	0	0	0	0	90	129	164
DIL04	34.2	249	13	32	0	45	0	2	0	2	129	425	541
DIL05	50.4	93	4	25	0	29	0	0	0	0	70	192	245
DIL06	66.0	18	2	9	0	11	0	0	0	0	30	59	75
DIL07	30.0	33	1	15	0	16	0	1	0	1	53	103	131
DIL08	18.3	16	10	16	0	26	0	0	0	0	39	81	103
DIL09	36.5	119	1	27	0	28	0	0	0	0	33	180	229
DIL10	13.5	35	0	7	0	7	0	0	0	0	53	95	121
Total		676	50	191	0	241	0	14	0	14	809	1,740	N/M
Mean		67.60	5.00	19.10	0	24.10	0	1.40	0	1.40	80.90	174.00	221.66
SD		71.72	5.79	12.99	0	17.88	0	3.44	30	3.44	56.26	109.54	139.54

Table A6.50. Number of *Mysis diluviana* captured by life stage/sex (J = juvenile, M = male, F = female, U = unknown) and density estimated from vertical tows with a 1.0-m diameter, 500- $\mu$ m mesh plankton net. See text for explanation of developmental stages of males and females.

Dillon Reservoir, 06/14/11													
Station	Depth (m)	Males					Females				U	Total	Density (ind./m <sup>2</sup> )
		J	M1	M2	M3	Total	F1	F2	F3	Total			
DIL01	10.7	15	2	0	0	2	0	0	0	0	0	17	22
DIL02	18.3	11	0	0	0	0	5	1	6	12	4	27	34
DIL03	7.6	50	4	0	0	4	1	2	0	3	3	60	76
DIL04	25.3	35	12	0	0	12	6	5	6	17	10	74	94
DIL05	17.1	87	11	0	0	11	7	0	5	12	15	125	159
DIL06	61.0	60	21	0	0	21	11	0	3	14	93	188	239
DIL07	30.2	20	23	0	0	23	4	2	2	8	11	62	79
Total		278	73	0	0	73	34	10	22	66	136	553	N/M
Mean		39.71	10.43	0.00	0.00	10.43	4.86	1.43	3.14	9.43	19.43	79.00	100.64
SD		27.69	9.07	0.00	0.00	9.07	3.72	1.81	2.61	6.11	32.86	59.47	75.76

Table A6.51. Number of *Mysis diluviana* captured by life stage/sex (J = juvenile, M = male, F = female, U = unknown) and density estimated from vertical tows with a 1.0-m diameter, 500- $\mu$ m mesh plankton net. See text for explanation of developmental stages of males and females.

Dillon Reservoir, 07/06/11													
Station	Depth (m)	Males					Females				U	Total	Density (ind./m <sup>2</sup> )
		J	M1	M2	M3	Total	F1	F2	F3	Total			
DIL01	19.2	14	6	0	0	6	2	0	0	2	13	35	45
DIL02	32.9	25	5	0	0	5	4	0	0	4	10	44	56
DIL03	13.1	17	0	0	0	0	3	0	0	3	12	32	41
DIL04	35.1	21	2	0	0	2	1	0	0	1	17	41	52
DIL05	50.0	33	1	0	0	1	4	0	0	4	11	49	64
DIL07	25.0	34	4	0	0	4	0	0	0	0	11	49	62
DIL08	21.9	49	2	0	0	2	1	0	0	1	29	81	103
DIL09	39.0	44	10	1	0	11	2	0	1	3	5	63	80
DIL10	23.2	29	4	0	0	4	0	0	0	0	8	41	52
Total		266	34	1	0	35	17	0	1	18	116	435	N/M
Mean		29.56	3.78	0.11	0.00	3.89	1.89	0.00	0.11	2.00	12.89	48.33	61.57
SD		11.79	3.03	0.33	0.00	3.30	1.54	0.00	0.33	1.58	6.88	15.22	19.39

Table A6.52. Number of *Mysis diluviana* captured by life stage/sex (J = juvenile, M = male, F = female, U = unknown) and density estimated from vertical tows with a 1.0-m diameter, 500- $\mu$ m mesh plankton net. See text for explanation of developmental stages of males and females.

Dillon Reservoir, 08/03/11													
Station	Depth (m)	Males					Females				U	Total	Density (ind./m <sup>2</sup> )
		J	M1	M2	M3	Total	F1	F2	F3	Total			
DIL01	17.1	8	9	3	0	12	5	2	0	7	27	54	69
DIL02	34.4	104	9	0	0	9	2	0	0	2	31	146	186
DIL03	14.6	83	16	1	0	17	6	1	0	7	46	153	195
DIL04	31.7	37	3	0	0	3	2	0	0	2	5	47	60
DIL05	49.1	29	8	0	0	8	0	0	0	0	10	47	60
DIL06	66.1	28	5	0	0	5	3	0	0	3	9	45	57
DIL07	30.5	31	19	2	0	21	6	0	0	6	6	64	82
DIL08	19.8	47	6	5	0	11	2	0	0	2	22	82	104
DIL09	38.4	64	5	1	0	6	4	0	0	4	26	100	127
DIL10	14.6	32	1	0	0	1	0	0	0	0	4	37	47
Total		463	81	12	0	93	30	3	0	33	186	775	N/M
Mean		46.30	8.10	1.20	0.00	9.30	3.00	0.30	0.00	3.30	18.60	77.50	98.73
SD		29.09	5.61	1.69	0.00	6.20	2.21	0.67	0.00	2.63	14.00	42.44	54.06

Table A6.53. Number of *Mysis diluviana* captured by life stage/sex (J = juvenile, M = male, F = female, U = unknown) and density estimated from vertical tows with a 1.0-m diameter, 500- $\mu$ m mesh plankton net. See text for explanation of developmental stages of males and females.

Dillon Reservoir, 09/30/11													
Station	Depth (m)	Males					Females				U	Total	Density (ind./m <sup>2</sup> )
		J	M1	M2	M3	Total	F1	F2	F3	Total			
DIL01	16.5	6	2	23	0	25	28	1	0	29	9	69	88
DIL02	30.5	9	1	36	0	37	9	0	0	9	33	88	112
DIL03	14.3	7	1	1	0	2	3	0	0	3	10	22	28
DIL04	34.4	15	2	17	0	19	9	1	0	10	39	83	106
DIL05	48.8	3	2	12	0	14	2	0	0	2	20	39	50
DIL06	65.5	24	56	56	0	112	59	0	0	59	165	360	459
DIL07	25.9	8	7	0	0	7	6	0	0	6	4	25	32
DIL08	18.3	2	0	11	0	11	12	1	0	13	29	55	70
DIL09	36.0	14	3	12	0	15	14	0	0	14	48	91	116
DIL10	18.9	3	1	6	0	7	3	0	0	3	34	47	60
Total		91	75	174	0	249	145	3	0	148	391	879	N/M
Mean		9.10	7.50	17.40	0.00	24.90	14.50	0.30	0.00	14.80	39.10	87.90	111.97
SD		6.84	17.15	17.22	0.00	32.22	17.39	0.48	0.00	17.43	46.48	98.81	125.88

Table A6.54. Number of *Mysis diluviana* captured by life stage/sex (J = juvenile, M = male, F = female, U = unknown) and density estimated from vertical tows with a 1.0-m diameter, 500- $\mu$ m mesh plankton net. See text for explanation of developmental stages of males and females.

Dillon Reservoir, 05/21/12													
Station	Depth (m)	Males					Females				U	Total	Density (ind./m <sup>2</sup> )
		J	M1	M2	M3	Total	F1	F2	F3	Total			
DIL01	15.7	85	0	0	0	0	2	0	0	2	6	93	118
DIL02	32.9	95	0	0	0	0	5	1	8	14	14	123	157
DIL03	15.3	26	0	0	0	0	1	0	0	1	6	33	42
DIL04	32.0	86	0	0	0	0	4	2	3	9	21	116	148
DIL05	48.2	90	1	0	0	1	0	1	1	2	10	103	131
DIL06	64.6	139	0	0	0	0	0	1	2	3	31	173	220
DIL07	46.8	24	0	0	0	0	2	0	1	3	19	46	59
DIL08	18.3	85	0	0	0	0	1	0	2	3	18	106	135
DIL09	36.9	88	0	0	0	0	0	2	9	11	11	110	140
DIL10	18.3	75	0	0	0	0	0	1	0	1	11	87	111
Total		793	1	0	0	1	15	8	26	49	147	990	N/M
Mean		79.3	0.10	0.00	0.00	0.10	1.50	0.80	2.60	4.90	14.70	99.00	126.11
SD		33.38	0.32	0.00	0.00	0.32	1.78	0.79	3.27	4.65	7.72	39.26	50.01

Table A6.55. Number of *Mysis diluviana* captured by life stage/sex (J = juvenile, M = male, F = female, U = unknown) and density estimated from vertical tows with a 1.0-m diameter, 500- $\mu$ m mesh plankton net. See text for explanation of developmental stages of males and females.

Dillon Reservoir, 06/18/12													
Station	Depth (m)	Males					Females				U	Total	Density (ind./m <sup>2</sup> )
		J	M1	M2	M3	Total	F1	F2	F3	Total			
DIL01	14.3	165	0	0	0	0	0	0	0	0	10	175	223
DIL02	32.3	58	5	1	0	6	6	4	0	10	20	94	120
DIL03	13.4	148	2	0	0	2	1	0	0	1	5	156	199
DIL04	29.9	96	1	1	0	2	2	4	0	6	7	111	141
DIL05	47.9	29	8	0	0	8	0	0	0	0	8	45	57
DIL06	64.6	47	4	1	2	7	5	1	1	7	11	72	92
DIL07	26.2	48	11	0	0	11	3	0	0	3	8	70	89
DIL08	17.7	58	3	0	0	3	1	0	0	1	3	65	83
DIL09	42.1	88	0	0	2	2	0	1	1	2	8	100	127
DIL10	12.8	70	0	0	0	0	0	1	0	1	1	72	92
Total		807	34	3	4	41	18	11	2	31	81	960	N/M
Mean		80.70	3.40	0.30	0.40	4.10	1.80	1.10	0.20	3.10	8.10	96.00	122.29
SD		44.65	3.72	0.48	0.84	3.70	2.20	1.60	0.42	3.41	5.17	41.47	52.82

Table A6.56. Number of *Mysis diluviana* captured by life stage/sex (J = juvenile, M = male, F = female, U = unknown) and density estimated from vertical tows with a 1.0-m diameter, 500- $\mu$ m mesh plankton net. See text for explanation of developmental stages of males and females.

Dillon Reservoir, 07/17/12													
Station	Depth (m)	Males					Females				U	Total	Density (ind./m <sup>2</sup> )
		J	M1	M2	M3	Total	F1	F2	F3	Total			
DIL01	14.1	31	0	0	0	0	0	0	0	0	58	89	113
DIL02	31.7	1	0	0	0	0	0	0	0	0	1	2	3
DIL03	11.9	29	0	0	0	0	0	0	0	0	12	41	52
DIL04	14.3	141	1	0	0	1	2	0	0	2	109	253	322
DIL05	46.3	55	1	0	0	1	4	0	0	4	74	134	171
DIL06	63.4	13	2	0	0	2	1	0	0	1	37	53	68
DIL07	24.1	58	2	0	0	2	0	0	0	0	39	99	126
DIL08	14.5	55	2	0	0	2	0	0	0	0	54	111	141
DIL09	36.3	57	2	1	0	3	4	0	0	4	52	116	148
DIL10	11.9	83	0	0	0	0	1	0	0	1	27	111	141
Total		523	10	1	0	11	12	0	0	12	463	1,009	N/M
Mean		53.20	1.00	0.10	0.00	1.10	1.20	0.00	0.00	1.20	46.30	100.90	128.54
SD		39.51	0.94	0.32	0.00	1.10	1.62	0.00	0.00	1.62	31.03	67.06	85.42



Table A6.57. Number of *Mysis diluviana* captured by life stage/sex (J = juvenile, M = male, F = female, U = unknown) and density estimated from vertical tows with a 1.0-m diameter, 500- $\mu$ m mesh plankton net. See text for explanation of developmental stages of males and females.

Dillon Reservoir, 08/21/12													
Station	Depth (m)	Males					Females				U	Total	Density (ind./m <sup>2</sup> )
		J	M1	M2	M3	Total	F1	F2	F3	Total			
DIL01	12.5	19	5	3	0	8	0	0	0	0	107	134	171
DIL02	29.0	49	25	23	7	55	1	3	0	4	164	272	346
DIL03	10.7	42	6	2	0	8	0	0	0	0	85	135	172
DIL04	28.0	57	14	15	6	35	2	0	0	2	85	179	228
DIL05	44.8	47	9	24	0	33	11	0	0	11	135	226	288
DIL06	61.9	10	4	7	5	16	9	0	0	9	49	84	107
DIL07	24.7	29	12	12	11	35	5	1	0	6	140	210	268
DIL08	14.6	0	0	17	3	20	2	0	0	2	45	67	85
DIL09	33.2	62	13	18	23	54	5	1	0	6	99	221	282
DIL10	10.7	35	6	3	1	10	0	0	0	0	72	117	149
Total		350	94	124	56	274	35	5	0	40	981	1,645	N/M
Mean		35.00	9.40	12.40	5.60	27.40	3.50	0.50	0.00	4.00	98.10	164.50	209.55
SD		20.40	7.03	8.30	7.12	17.82	3.92	0.97	0.00	3.92	39.15	67.37	85.83

Table A6.58. Number of *Mysis diluviana* captured by life stage/sex (J = juvenile, M = male, F = female, U = unknown) and density estimated from vertical tows with a 1.0-m diameter, 500- $\mu$ m mesh plankton net. See text for explanation of developmental stages of males and females.

Dillon Reservoir, 09/13/12													
Station	Depth (m)	Males					Females				U	Total	Density (ind./m <sup>2</sup> )
		J	M1	M2	M3	Total	F1	F2	F3	Total			
DIL01	11.6	0	0	0	0	0	0	0	0	0	0	0	0
DIL02	29.3	13	0	21	24	45	3	3	0	6	265	329	419
DIL03	8.8	5	0	3	1	4	2	0	0	2	10	21	27
DIL04	25.9	62	0	10	91	101	15	5	0	20	124	307	391
DIL05	43.3	43	1	27	46	74	24	3	0	27	66	210	268
DIL06	60.1	9	2	25	56	83	41	12	0	53	94	239	304
DIL07	28.7	21	0	28	49	77	18	1	0	19	82	199	254
DIL08	14.0	5	0	0	10	10	10	3	0	13	23	51	65
DIL09	33.5	7	0	3	85	88	18	3	0	21	167	283	361
DIL10	13.7	3	0	3	0	3	0	0	0	0	6	12	15
Total		168	3	120	362	485	131	30	0	161	837	1,651	N/M
Mean		16.80	0.30	12.00	36.20	48.50	13.10	3.00	0.00	16.10	83.70	165.10	210.32
SD		20.19	0.67	11.86	34.53	40.64	13.03	3.59	0.00	16.18	84.34	130.81	166.64

Table A6.59. Number of *Mysis diluviana* captured by life stage/sex (J = juvenile, M = male, F = female, U = unknown) and density estimated from vertical tows with a 1.0-m diameter, 500- $\mu$ m mesh plankton net. See text for explanation of developmental stages of males and females.

Dillon Reservoir, 08/06/13													
Station	Depth (m)	Males					Females				U	Total	Density (ind./m <sup>2</sup> )
		J	M1	M2	M3	Total	F1	F2	F3	Total			
DIL01	16.5	-	-	0	0	-	-	0	0	-	-	-	-
DIL02	33.2	29	9	0	0	9	7	0	0	7	39	84	107
DIL03	12.8	38	1	0	0	1	-	0	0	-	4	43	55
DIL04	31.4	51	5	0	0	5	4	0	0	4	18	78	99
DIL05	48.8	38	-	0	0	-	-	0	0	-	17	55	70
DIL06	67.1	4	2	0	0	2	2	0	0	2	5	13	17
DIL07	26.5	3	1	0	0	1	1	0	0	1	8	13	17
DIL08	18.3	3	1	0	0	1	4	0	0	4	7	15	19
DIL09	38.1	22	2	0	0	2	4	0	0	4	2	30	38
DIL10	17.7	527	8	0	0	8	4	0	0	4	111	650	828
Total		715	29	0	0	29	26	0	0	26	211	981	N/M
Mean		71.50	2.90	0.00	0.00	2.90	2.60	0.00	0.00	2.60	21.10	98.10	124.97
SD		161.06	3.28	0.00	0.00	3.28	2.37	0.00	0.00	2.37	33.60	196.00	249.68

Table A6.60. Number of *Mysis diluviana* captured by life stage/sex (J = juvenile, M = male, F = female, U = unknown) and density estimated from vertical tows with a 1.0-m diameter, 500- $\mu$ m mesh plankton net. See text for explanation of developmental stages of males and females.

Dillon Reservoir, 05/26/14													
Station	Depth (m)	Males					Females				U	Total	Density (ind./m <sup>2</sup> )
		J	M1	M2	M3	Total	F1	F2	F3	Total			
DIL01	10.6	212	12	0	0	12	11	1	10	22	2	248	316
DIL02	28.4	160	30	0	0	30	12	7	15	34	7	231	294
DIL03	8.9	198	24	0	0	24	7	10	20	37	7	266	339
DIL04	30.8	229	47	0	0	47	10	11	21	42	9	327	417
DIL05	44.5	303	20	0	0	20	5	4	6	15	7	345	439
DIL06	62.0	80	22	0	0	22	6	2	1	9	7	118	150
DIL07	20.3	142	11	0	0	11	9	9	20	38	4	195	248
DIL08	13.0	39	17	0	0	17	6	4	7	17	2	75	96
DIL09	38.9	19	15	0	0	15	5	19	26	40	5	79	101
DIL10	19.5	4	5	0	0	5	1	3	0	4	2	15	19
Total		1,386	203	0	0	203	72	70	116	258	52	1,899	N/M
Mean		138.60	20.30	0.00	0.00	20.30	7.20	7.00	11.60	25.80	5.20	189.90	241.91
SD		100.20	11.80	0.00	0.00	11.80	3.33	5.46	7.90	14.03	2.57	113.04	144.00

Table A6.61. Number of *Mysis diluviana* captured by life stage/sex (J = juvenile, M = male, F = female, U = unknown) and density estimated from vertical tows with a 1.0-m diameter, 500- $\mu$ m mesh plankton net. See text for explanation of developmental stages of males and females.

Dillon Reservoir, 06/23/14													
Station	Depth (m)	Males					Females				U	Total	Density (ind./m <sup>2</sup> )
		J	M1	M2	M3	Total	F1	F2	F3	Total			
DIL01	16.0	90	12	0	0	12	3	0	5	8	2	112	143
DIL02	33.6	80	8	0	0	8	6	0	6	12	4	104	132
DIL03	13.4	66	14	0	0	14	6	0	3	9	1	90	115
DIL04	35.1	58	10	0	0	10	7	0	2	9	6	83	106
DIL05	49.4	189	11	0	0	11	4	2	3	9	4	213	271
DIL06	66.8	125	37	0	0	37	12	6	4	22	21	205	261
DIL07	21.0	114	32	0	0	32	13	1	7	21	14	181	231
DIL08	18.5	147	26	0	0	26	6	0	7	13	11	197	251
DIL09	37.8	98	22	0	0	22	4	4	3	11	12	143	182
DIL10	13.1	6	3	0	0	3	0	0	0	0	3	12	15
Total		973	175	0	0	175	61	13	40	114	78	1,340	N/M
Mean		97.30	17.50	0.00	0.00	17.50	6.10	1.30	4.00	11.40	7.80	134.00	170.70
SD		50.70	11.18	0.00	0.00	11.18	3.93	2.11	2.26	6.38	6.46	65.27	83.15

Table A6.62. Number of *Mysis diluviana* captured by life stage/sex (J = juvenile, M = male, F = female, U = unknown) and density estimated from vertical tows with a 1.0-m diameter, 500- $\mu$ m mesh plankton net. See text for explanation of developmental stages of males and females.

Dillon Reservoir, 07/20/14													
Station	Depth (m)	Males					Females				U	Total	Density (ind./m <sup>2</sup> )
		J	M1	M2	M3	Total	F1	F2	F3	Total			
DIL01	17.3	281	16	0	0	16	7	0	0	7	38	342	436
DIL02	35.3	169	27	0	0	27	24	0	0	24	17	237	302
DIL03	14.6	192	3	0	0	3	0	0	0	0	12	207	264
DIL04	35.3	585	72	0	0	72	20	0	4	24	31	712	907
DIL05	50.0	65	28	0	0	28	16	0	0	16	10	119	152
DIL06	67.9	18	11	0	0	11	3	0	1	4	7	40	51
DIL07	26.4	74	46	0	0	46	17	0	0	17	30	167	213
DIL08	21.2	92	11	0	0	11	6	0	0	6	12	121	154
DIL09	42.7	79	28	0	0	28	9	0	1	10	8	125	159
DIL10	16.5	124	15	0	0	15	1	0	0	1	16	156	199
Total		1,679	257	0	0	257	103	0	6	109	181	2,226	N/M
Mean		167.90	25.70	0.00	0.00	25.70	10.30	0.00	0.60	10.90	18.10	222.60	283.57
SD		164.93	20.34	0.00	0.00	20.34	8.41	0.00	1.26	8.89	10.93	190.23	242.33

Table A6.63. Number of *Mysis diluviana* captured by life stage/sex (J = juvenile, M = male, F = female, U = unknown) and density estimated from vertical tows with a 1.0-m diameter, 500- $\mu$ m mesh plankton net. See text for explanation of developmental stages of males and females.

Dillon Reservoir, 07/21/14													
Station	Depth (m)	Males					Females				U	Total	Density (ind./m <sup>2</sup> )
		J	M1	M2	M3	Total	F1	F2	F3	Total			
DIL01	17.0	133	15	0	0	15	4	0	1	5	18	171	218
DIL02	33.5	187	68	0	0	68	20	0	7	27	32	314	400
DIL03	14.9	107	7	0	0	7	0	0	1	1	14	129	164
DIL04	32.8	318	77	0	0	77	13	1	4	18	21	434	553
DIL05	50.2	51	19	0	0	19	10	0	5	15	9	94	120
DIL06	69.2	28	18	0	0	18	4	0	0	4	7	57	73
DIL07	29.0	47	27	0	0	27	7	0	2	9	16	99	126
DIL08	20.7	54	15	0	0	15	13	0	0	13	15	97	124
DIL09	43.4	88	31	0	0	31	19	0	4	23	13	155	197
DIL10	14.3	181	23	0	0	23	9	0	0	9	25	238	303
Total		1,194	300	0	0	300	99	1	24	124	170	1,788	N/M
Mean		119.40	30.00	0.00	0.00	30.00	9.90	0.10	2.40	12.40	17.00	178.80	227.77
SD		89.25	23.47	0.00	0.00	23.47	6.51	0.32	2.46	8.45	7.45	117.90	150.19

Table A6.64. Number of *Mysis diluviana* captured by life stage/sex (J = juvenile, M = male, F = female, U = unknown) and density estimated from vertical tows with a 1.0-m diameter, 500- $\mu$ m mesh plankton net. See text for explanation of developmental stages of males and females.

Dillon Reservoir, 08/18/14													
Station	Depth (m)	Males					Females				U	Total	Density (ind./m <sup>2</sup> )
		J	M1	M2	M3	Total	F1	F2	F3	Total			
DIL01	16.7	55	25	0	0	25	1	0	0	1	77	158	201
DIL02	34.9	41	29	0	0	29	9	0	1	10	39	119	152
DIL03	14.9	151	15	0	0	15	0	0	0	0	45	211	269
DIL04	39.2	191	18	0	0	18	3	0	1	4	56	269	343
DIL05	49.7	43	36	0	0	36	13	0	0	13	24	116	148
DIL06	67.6	25	19	0	0	19	23	0	0	23	16	83	106
DIL07	26.3	24	44	0	0	44	26	0	1	27	24	119	152
DIL08	19.9	37	17	0	0	17	14	0	0	14	49	117	149
DIL09	43.2	25	28	0	0	28	18	0	1	19	38	110	140
DIL10	23.5	67	19	0	0	19	5	0	0	5	33	124	158
Total		659	250	0	0	250	112	0	4	116	401	1,426	N/M
Mean		65.90	25.00	0.00	0.00	25.00	11.20	0.00	0.40	11.60	40.10	142.60	181.66
SD		57.82	9.38	0.00	0.00	9.38	9.16	0.00	0.52	9.31	17.87	56.11	71.47



Table A6.65. Number of *Mysis diluviana* captured by life stage/sex (J = juvenile, M = male, F = female, U = unknown) and density estimated from vertical tows with a 1.0-m diameter, 500- $\mu$ m mesh plankton net. See text for explanation of developmental stages of males and females.

Dillon Reservoir, 09/20/14													
Station	Depth (m)	Males					Females				U	Total	Density (ind./m <sup>2</sup> )
		J	M1	M2	M3	Total	F1	F2	F3	Total			
DIL01	17.0	15	64	1	0	65	43	0	0	43	89	212	270
DIL02	35.4	19	32	9	0	41	21	0	0	21	32	113	144
DIL03	15.0	118	100	0	0	100	48	0	0	48	240	506	645
DIL04	33.5	110	37	13	0	50	35	0	0	35	140	335	427
DIL05	50.1	46	59	8	0	67	40	1	0	41	61	215	274
DIL06	12.7	27	42	17	0	59	46	0	0	46	58	190	242
DIL07	27.3	9	12	0	0	12	13	0	0	13	22	56	71
DIL08	19.3	2	14	0	0	14	7	0	0	7	13	36	46
DIL09	27.4	8	19	0	0	19	20	0	0	20	23	70	89
DIL10	19.0	16	29	0	0	29	25	0	0	25	48	118	150
Total		370	408	48	0	456	298	1	0	299	726	1,851	N/M
Mean		37.00	40.80	4.80	0.00	45.60	29.80	0.10	0.00	29.90	72.60	185.10	235.80
SD		42.39	27.14	6.44	0.00	28.14	14.52	0.32	0.00	14.60	69.93	144.89	184.57

Table A6.66. Number of *Mysis diluviana* captured by life stage/sex (J = juvenile, M = male, F = female, U = unknown) and density estimated from vertical tows with a 1.0-m diameter, 500- $\mu$ m mesh plankton net. See text for explanation of developmental stages of males and females.

Dillon Reservoir, 10/19/14													
Station	Depth (m)	Males					Females				U	Total	Density (ind./m <sup>2</sup> )
		J	M1	M2	M3	Total	F1	F2	F3	Total			
DIL01	16.6	3	10	24	0	34	69	1	0	70	14	121	154
DIL02	34.3	6	5	24	0	29	52	2	0	54	30	119	152
DIL03	14.4	2	17	22	0	39	99	0	0	99	46	186	237
DIL04	29.5	7	4	19	0	23	23	0	0	23	50	103	131
DIL05	50.4	10	2	34	0	36	21	1	0	22	44	112	143
DIL06	67.8	29	5	76	0	81	61	3	0	64	173	347	442
DIL07	27.4	11	8	70	0	78	124	2	0	126	69	284	362
DIL08	19.7	2	2	5	0	7	17	1	0	18	13	40	51
DIL09	37.7	5	1	37	0	38	28	0	0	28	25	96	122
DIL10	14.4	3	8	11	0	19	59	2	0	61	11	94	120
Total		78	62	322	0	384	553	12	0	565	475	1,502	N/M
Mean		7.80	6.20	32.20	0.00	38.40	55.30	1.20	0.00	56.50	47.5	150.20	191.34
SD		8.09	4.80	23.51	0.00	23.80	35.44	1.03	0.00	35.76	47.95	95.26	121.35

Table A6.67. Number of *Mysis diluviana* captured by life stage/sex (J = juvenile, M = male, F = female, U = unknown) and density estimated from vertical tows with a 1.0-m diameter, 500- $\mu$ m mesh plankton net. See text for explanation of developmental stages of males and females.

Dillon Reservoir, 11/22/14													
Station	Depth (m)	Males					Females				U	Total	Density (ind./m <sup>2</sup> )
		J	M1	M2	M3	Total	F1	F2	F3	Total			
DIL01	17.3	1	0	29	0	29	57	11	0	68	27	125	159
DIL02	35.4	2	0	60	0	60	75	29	0	104	31	197	251
DIL03	25.1	1	0	17	0	17	12	8	0	20	14	52	66
DIL04	33.2	2	0	62	0	62	31	5	0	36	28	128	163
DIL05	50.8	1	0	90	0	90	33	11	0	44	43	178	227
DIL06	68.0	1	0	116	0	116	20	29	0	49	83	249	317
DIL07	29.0	0	0	62	0	62	16	16	0	32	14	108	138
DIL08	20.2	1	0	13	0	13	4	0	0	4	0	18	23
DIL09	45.1	1	2	94	0	96	25	4	0	29	5	131	167
DIL10	19.5	1	0	78	0	78	144	30	0	174	12	265	338
Total		11	2	621	0	623	417	143	0	560	257	1,451	N/M
Mean		1.10	0.20	62.21	0.00	62.30	41.70	14.30	0.00	56.00	25.70	145.10	184.84
SD		0.57	0.63	34.15	0.00	34.37	41.78	11.26	0.00	49.74	23.96	78.91	100.52

Table A6.68. Number of *Mysis diluviana* captured by life stage/sex (J = juvenile, M = male, F = female, U = unknown) and density estimated from vertical tows with a 1.0-m diameter, 500- $\mu$ m mesh plankton net. See text for explanation of developmental stages of males and females.

Dillon Reservoir, 08/12/15													
Station	Depth (m)	Males					Females				U	Total	Density (ind./m <sup>2</sup> )
		J	M1	M2	M3	Total	F1	F2	F3	Total			
DIL01	17.4	48	69	0	0	69	7	0	0	7	71	195	248
DIL02	35.0	7	10	0	0	10	7	0	0	7	12	36	46
DIL03	15.0	88	22	0	0	22	8	0	0	8	67	185	236
DIL04	32.8	146	56	0	0	56	11	0	0	11	36	249	317
DIL05	51.2	36	41	0	0	41	14	0	0	14	17	108	138
DIL06	68.2	8	34	0	0	34	11	0	0	11	20	73	93
DIL07	27.6	34	66	0	0	66	14	0	0	14	39	153	195
DIL08	21.8	34	57	0	0	57	34	0	0	34	41	166	211
DIL09	38.4	44	47	0	0	47	20	0	0	20	19	130	166
DIL10	16.0	159	30	0	0	30	3	0	0	3	63	255	325
Total		604	432	0	0	432	129	0	0	129	385	1,550	N/M
Mean		60.40	43.20	0.00	0.00	43.20	12.90	0.00	0.00	12.90	38.50	155.00	197.45
SD		53.56	19.35	0.00	0.00	19.35	8.80	0.00	0.00	8.80	22.03	70.85	90.26

Table A6.69. Number of *Mysis diluviana* captured by life stage/sex (J = juvenile, M = male, F = female, U = unknown) and density estimated from vertical tows with a 1.0-m diameter, 500- $\mu$ m mesh plankton net. See text for explanation of developmental stages of males and females.

Dillon Reservoir, 08/03/16													
Station	Depth (m)	Males					Females				U	Total	Density (ind./m <sup>2</sup> )
		J	M1	M2	M3	Total	F1	F2	F3	Total			
DIL01	18.2	67	43	0	0	43	5	0	0	5	126	241	307
DIL02	35.7	47	27	0	0	27	23	0	0	23	78	175	223
DIL03	15.0	86	7	0	0	7	0	0	0	0	76	169	215
DIL04	35.2	127	30	0	0	30	8	0	0	8	58	223	284
DIL05	51.6	49	22	0	0	22	7	0	0	7	30	108	138
DIL06	60.0	8	8	0	0	8	4	0	0	4	13	33	42
DIL07	31.2	46	16	0	0	16	8	0	0	8	34	104	132
DIL08	21.0	47	17	0	0	17	2	0	0	2	79	145	185
DIL09	45.6	64	35	0	0	35	15	0	0	15	23	137	175
DIL10	15.3	240	11	0	0	11	0	0	0	0	90	341	434
Total		781	216	0	0	216	72	0	0	72	607	1,676	N/M
Mean		78.10	21.60	0.00	0.00	21.60	7.20	0.00	0.00	7.20	60.70	167.60	213.50
SD		64.73	12.02	0.00	0.00	12.02	7.13	0.00	0.00	7.13	35.51	85.47	108.88

Table A6.70. Number of *Mysis diluviana* captured by life stage/sex (J = juvenile, M = male, F = female, U = unknown) and density estimated from vertical tows with a 1.0-m diameter, 500- $\mu$ m mesh plankton net. See text for explanation of developmental stages of males and females.

Dillon Reservoir, 08/24/17													
Station	Depth (m)	Males					Females				U	Total	Density (ind./m <sup>2</sup> )
		J	M1	M2	M3	Total	F1	F2	F3	Total			
DIL01	17.4	8	78	1	0	79	36	0	0	36	33	156	199
DIL02	34.5	8	76	0	0	76	36	0	0	36	36	156	199
DIL03	19.0	34	32	0	0	32	6	0	0	6	35	107	136
DIL04	35.8	35	24	0	0	24	13	0	0	13	25	97	124
DIL05	49.8	6	32	1	0	33	7	0	0	7	13	59	75
DIL06	67.6	1	0	0	0	0	2	0	0	2	1	4	5
DIL07	38.0	10	46	0	0	46	13	0	0	13	5	74	94
DIL08	23.3	2	21	0	0	21	12	0	0	12	19	54	69
DIL09	43.6	25	38	0	0	38	8	0	0	8	16	87	111
DIL10	24.3	59	75	0	0	75	25	0	0	25	73	232	296
Total		188	422	2	0	424	158	0	0	158	256	1,026	N/M
Mean		18.80	42.20	0.20	0.00	42.40	15.80	0.00	0.00	15.80	25.60	102.60	130.70
SD		18.92	26.46	0.42	0.00	26.57	12.27	0.00	0.00	12.27	20.61	64.59	82.28

Table A6.71. Number of *Mysis diluviana* captured by life stage/sex (J = juvenile, M = male, F = female, U = unknown) and density estimated from vertical tows with a 1.0-m diameter, 500- $\mu$ m mesh plankton net. See text for explanation of developmental stages of males and females.

Dillon Reservoir, 08/09/18													
Station	Depth (m)	Males					Females				U	Total	Density (ind./m <sup>2</sup> )
		J	M1	M2	M3	Total	F1	F2	F3	Total			
DIL01	15.5	9	44	0	0	44	5	0	0	5	78	136	173
DIL02	30.2	24	43	0	0	43	22	0	0	22	50	139	177
DIL03	12.2	35	21	0	0	21	9	0	0	9	68	133	169
DIL04	33.7	177	75	0	0	75	30	0	0	30	154	436	555
DIL05	47.1	44	22	0	0	22	14	0	0	14	42	122	155
DIL06	67.0	16	14	0	0	14	19	0	0	19	20	69	88
DIL07	31.7	19	49	0	0	49	28	0	0	28	57	153	195
DIL08	19.4	2	35	0	0	35	3	0	0	3	58	98	125
DIL09	35.0	38	27	1	0	28	12	0	0	12	39	117	149
DIL10	13.0	18	19	0	0	19	1	0	0	1	34	72	92
Total		382	349	1	0	350	143	0	0	143	600	1,475	N/M
Mean		38.20	34.90	0.10	0.00	35.00	14.30	0.00	0.00	14.30	60.00	147.50	187.90
SD		50.49	18.46	0.32	0.00	18.41	10.22	0.00	0.000	10.22	37.09	105.18	133.99

Table A6.72. Number of *Mysis diluviana* captured by life stage/sex (J = juvenile, M = male, F = female, U = unknown) and density estimated from vertical tows with a 1.0-m diameter, 500- $\mu$ m mesh plankton net. See text for explanation of developmental stages of males and females.

Dillon Reservoir, 09/23/19													
Station	Depth (m)	Males					Females				U	Total	Density (ind./m <sup>2</sup> )
		J	M1	M2	M3	Total	F1	F2	F3	Total			
DIL01	.	.	.	.	.	.	.	.	.	.	.	.	.
DIL02	33.0	2	29	16	0	45	41	0	0	41	4	92	117
DIL03	49.0	1	18	18	0	36	23	0	0	23	10	70	89
DIL04	33.0	0	33	4	0	37	37	0	0	37	5	79	101
DIL05	.	.	.	.	.	.	.	.	.	.	.	.	.
DIL06	.	.	.	.	.	.	.	.	.	.	.	.	.
DIL07	.	.	.	.	.	.	.	.	.	.	.	.	.
DIL08	.	.	.	.	.	.	.	.	.	.	.	.	.
DIL09	.	.	.	.	.	.	.	.	.	.	.	.	.
DIL10	.	.	.	.	.	.	.	.	.	.	.	.	.
Total		3	70	38	0	118	101	0	0	101	19	241	N/M
Mean		1.00	23.33	12.67	0.00	39.33	33.67	0.00	0.00	33.67	6.33	80.33	102.34
SD		1.00	13.43	7.57	0.00	4.93	9.45	0.00	0.00	9.45	2.41	11.06	14.09



Table A6.73. Number of *Mysis diluviana* captured by life stage/sex (J = juvenile, M = male, F = female, U = unknown) and density estimated from vertical tows with a 1.0-m diameter, 500- $\mu$ m mesh plankton net. See text for explanation of developmental stages of males and females.

Grand Lake, 06/10/13													
Station	Depth (m)	Males					Females				U	Total	Density (ind./m <sup>2</sup> )
		J	M1	M2	M3	Total	F1	F2	F3	Total			
1	1	.	.	.	.	.	.	.	.	.	138	138	175.8
2	2	.	.	.	.	.	.	.	.	.	124	124	158.0
3	3	.	.	.	.	.	.	.	.	.	493	493	628.0
4	4	.	.	.	.	.	.	.	.	.	762	762	970.7
5	5	.	.	.	.	.	.	.	.	.	992	992	1,263.7
6	6	.	.	.	.	.	.	.	.	.	918	918	1,169.4
7	7	.	.	.	.	.	.	.	.	.	1,665	1,665	2,121.0
8	8	.	.	.	.	.	.	.	.	.	81	81	103.2
Total		.	.	.	.	.	.	.	.	.	5,173	5,173	N/M
Mean		.	.	.	.	.	.	.	.	.	646.6	646.6	823.7
SD		.	.	.	.	.	.	.	.	.	550.2	550.2	700.8

Table A6.74. Number of *Mysis diluviana* captured by life stage/sex (J = juvenile, M = male, F = female, U = unknown) and density estimated from vertical tows with a 1.0-m diameter, 500- $\mu$ m mesh plankton net. See text for explanation of developmental stages of males and females.

Grand Lake, 08/07/13													
Station	Depth (m)	Males					Females				U	Total	Density (ind./m <sup>2</sup> )
		J	M1	M2	M3	Total	F1	F2	F3	Total			
11	28	.	.	.	.	.	.	.	.	.	435	435	554.1
10	48	.	.	.	.	.	.	.	.	.	844	844	1,075.2
12	16	.	.	.	.	.	.	.	.	.	516	516	657.3
13	84	.	.	.	.	.	.	.	.	.	444	444	565.6
9	13	.	.	.	.	.	.	.	.	.	478	478	608.9
14	85	.	.	.	.	.	.	.	.	.	432	432	550.3
15	46	.	.	.	.	.	.	.	.	.	1,045	1,045	1,331.2
16	31	.	.	.	.	.	.	.	.	.	535	535	681.5
Total		.	.	.	.	.	.	.	.	.	4,729	4,729	N/M
Mean		.	.	.	.	.	.	.	.	.	591.1	591.1	753.0
SD		.	.	.	.	.	.	.	.	.	227.7	227.7	290.0

Table A6.75. Number of *Mysis diluviana* captured by life stage/sex (J = juvenile, M = male, F = female, U = unknown) and density estimated from vertical tows with a 1.0-m diameter, 500- $\mu$ m mesh plankton net. See text for explanation of developmental stages of males and females.

Grand Lake, 08/22/14													
Station	Depth (m)	Males					Females				U	Total	Density (ind./m <sup>2</sup> )
		J	M1	M2	M3	Total	F1	F2	F3	Total			
GDL01	35.3	56	44	0	0	44	24	0	0	24	136	260	331
GDL02	46.8	80	64	4	0	68	16	0	0	16	164	328	418
GDL03	31.5	42	34	0	0	34	10	0	0	10	60	146	186
GDL04	83.5	80	96	0	0	96	4	0	0	4	152	332	423
GDL05	26.0	26	32	0	0	32	6	0	0	6	48	112	143
GDL06	84.5	104	180	0	0	180	32	0	0	32	184	500	637
GDL07	48.0	288	196	0	0	196	48	0	0	48	240	772	983
GDL08	24.1	136	68	0	0	68	16	0	0	16	100	320	408
Total		812	714	4	0	718	156	0	0	156	1,084	2,770	N/M
Mean		101.50	89.25	0.50	0.00	89.75	19.50	0.00	0.00	19.50	135.50	346.25	441.08
SD		82.99	64.52	1.41	0.00	64.32	14.76	0.00	0.00	14.76	64.34	209.95	267.45

Table A6.76. Number of *Mysis diluviana* captured by life stage/sex (J = juvenile, M = male, F = female, U = unknown) and density estimated from vertical tows with a 1.0-m diameter, 500- $\mu$ m mesh plankton net. See text for explanation of developmental stages of males and females.

Green Mountain, 07/23/14													
Station	Depth (m)	Males					Females				U	Total	Density (ind./m <sup>2</sup> )
		J	M1	M2	M3	Total	F1	F2	F3	Total			
GRE001	16.9	0	0	0	0	0	0	0	0	0	0	0	0
GRE002	21.2	0	0	0	0	0	0	0	0	0	0	0	0
GRE003	13.7	0	0	0	0	0	0	0	0	0	0	0	0
GRE004	35.2	0	0	0	0	0	0	0	0	0	0	0	0
GRE005	25.3	0	0	0	0	0	0	0	0	0	0	0	0
GRE006	39.0	0	0	0	0	0	0	0	0	0	0	0	0
GRE007	22.4	0	0	0	0	0	0	0	0	0	0	0	0
GRE008	60.5	0	0	0	0	0	0	0	0	0	0	0	0
GRE009	28.6	0	0	0	0	0	0	0	0	0	0	0	0
GRE010	53.0	0	0	0	0	0	0	0	0	0	0	0	0
Total		0	0	0	0	0	0	0	0	0	0	0	N/M
Mean		0	0	0	0	0	0	0	0	0	0	0	0
SD		0	0	0	0	0	0	0	0	0	0	0	0

Table A6.77. Number of *Mysis diluviana* captured by life stage/sex (J = juvenile, M = male, F = female, U = unknown) and density estimated from vertical tows with a 1.0-m diameter, 500- $\mu$ m mesh plankton net. See text for explanation of developmental stages of males and females.

Gross Reservoir, 05/30/14													
Station	Depth (m)	Males					Females				U	Total	Density (ind./m <sup>2</sup> )
		J	M1	M2	M3	Total	F1	F2	F3	Total			
GRO01	20.4	0	0	0	0	0	0	0	0	0	0	0	0
GRO02	21.2	24	0	0	0	0	0	0	0	0	1	25	32
GRO03	55.9	30	0	0	0	0	1	0	0	1	0	31	39
GRO04	82.5	21	0	0	0	0	0	0	0	0	0	21	27
GRO05	49.3	14	0	0	0	0	0	0	0	0	0	14	18
Total		89	0	0	0	0	1	0	0	1	1	91	N/M
Mean		17.80	0.00	0.00	0.00	0.00	0.20	0.00	0.00	0.20	0.20	18.20	23.18
SD		11.50	0.00	0.00	0.00	0.00	0.45	0.00	0.00	0.45	0.45	11.90	15.16

Table A6.78. Number of *Mysis diluviana* captured by life stage/sex (J = juvenile, M = male, F = female, U = unknown) and density estimated from vertical tows with a 1.0-m diameter, 500- $\mu$ m mesh plankton net. See text for explanation of developmental stages of males and females.

Gross Reservoir, 08/28/19													
Station	Depth (m)	Males					Females				U	Total	Density (ind./m <sup>2</sup> )
		J	M1	M2	M3	Total	F1	F2	F3	Total			
GRO01	55.0	72	86	2	0	86	58	0	0	58	99	317	404
GRO02	52.0	46	99	3	0	102	68	0	0	68	78	294	375
GRO03	62.0	40	60	1	0	61	44	0	0	44	46	191	243
GRO04	23.1	12	49	0	0	49	32	0	0	32	37	130	166
GRO05	22.8	3	7	0	0	7	8	0	0	8	4	22	28
Total		173	301	6	0	307	210	0	0	210	264	954	N/M
Mean		34.60	60.20	1.20	0.00	61.40	42.00	0.00	0.00	42.00	52.80	190.80	243.06
SD		27.69	35.80	1.30	0.00	36.98	23.41	0.00	0.00	23.41	36.90	121.21	154.41

Table A6.79. Number of *Mysis diluviana* captured by life stage/sex (J = juvenile, M = male, F = female, U = unknown) and density estimated from vertical tows with a 1.0-m diameter, 500- $\mu$ m mesh plankton net. See text for explanation of developmental stages of males and females.

Homestake Reservoir, 08/31/18													
Station	Depth (m)	Males					Females				U	Total	Density (ind./m <sup>2</sup> )
		J	M1	M2	M3	Total	F1	F2	F3	Total			
HOM001	63.8	0	0	0	0	0	0	0	0	0	0	0	0
HOM002	34.0	0	0	0	0	0	0	0	0	0	0	0	0
HOM003	64.0	0	0	0	0	0	0	0	0	0	0	0	0
HOM004	29.4	0	0	0	0	0	0	0	0	0	0	0	0
HOM005	15.4	0	0	0	0	0	0	0	0	0	0	0	0
Total		0	0	0	0	0	0	0	0	0	0	0	N/M
Mean		0	0	0	0	0	0	0	0	0	0	0	0
SD		0	0	0	0	0	0	0	0	0	0	0	0

Table A6.80. Number of *Mysis diluviana* captured by life stage/sex (J = juvenile, M = male, F = female, U = unknown) and density estimated from vertical tows with a 1.0-m diameter, 500- $\mu$ m mesh plankton net. See text for explanation of developmental stages of males and females.

Horsetooth Reservoir, 10/10/12														
Station	Depth (m)	Males					Females				U	Total	Density (ind./m <sup>2</sup> )	
		J	M1	M2	M3	Total	F1	F2	F3	Total				
HST01	.	.	.	.	.	.	.	.	.	.	.	0	0	0.0
HST02	.	.	.	.	.	.	.	.	.	.	.	3	3	3.8
HST03	.	.	.	.	.	.	.	.	.	.	.	0	0	0.0
HST04	.	.	.	.	.	.	.	.	.	.	.	0	0	0.0
HST05	.	.	.	.	.	.	.	.	.	.	.	0	0	0.0
HST06	.	.	.	.	.	.	.	.	.	.	.	0	0	0.0
HST07	.	.	.	.	.	.	.	.	.	.	.	0	0	0.0
HST08	.	.	.	.	.	.	.	.	.	.	.	.	.	.
HST09	.	.	.	.	.	.	.	.	.	.	.	.	.	.
HST10	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Total		.	.	.	.	.	.	.	.	.	.	3	3	N/M
Mean		.	.	.	.	.	.	.	.	.	.	0.43	0.43	0.55
SD		.	.	.	.	.	.	.	.	.	.	1.13	1.13	1.44

Table A6.81. Number of *Mysis diluviana* captured by life stage/sex (J = juvenile, M = male, F = female, U = unknown) and density estimated from vertical tows with a 1.0-m diameter, 500- $\mu$ m mesh plankton net. See text for explanation of developmental stages of males and females.

Horsetooth Reservoir, 08/02/13													
Station	Depth (m)	Males					Females				U	Total	Density (ind./m <sup>2</sup> )
		J	M1	M2	M3	Total	F1	F2	F3	Total			
HST01	.	.	.	.	.	.	.	.	.	.	9	9	11.46
HST02	.	.	.	.	.	.	.	.	.	.	0	0	0.00
HST03	.	.	.	.	.	.	.	.	.	.	3	3	3.82
HST04	.	.	.	.	.	.	.	.	.	.	0	0	0.00
HST05	.	.	.	.	.	.	.	.	.	.	1	1	1.27
HST06	.	.	.	.	.	.	.	.	.	.	0	0	0.00
HST07	.	.	.	.	.	.	.	.	.	.	1	1	1.27
HST08	.	.	.	.	.	.	.	.	.	.	.	.	.
HST09	.	.	.	.	.	.	.	.	.	.	.	.	.
HST10	.	.	.	.	.	.	.	.	.	.	.	.	.
Total		.	.	.	.	.	.	.	.	.	14	14	N/M
Mean		.	.	.	.	.	.	.	.	.	2.00	2.00	2.55
SD		.	.	.	.	.	.	.	.	.	3.27	3.27	4.16



Table A6.82. Number of *Mysis diluviana* captured by life stage/sex (J = juvenile, M = male, F = female, U = unknown) and density estimated from vertical tows with a 1.0-m diameter, 500- $\mu$ m mesh plankton net. See text for explanation of developmental stages of males and females.

Horsetooth Reservoir, 07/13/15													
Station	Depth (m)	Males					Females				U	Total	Density (ind./m <sup>2</sup> )
		J	M1	M2	M3	Total	F1	F2	F3	Total			
HST01	16.3	0	0	0	0	0	0	0	0	0	0	0	0
HST02	53.2	0	0	0	0	0	1	0	0	1	1	2	3
HST03	27.6	0	0	0	0	0	0	0	0	0	0	0	0
HST04	29.2	0	0	0	0	0	0	0	0	0	0	0	0
HST05	43.2	0	0	0	0	0	0	0	0	0	0	0	0
HST06	51.3	0	1	0	0	1	0	0	0	0	0	1	1
HST07	36.1	0	0	0	0	0	0	0	0	0	0	0	0
HST08	36.2	0	0	0	0	0	0	0	0	0	0	0	0
HST09	55.2	0	0	0	0	0	0	0	0	0	0	0	0
HST10	30.3	0	0	0	0	0	0	0	0	0	0	0	0
Total		0	1	0	0	1	1	0	0	1	1	3	N/M
Mean		0.00	0.10	0.00	0.00	0.10	0.10	0.00	0.00	0.10	0.10	0.30	0.38
SD		0.00	0.32	0.00	0.00	0.32	0.32	0.00	0.00	0.32	0.32	0.67	0.86

Table A6.83. Number of *Mysis diluviana* captured by life stage/sex (J = juvenile, M = male, F = female, U = unknown) and density estimated from vertical tows with a 1.0-m diameter, 500- $\mu$ m mesh plankton net. See text for explanation of developmental stages of males and females.

Horsetooth Reservoir, 06/08/16													
Station	Depth (m)	Males					Females				U	Total	Density (ind./m <sup>2</sup> )
		J	M1	M2	M3	Total	F1	F2	F3	Total			
HST01	.	.	.	.	.	.	.	.	.	.	.	.	.
HST02	.	.	.	.	.	.	.	.	.	.	.	.	.
HST03	.	.	.	.	.	.	.	.	.	.	.	.	.
HST04	52	0	0	0	0	0	0	0	0	0	0	0	0
HST05	46	0	0	0	0	0	0	0	0	0	0	0	0
HST06	26	0	0	0	0	0	0	0	0	0	0	0	0
HST07	61	0	0	0	0	0	0	0	0	0	0	0	0
HST08	38	0	0	0	0	0	0	0	0	0	0	0	0
HST09	50	0	0	0	0	0	0	0	0	0	0	0	0
HST10	48	1	0	0	0	0	0	0	0	0	0	1	1
Total		1	0	0	0	0	0	0	0	0	0	1	N/M
Mean		0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.10	0.13
SD		0.32	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.32	0.40

Table A6.84. Number of *Mysis diluviana* captured by life stage/sex (J = juvenile, M = male, F = female, U = unknown) and density estimated from vertical tows with a 1.0-m diameter, 500- $\mu$ m mesh plankton net. See text for explanation of developmental stages of males and females.

Horsetooth Reservoir, 08/22/17													
Station	Depth (m)	Males					Females				U	Total	Density (ind./m <sup>2</sup> )
		J	M1	M2	M3	Total	F1	F2	F3	Total			
HST01	12	0	0	0	0	0	0	0	0	0	0	0	0
HST02	48	0	0	0	0	0	0	0	0	0	0	0	0
HST03	27	0	0	0	0	0	0	0	0	0	0	0	0
HST04	25	0	0	0	0	0	0	0	0	0	0	0	0
HST05	38	0	0	0	0	0	0	0	0	0	0	0	0
HST06	47	0	0	0	0	0	0	0	0	0	0	0	0
HST07	32	0	0	0	0	0	0	0	0	0	0	0	0
HST08	32	0	0	0	0	0	0	0	0	0	0	0	0
HST09	52	0	0	0	0	0	0	0	0	0	0	0	0
HST10	32	0	0	0	0	0	0	0	0	0	0	0	0
Total		0	0	0	0	0	0	0	0	0	0	0	N/M
Mean		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SD		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00

Table A6.85. Number of *Mysis diluviana* captured by life stage/sex (J = juvenile, M = male, F = female, U = unknown) and density estimated from vertical tows with a 1.0-m diameter, 500- $\mu$ m mesh plankton net. See text for explanation of developmental stages of males and females.

Horsetooth Reservoir, 09/05/18													
Station	Depth (m)	Males					Females				U	Total	Density (ind./m <sup>2</sup> )
		J	M1	M2	M3	Total	F1	F2	F3	Total			
HST01	14	0	0	0	0	0	0	0	0	0	0	0	0
HST02	36	0	0	0	0	0	0	0	0	0	0	0	0
HST03	23	0	0	0	0	0	0	0	0	0	0	0	0
HST04	19	0	0	0	0	0	0	0	0	0	0	0	0
HST05	34	0	0	0	0	0	0	0	0	0	0	0	0
HST06	44	0	0	0	0	0	0	0	0	0	0	0	0
HST07	16	0	0	0	0	0	0	0	0	0	0	0	0
HST08	28	0	0	0	0	0	0	0	0	0	0	0	0
HST09	45	0	0	0	0	0	0	0	0	0	0	0	0
HST10	21	0	0	0	0	0	0	0	0	0	0	0	0
Total		0	0	0	0	0	0	0	0	0	0	0	N/M
Mean		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
SD		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00

Table A6.86. Number of *Mysis diluviana* captured by life stage/sex (J = juvenile, M = male, F = female, U = unknown) and density estimated from vertical tows with a 1.0-m diameter, 500- $\mu$ m mesh plankton net. See text for explanation of developmental stages of males and females.

Jefferson Lake, 08/11/15													
Station	Depth (m)	Males					Females				U	Total	Density (ind./m <sup>2</sup> )
		J	M1	M2	M3	Total	F1	F2	F3	Total			
JEF01	19.6	461	24	1	0	25	18	0	1	19	39	544	693
JEF02	34.1	189	38	1	0	39	28	0	0	28	22	278	354
JEF03	50.2	252	44	1	0	45	40	0	0	40	12	349	445
JEF04	36.8	105	12	0	0	12	8	1	0	9	8	134	171
JEF05	19.5	194	12	0	0	12	8	0	0	8	17	231	294
Total		1,201	130	3	0	133	102	1	1	104	98	1,536	N/M
Mean		240.20	26.00	0.60	0.00	26.60	20.40	0.20	0.20	20.80	19.60	307.20	391.34
SD		134.10	14.70	0.55	0.00	15.18	13.74	0.45	0.45	13.48	12.05	153.69	195.78

Table A6.87. Number of *Mysis diluviana* captured by life stage/sex (J = juvenile, M = male, F = female, U = unknown) and density estimated from vertical tows with a 1.0-m diameter, 500- $\mu$ m mesh plankton net. See text for explanation of developmental stages of males and females.

Jefferson Lake, 06/07/18													
Station	Depth (m)	Males					Females				U	Total	Density (ind./m <sup>2</sup> )
		J	M1	M2	M3	Total	F1	F2	F3	Total			
JEF01	17.2	14	2	0	0	2	2	0	0	2	8	26	33
JEF02	33.5	36	13	0	1	14	7	0	1	8	13	71	90
JEF03	47.6	36	17	0	0	17	8	5	0	13	14	80	102
JEF04	39.5	65	12	0	1	13	3	0	1	4	18	100	127
JEF05	20.1	53	39	0	0	39	4	3	0	7	24	123	157
Total		204	83	0	2	85	24	8	2	34	77	400	N/M
Mean		40.80	16.60	0.00	0.40	17.00	4.80	1.60	0.40	6.80	15.40	80.00	101.91
SD		19.36	13.69	0.00	0.55	13.55	2.59	2.30	0.55	4.21	5.98	36.21	46.13

Table A6.88. Number of *Mysis diluviana* captured by life stage/sex (J = juvenile, M = male, F = female, U = unknown) and density estimated from vertical tows with a 1.0-m diameter, 500- $\mu$ m mesh plankton net. See text for explanation of developmental stages of males and females.

Jefferson Lake, 07/14/18													
Station	Depth (m)	Males					Females				U	Total	Density (ind./m <sup>2</sup> )
		J	M1	M2	M3	Total	F1	F2	F3	Total			
JEF01	17.2	85	3	0	0	3	2	0	0	2	3	93	118
JEF02	33.5	100	23	0	0	23	7	0	0	7	9	139	177
JEF03	48.0	82	67	0	0	67	50	2	1	53	24	226	288
JEF04	38.5	71	24	0	0	24	11	0	0	11	12	118	150
JEF05	19.5	97	18	0	0	18	8	1	0	9	7	131	167
Total		435	135	0	0	135	78	3	1	82	55	707	N/M
Mean		87.00	27.00	0.00	0.00	27.00	15.60	0.60	0.20	16.40	11.00	141.40	180.13
SD		11.77	23.89	0.00	0.00	23.89	19.50	0.89	0.45	20.73	7.97	50.40	64.21

Table A6.89. Number of *Mysis diluviana* captured by life stage/sex (J = juvenile, M = male, F = female, U = unknown) and density estimated from vertical tows with a 1.0-m diameter, 500- $\mu$ m mesh plankton net. See text for explanation of developmental stages of males and females.

Jefferson Lake, 08/11/18													
Station	Depth (m)	Males					Females				U	Total	Density (ind./m <sup>2</sup> )
		J	M1	M2	M3	Total	F1	F2	F3	Total			
JEF01	17.7	56	11	0	0	11	0	0	0	0	19	86	110
JEF02	32.9	82	19	0	0	19	7	0	0	7	7	115	146
JEF03	47.5	47	45	1	0	46	67	0	0	67	23	183	233
JEF04	39.5	139	33	0	0	33	33	0	0	33	20	225	287
JEF05	19.3	98	8	0	0	8	5	0	0	5	38	149	190
Total		422	116	1	0	117	112	0	0	112	107	758	N/M
Mean		84.40	23.20	0.20	0.00	23.40	22.40	0.00	0.00	22.40	21.40	151.60	193.12
SD		36.66	15.56	0.45	0.00	15.92	28.03	0.00	0.00	28.03	11.10	54.83	69.84

Table A6.90. Number of *Mysis diluviana* captured by life stage/sex (J = juvenile, M = male, F = female, U = unknown) and density estimated from vertical tows with a 1.0-m diameter, 500- $\mu$ m mesh plankton net. See text for explanation of developmental stages of males and females.

Jefferson Lake, 09/16/18													
Station	Depth (m)	Males					Females				U	Total	Density (ind./m <sup>2</sup> )
		J	M1	M2	M3	Total	F1	F2	F3	Total			
JEF01	16.0	76	21	8	0	29	30	0	0	30	15	150	191
JEF02	33.5	71	23	0	0	23	22	0	0	22	21	137	175
JEF03	46.9	3	6	1	0	7	8	0	0	8	1	19	24
JEF04	36.5	56	29	8	0	37	43	0	0	43	16	152	194
JEF05	18.6	50	9	0	0	9	11	1	0	12	17	88	112
Total		256	88	17	0	105	114	1	0	115	70	546	N/M
Mean		51.20	17.60	3.40	0.00	21.00	22.80	0.20	0.00	23.00	14.00	109.20	139.11
SD		28.96	9.74	4.22	0.00	12.88	14.31	0.45	0.00	14.11	7.62	56.69	72.22

Table A6.91. Number of *Mysis diluviana* captured by life stage/sex (J = juvenile, M = male, F = female, U = unknown) and density estimated from vertical tows with a 1.0-m diameter, 500- $\mu$ m mesh plankton net. See text for explanation of developmental stages of males and females.

Jefferson Lake, 10/04/18													
Station	Depth (m)	Males					Females				U	Total	Density (ind./m <sup>2</sup> )
		J	M1	M2	M3	Total	F1	F2	F3	Total			
JEF01	14.4	1	3	1	0	4	0	0	0	0	0	5	6
JEF02	31.7	29	22	49	0	71	43	4	0	47	16	163	208
JEF03	46.3	2	1	2	0	3	2	0	0	2	1	8	10
JEF04	32.4	51	27	17	0	44	42	2	0	44	24	163	208
JEF05	18.4	23	8	2	0	10	9	0	0	9	7	49	62
Total		106	61	71	0	132	96	6	0	102	48	388	N/M
Mean		21.20	12.20	14.20	0.00	26.40	19.20	1.20	0.00	20.40	9.0	77.60	98.8
SD		20.79	11.65	20.56	0.00	30.07	21.53	1.7	0.00	23.18	10.26	79.87	101.75

Table A6.92. Number of *Mysis diluviana* captured by life stage/sex (J = juvenile, M = male, F = female, U = unknown) and density estimated from vertical tows with a 1.0-m diameter, 500- $\mu$ m mesh plankton net. See text for explanation of developmental stages of males and females.

Lake Estes, 05/31/14													
Station	Depth (m)	Males					Females				U	Total	Density (ind./m <sup>2</sup> )
		J	M1	M2	M3	Total	F1	F2	F3	Total			
EST01	12.2	2	0	0	0	0	0	0	0	0	0	2	3
EST02	10.5	4	0	0	0	0	0	0	0	0	0	4	5
EST03	12.0	0	0	0	0	0	0	0	0	0	0	0	0
Total		6	0	0	0	0	0	0	0	0	0	6	N/M
Mean		2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.00	2.55
SD		2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.00	2.55

Table A6.93. Number of *Mysis diluviana* captured by life stage/sex (J = juvenile, M = male, F = female, U = unknown) and density estimated from vertical tows with a 1.0-m diameter, 500- $\mu$ m mesh plankton net. See text for explanation of developmental stages of males and females.

Lake Granby, 08/12/10													
Station*	Depth (m)	Males					Females				U	Total	Density (ind./m <sup>2</sup> )
		J	M1	M2	M3	Total	F1	F2	F3	Total			
GR1A	48	.	.	.	.	.	.	.	.	.	2,290	2,290	2,917.2
GR1B	54	.	.	.	.	.	.	.	.	.	191	191	242.7
GR2A	33	.	.	.	.	.	.	.	.	.	1,812	1,812	2,307.6
GR2B	29	.	.	.	.	.	.	.	.	.	112	112	142.7
GR2C	35	.	.	.	.	.	.	.	.	.	379	379	482.8
GR2D	27	.	.	.	.	.	.	.	.	.	179	179	228.0
GR3A	20	.	.	.	.	.	.	.	.	.	730	730	929.3
GR3B	16	.	.	.	.	.	.	.	.	.	79	79	100.6
GR3C	19	.	.	.	.	.	.	.	.	.	1,014	1,014	1,291.7
GR3D	22	.	.	.	.	.	.	.	.	.	641	641	816.6
Total		.	.	.	.	.	.	.	.	.	7,426	7,426	N/M
Mean		.	.	.	.	.	.	.	.	.	742.6	742.6	945.9
SD		.	.	.	.	.	.	.	.	.	761.1	761.1	969.6

\*CPW stations



Table A6.94. Number of *Mysis diluviana* captured by life stage/sex (J = juvenile, M = male, F = female, U = unknown) and density estimated from vertical tows with a 1.0-m diameter, 500- $\mu$ m mesh plankton net. See text for explanation of developmental stages of males and females.

Lake Granby, 08/29/11													
Station*	Depth (m)	Males					Females				U	Total	Density (ind./m <sup>2</sup> )
		J	M1	M2	M3	Total	F1	F2	F3	Total			
GR1A	52	.	.	.	.	.	.	.	.	.	1,133	1,133	1,443.3
GR1B	52	.	.	.	.	.	.	.	.	.	270	270	343.9
GR2A	32	.	.	.	.	.	.	.	.	.	762	762	970.7
GR2B	29	.	.	.	.	.	.	.	.	.	52	52	66.2
GR2C	35	.	.	.	.	.	.	.	.	.	171	171	217.8
GR2D	27	.	.	.	.	.	.	.	.	.	68	68	86.6
GR3A	21	.	.	.	.	.	.	.	.	.	183	183	233.1
GR3B	16	.	.	.	.	.	.	.	.	.	58	58	73.9
GR3C	20	.	.	.	.	.	.	.	.	.	84	84	107.0
GR3D	22	.	.	.	.	.	.	.	.	.	150	150	191.1
Total		.	.	.	.	.	.	.	.	.	2,931	2,931	N/M
Mean		.	.	.	.	.	.	.	.	.	293.1	293.1	373.4
SD		.	.	.	.	.	.	.	.	.	362.3	362.3	461.5

\*CPW stations

Table A6.95. Number of *Mysis diluviana* captured by life stage/sex (J = juvenile, M = male, F = female, U = unknown) and density estimated from vertical tows with a 1.0-m diameter, 500- $\mu$ m mesh plankton net. See text for explanation of developmental stages of males and females.

Lake Granby, 09/18/12													
Station*	Depth (m)	Males					Females				U	Total	Density (ind./m <sup>2</sup> )
		J	M1	M2	M3	Total	F1	F2	F3	Total			
GR1A	49.5	.	.	.	.	.	.	.	.	.	3136	3136	3994.9
GR1B	48.0	.	.	.	.	.	.	.	.	.	356	356	453.5
GR2A	25.0	.	.	.	.	.	.	.	.	.	256	256	326.1
GR2B	21.5	.	.	.	.	.	.	.	.	.	92	92	117.2
GR2C	29.0	.	.	.	.	.	.	.	.	.	424	424	540.1
GR2D	18.5	.	.	.	.	.	.	.	.	.	256	256	326.1
GR3A	14.5	.	.	.	.	.	.	.	.	.	198	198	252.2
GR3B	8.0	.	.	.	.	.	.	.	.	.	15	15	19.1
GR3C	12.0	.	.	.	.	.	.	.	.	.	16	16	20.4
GR3D	13.0	.	.	.	.	.	.	.	.	.	200	200	254.8
Total		.	.	.	.	.	.	.	.	.	4949.0	4949.0	N/M
Mean		.	.	.	.	.	.	.	.	.	494.9	494.9	630.4
SD		.	.	.	.	.	.	.	.	.	937.5	937.5	1194.3

\*CPW stations

Table A6.96. Number of *Mysis diluviana* captured by life stage/sex (J = juvenile, M = male, F = female, U = unknown) and density estimated from vertical tows with a 1.0-m diameter, 500- $\mu$ m mesh plankton net. See text for explanation of developmental stages of males and females.

Lake Granby, 09/04/13													
Station*	Depth (m)	Males					Females				U	Total	Density (ind./m <sup>2</sup> )
		J	M1	M2	M3	Total	F1	F2	F3	Total			
M1	49.2	.	.	.	.	.	.	.	.	.	1059	1059	1349.04
M2	39.0	.	.	.	.	.	.	.	.	.	387	387	492.99
M5	26.1	.	.	.	.	.	.	.	.	.	263	263	335.03
M3	19.2	.	.	.	.	.	.	.	.	.	89	89	113.38
M6	17.5	.	.	.	.	.	.	.	.	.	129	129	164.33
M9	13.2	.	.	.	.	.	.	.	.	.	20	20	25.48
M4	10.6	.	.	.	.	.	.	.	.	.	16	16	20.38
M8	9.0	.	.	.	.	.	.	.	.	.	1	1	1.27
M10	8.9	.	.	.	.	.	.	.	.	.	118	118	150.32
M7	.	.	.	.	.	.	.	.	.	.	.	.	.
Total		.	.	.	.	.	.	.	.	.	2082.00	2082.00	N/M
Mean		.	.	.	.	.	.	.	.	.	231.33	231.33	294.69
SD		.	.	.	.	.	.	.	.	.	335.02	335.02	426.78

\*CPW stations

Table A6.97. Number of *Mysis diluviana* captured by life stage/sex (J = juvenile, M = male, F = female, U = unknown) and density estimated from vertical tows with a 1.0-m diameter, 500- $\mu$ m mesh plankton net. See text for explanation of developmental stages of males and females.

Lake Granby, 08/21/14													
Station	Depth (m)	Males					Females				U	Total	Density (ind./m <sup>2</sup> )
		J	M1	M2	M3	Total	F1	F2	F3	Total			
GRB01	25.2	504	560	0	0	560	88	0	0	88	1,192	2,344	2,986
GRB02	35.5	324	144	0	0	144	72	0	0	72	560	1,100	1,401
GRB03	16.5	44	68	0	0	68	0	0	0	0	208	320	408
GRB04	21.4	32	56	4	0	60	24	0	0	24	156	272	346
GRB05	61.5	1,112	616	24	0	640	432	0	0	432	1,032	3,216	4,097
GRB06	55.0	224	232	0	0	232	168	0	0	168	440	1,064	1,355
GRB07	23.3	8	12	0	0	12	16	0	0	16	64	100	127
GRB08	32.5	128	104	0	0	104	76	0	0	76	224	532	678
GRB09	28.5	52	96	0	0	96	48	0	0	48	148	344	438
GRB10	22.5	64	152	0	0	152	16	0	0	16	240	472	601
Total		2,492	2,040	28	0	2,068	940	0	0	940	4,264	9,764	N/M
Mean		249.20	204.00	2.80	0.00	206.80	94.0	0.00	0.00	94.00	426.40	976.40	1,243.82
SD		341.71	211.48	7.55	0.00	216.44	128.49	0.00	0.00	128.49	391.05	1,025.02	1,305.76

Table A6.98. Number of *Mysis diluviana* captured by life stage/sex (J = juvenile, M = male, F = female, U = unknown) and density estimated from vertical tows with a 1.0-m diameter, 500- $\mu$ m mesh plankton net. See text for explanation of developmental stages of males and females.

Lake Granby, 08/13/15													
Station	Depth (m)	Males					Females				U	Total	Density (ind./m <sup>2</sup> )
		J	M1	M2	M3	Total	F1	F2	F3	Total			
GRB01	22.0	118	18	0	0	18	21	0	0	21	49	206	262
GRB02	33.5	95	29	0	0	29	27	0	0	27	30	181	231
GRB03	16.1	110	33	0	0	33	26	0	0	26	59	228	290
GRB04	22.0	106	20	0	0	20	29	0	0	29	36	191	243
GRB05	55.0	96	38	0	0	38	25	0	0	25	35	194	247
GRB06	55.9	150	51	0	0	51	46	0	0	46	42	289	368
GRB07	31.4	10	12	0	0	12	8	0	0	8	12	42	54
GRB08	36.2	112	62	0	0	62	32	0	0	32	38	244	311
GRB09	27.8	64	48	0	0	48	33	0	0	33	25	170	217
GRB10	22.9	72	53	0	0	53	40	0	0	40	26	191	243
Total		933	364	0	0	364	287	0	0	287	352	1,936	N/M
Mean		93.30	36.40	0.00	0.00	36.40	28.70	0.00	0.00	28.70	35.20	193.60	246.62
SD		37.82	16.83	0.00	0.00	16.83	10.37	0.00	0.00	10.37	13.19	63.85	81.34

Table A6.99. Number of *Mysis diluviana* captured by life stage/sex (J = juvenile, M = male, F = female, U = unknown) and density estimated from vertical tows with a 1.0-m diameter, 500- $\mu$ m mesh plankton net. See text for explanation of developmental stages of males and females.

Lake Granby, 09/07/16													
Station*	Depth (m)	Males					Females				U	Total	Density (ind./m <sup>2</sup> )
		J	M1	M2	M3	Total	F1	F2	F3	Total			
M1	55.0	.	.	.	.	.	.	.	.	.	1,824	1,824	2323.57
M2	38.0	.	.	.	.	.	.	.	.	.	221	221	281.53
M3	30.0	.	.	.	.	.	.	.	.	.	993	993	1264.97
M4	36.0	.	.	.	.	.	.	.	.	.	102	102	129.94
M5	34.0	.	.	.	.	.	.	.	.	.	505	505	643.31
M6	25.0	.	.	.	.	.	.	.	.	.	148	148	188.54
M7	24.5	.	.	.	.	.	.	.	.	.	811	811	1033.12
M8	11.5	.	.	.	.	.	.	.	.	.	86	86	109.55
M9	20.0	.	.	.	.	.	.	.	.	.	241	241	307.01
M10	17.1	.	.	.	.	.	.	.	.	.	360	360	458.60
Total		.	.	.	.	.	.	.	.	.	5291.00	5291.00	N/M
Mean		.	.	.	.	.	.	.	.	.	529.10	529.10	674.01
SD		.	.	.	.	.	.	.	.	.	547.98	547.98	698.06

\*CPW stations

Table A6.100. Number of *Mysis diluviana* captured by life stage/sex (J = juvenile, M = male, F = female, U = unknown) and density estimated from vertical tows with a 1.0-m diameter, 500- $\mu$ m mesh plankton net. See text for explanation of developmental stages of males and females.

Lake Granby, 09/18/17													
Station*	Depth (m)	Males					Females				U	Total	Density (ind./m <sup>2</sup> )
		J	M1	M2	M3	Total	F1	F2	F3	Total			
M1	49.5	.	.	.	.	.	.	.	.	.	1068	1068	1360.51
M2	53.7	.	.	.	.	.	.	.	.	.	240	240	305.73
M3	32.0	.	.	.	.	.	.	.	.	.	454	454	578.34
M4	27.9	.	.	.	.	.	.	.	.	.	109	109	138.85
M5	34.7	.	.	.	.	.	.	.	.	.	291	291	370.70
M6	26.3	.	.	.	.	.	.	.	.	.	356	356	453.50
M7	19.9	.	.	.	.	.	.	.	.	.	302	302	384.71
M8	15.1	.	.	.	.	.	.	.	.	.	43	43	54.78
M9	19.1	.	.	.	.	.	.	.	.	.	116	116	147.77
M10	21.5	.	.	.	.	.	.	.	.	.	337	337	429.30
Total		.	.	.	.	.	.	.	.	.	3316.00	3316.00	N/M
Mean		.	.	.	.	.	.	.	.	.	331.60	331.60	422.42
SD		.	.	.	.	.	.	.	.	.	288.32	288.32	367.28

\*CPW stations

Table A6.101. Number of *Mysis diluviana* captured by life stage/sex (J = juvenile, M = male, F = female, U = unknown) and density estimated from vertical tows with a 1.0-m diameter, 500- $\mu$ m mesh plankton net. See text for explanation of developmental stages of males and females.

Lake Granby, 09/12/18													
Station*	Depth (m)	Males					Females				U	Total	Density (ind./m <sup>2</sup> )
		J	M1	M2	M3	Total	F1	F2	F3	Total			
M1	58.0	.	.	.	.	.	.	.	.	.	1064	1064	1355.4
M2	46.0	.	.	.	.	.	.	.	.	.	237	237	301.9
M3	35.0	.	.	.	.	.	.	.	.	.	366	366	466.2
M4	31.5	.	.	.	.	.	.	.	.	.	293	293	373.2
M5	35.0	.	.	.	.	.	.	.	.	.	442	442	563.1
M6	20.5	.	.	.	.	.	.	.	.	.	293	293	373.2
M7	23.0	.	.	.	.	.	.	.	.	.	354	354	451.0
M8	12.0	.	.	.	.	.	.	.	.	.	66	66	84.1
M9	16.5	.	.	.	.	.	.	.	.	.	144	144	183.4
M10	16.0	.	.	.	.	.	.	.	.	.	369	369	470.1
Total		.	.	.	.	.	.	.	.	.	3628	3628	N/M
Mean		.	.	.	.	.	.	.	.	.	362.8	362.8	462.2
SD		.	.	.	.	.	.	.	.	.	270.7	270.7	344.9

\*CPW stations



Table A6.102. Number of *Mysis diluviana* captured by life stage/sex (J = juvenile, M = male, F = female, U = unknown) and density estimated from vertical tows with a 1.0-m diameter, 500- $\mu$ m mesh plankton net. See text for explanation of developmental stages of males and females.

Lake Granby, 09/25/19													
Station*	Depth (m)	Males					Females				U	Total count	Density (ind./m <sup>2</sup> )
		J	M1	M2	M3	Total	F1	F2	F3	Total			
M1	59.8	36	36	22	0	58	82	0	0	82	26	202	257
M2	47.9	12	18	8	0	26	35	0	0	35	11	84	107
M3	28.5	88	44	0	0	44	80	0	0	80	56	268	341
M4	32.0	48	368	128	0	496	456	8	0	464	152	1,160	1,478
M5	36.7	14	22	12	0	34	36	0	0	36	8	92	117
M6	28.5	4	88	60	0	148	88	0	0	88	4	244	311
M7	24.1	32	22	2	0	24	54	0	0	54	24	134	171
M8	15.0	54	12	0	0	12	18	0	0	18	32	116	148
M9	18.0	29	9	1	0	10	12	0	0	12	12	63	80
M10	18.0	68	164	48	4	216	164	0	0	164	156	604	769
Total		385	783	281	4	1068	1,025	8	0	1033	481	2,967	N/M
Mean		38.50	78.30	28.1	0.40	106.8	102.50	0.80	0.00	103.3	48.10	296.70	377.96
SD		26.42	112.30	40.95	1.26	152.2	131.88	2.53	0.00	134.3	57.79	342.08	435.77

\*CPW stations

Table A6.103. Number of *Mysis diluviana* captured by life stage/sex (J = juvenile, M = male, F = female, U = unknown) and density estimated from vertical tows with a 1.0-m diameter, 500- $\mu$ m mesh plankton net. See text for explanation of developmental stages of males and females.

Lower Big Creek Lake, 09/09/15													
Station	Depth (m)	Males					Females				U	Total	Density (ind./m <sup>2</sup> )
		J	M1	M2	M3	Total	F1	F2	F3	Total			
BCL01	15.4	0	0	0	0	0	0	0	0	0	0	0	0
BCL02	17.8	0	0	0	0	0	0	0	0	0	0	0	0
BCL03	16.7	0	0	0	0	0	0	0	0	0	0	0	0
BCL04	13.0	1	3	0	0	3	0	0	0	0	0	4	5
BLC05	12.7	1	2	1	0	3	3	0	0	3	0	7	9
Total		2	5	1	0	6	3	0	0	3	0	11	N/M
Mean		0.40	1.00	0.20	0.00	1.20	0.60	0.00	0.00	0.60	0.00	2.20	2.80
SD		0.55	1.41	0.45	0.00	1.64	1.34	0.00	0.00	1.34	0.00	3.19	4.07

Table A6.104. Number of *Mysis diluviana* captured by life stage/sex (J = juvenile, M = male, F = female, U = unknown) and density estimated from vertical tows with a 1.0-m diameter, 500- $\mu$ m mesh plankton net. See text for explanation of developmental stages of males and females.

Lower Big Creek Lake, 09/04/18													
Station	Depth (m)	Males					Females				U	Total	Density (ind./m <sup>2</sup> )
		J	M1	M2	M3	Total	F1	F2	F3	Total			
BCL01	16.9	308	128	0	0	128	64	0	0	64	56	556	177
BCL02	17.1	3	0	0	0	0	0	0	0	0	0	3	4
BCL03	15.5	9	0	0	0	0	1	0	0	1	1	11	14
BCL04	11.2	127	22	0	0	22	17	0	0	17	4	170	217
BLC05	14.9	268	38	0	0	38	13	0	0	13	26	345	439
Total		715	188	0	0	188	95	0	0	95	87	1,085	N/M
Mean		143.00	37.60	0.00	0.00	37.60	19.00	0.00	0.00	19.00	17.40	217.00	276.43
SD		142.01	53.02	0.00	0.00	53.02	26.22	0.00	0.00	26.22	24.06	235.45	299.94

Table A6.105. Number of *Mysis diluviana* captured by life stage/sex (J = juvenile, M = male, F = female, U = unknown) and density estimated from vertical tows with a 1.0-m diameter, 500- $\mu$ m mesh plankton net. See text for explanation of developmental stages of males and females.

Lower Big Creek Lake, 07/24/19													
Station	Depth (m)	Males					Females				U	Total	Density (ind./m <sup>2</sup> )
		J	M1	M2	M3	Total	F1	F2	F3	Total			
BCL01	11.6	322	25	0	0	25	37	0	0	37	34	418	532
BCL02	23.5	107	6	0	0	6	27	0	0	27	6	146	186
BCL03	18.0	108	8	0	0	8	40	1	0	41	2	159	203
BCL04	12.0	199	0	0	0	0	0	0	0	0	3	202	257
BLC05	15.5	90	5	0	0	5	15	0	0	15	18	118	150
Total		826	44	0	0	44	119	1	0	120	53	1,043	N/M
Mean		165.20	8.80	0.00	0.00	8.80	23.80	0.20	0.00	24.0	10.60	208.60	265.73
SD		97.52	9.52	0.00	0.00	9.52	16.51	0.45	0.00	16.76	13.30	120.91	154.03

Table A6.106. Number of *Mysis diluviana* captured by life stage/sex (J = juvenile, M = male, F = female, U = unknown) and density estimated from vertical tows with a 1.0-m diameter, 500- $\mu$ m mesh plankton net. See text for explanation of developmental stages of males and females.

Lower Twin Lake, 05/27/14													
Station	Depth (m)	Males					Females				U	Total	Density (ind./m <sup>2</sup> )
		J	M1	M2	M3	Total	F1	F2	F3	Total			
LTL01	20.5	14	0	0	0	0	5	0	0	5	1	20	25
LTL02	23.8	52	1	0	0	1	4	1	0	5	4	62	79
LTL03	20.5	202	3	2	0	5	13	0	7	20	9	236	301
LTL04	15.8	18	0	0	0	0	2	2	0	4	2	24	31
LTL05	12.3	18	0	1	0	1	4	0	1	5	1	25	32
LTL06	23.7	28	0	0	0	0	5	0	0	5	6	39	50
LTL07	11.5	18	0	0	0	0	2	1	1	4	1	23	29
Total		350	4	3	0	7	35	4	9	48	24	429	N/M
Mean		50.0	0.57	0.43	0.00	1.00	5.00	0.57	1.29	6.86	3.43	61.29	78.07
SD		68.26	1.13	0.79	0.00	1.83	3.74	0.79	2.56	5.81	3.10	78.42	99.90

Table A6.107. Number of *Mysis diluviana* captured by life stage/sex (J = juvenile, M = male, F = female, U = unknown) and density estimated from vertical tows with a 1.0-m diameter, 500- $\mu$ m mesh plankton net. See text for explanation of developmental stages of males and females.

Lower Twin Lake, 06/22/14													
Station	Depth (m)	Males					Females				U	Total	Density (ind./m <sup>2</sup> )
		J	M1	M2	M3	Total	F1	F2	F3	Total			
LTL01	21.2	46	6	1	0	7	11	0	0	11	1	65	83
LTL02	27.7	20	1	0	0	1	3	0	0	3	0	24	31
LTL03	23.8	26	0	0	0	0	1	0	0	1	2	29	37
LTL04	19.5	66	1	0	0	1	2	0	0	2	0	69	88
LTL05	15.8	14	1	0	0	1	3	0	0	3	2	20	8
LTL06	27.4	52	4	0	0	4	4	0	1	5	1	62	79
LTL07	15.5	25	3	0	0	3	5	0	0	5	2	35	45
Total		249	16	1	0	17	29	0	1	30	8	304	N/M
Mean		35.57	2.29	0.14	0.00	2.43	4.14	0.00	0.14	4.29	1.14	43.43	52.78
SD		19.22	2.14	0.38	0.00	2.44	3.29	0.00	0.38	3.30	0.90	21.09	30.74

Table A6.108. Number of *Mysis diluviana* captured by life stage/sex (J = juvenile, M = male, F = female, U = unknown) and density estimated from vertical tows with a 1.0-m diameter, 500- $\mu$ m mesh plankton net. See text for explanation of developmental stages of males and females.

Lower Twin Lake, 07/22/14													
Station	Depth (m)	Males					Females				U	Total	Density (ind./m <sup>2</sup> )
		J	M1	M2	M3	Total	F1	F2	F3	Total			
LTL01	24.3	70	2	0	0	2	0	0	0	0	3	75	96
LTL02	27.8	58	13	0	0	13	17	0	1	18	4	93	118
LTL03	24.1	86	4	0	0	4	0	0	3	3	10	103	131
LTL04	20.0	55	1	0	0	1	0	0	1	1	2	59	75
LTL05	16.1	20	0	0	0	0	1	0	0	1	1	22	28
LTL06	27.6	54	5	0	0	5	15	0	3	18	0	77	98
LTL07	15.7	30	0	0	0	0	0	0	0	0	2	32	41
Total		373	25	0	0	25	33	0	8	41	22	461	N/M
Mean		53.29	3.57	0.00	0.00	3.57	4.71	0.00	1.14	5.86	3.14	65.86	83.89
SD		22.46	4.58	0.00	0.00	4.58	7.74	0.00	1.35	8.36	3.29	30.11	38.36

Table A6.109. Number of *Mysis diluviana* captured by life stage/sex (J = juvenile, M = male, F = female, U = unknown) and density estimated from vertical tows with a 1.0-m diameter, 500- $\mu$ m mesh plankton net. See text for explanation of developmental stages of males and females.

Lower Twin Lake, 08/19/14													
Station	Depth (m)	Males					Females				U	Total	Density (ind./m <sup>2</sup> )
		J	M1	M2	M3	Total	F1	F2	F3	Total			
LTL01	23.1	66	7	0	0	7	4	0	0	4	27	104	132
LTL02	26.8	29	10	0	0	10	11	0	0	11	29	79	101
LTL03	23.0	26	9	0	0	9	7	0	0	7	13	55	70
LTL04	18.6	28	5	0	0	5	0	0	0	0	18	51	65
LTL05	14.8	39	6	0	0	6	0	0	0	0	15	60	76
LTL06	26.5	42	9	0	0	9	16	0	0	16	13	80	102
LTL07	14.4	28	4	0	0	4	0	0	0	0	4	36	46
Total		258	50	0	0	50	38	0	0	38	119	465	N/M
Mean		36.86	7.14	0.00	0.00	7.14	5.43	0.00	0.00	5.43	17.00	66.43	84.62
SD		14.24	2.27	0.00	0.00	2.27	6.27	0.00	0.00	6.27	8.66	22.69	28.91

Table A6.110. Number of *Mysis diluviana* captured by life stage/sex (J = juvenile, M = male, F = female, U = unknown) and density estimated from vertical tows with a 1.0-m diameter, 500- $\mu$ m mesh plankton net. See text for explanation of developmental stages of males and females.

Lower Twin Lake, 09/25/14													
Station	Depth (m)	Males					Females				U	Total	Density (ind./m <sup>2</sup> )
		J	M1	M2	M3	Total	F1	F2	F3	Total			
LTL01	40.0	13	5	0	0	5	10	0	0	10	12	40	51
LTL02	27.5	13	18	3	0	21	30	0	0	30	17	81	103
LTL03	17.0	2	3	0	0	3	6	0	0	6	6	17	22
LTL04	19.8	0	7	0	0	7	4	0	0	4	4	15	19
LTL05	16.1	5	19	0	0	19	8	0	0	8	16	48	61
LTL06	27.2	10	15	0	0	15	16	0	0	16	14	55	70
LTL07	15.4	0	5	0	0	5	2	0	0	2	1	8	10
Total		43	72	3	0	75	76	0	0	76	70	264	N/M
Mean		6.14	10.29	0.43	0.00	10.71	10.86	0.00	0.00	10.86	10.00	37.71	48.04
SD		5.81	6.80	1.13	0.00	7.43	9.58	0.00	0.00	9.58	6.30	26.18	33.35

Table A6.111. Number of *Mysis diluviana* captured by life stage/sex (J = juvenile, M = male, F = female, U = unknown) and density estimated from vertical tows with a 1.0-m diameter, 500- $\mu$ m mesh plankton net. See text for explanation of developmental stages of males and females.

Lower Twin Lake, 10/20/14													
Station	Depth (m)	Males					Females				U	Total	Density (ind./m <sup>2</sup> )
		J	M1	M2	M3	Total	F1	F2	F3	Total			
LTL01	24.3	4	3	17	0	20	25	4	0	29	12	65	83
LTL02	28.0	11	3	30	0	33	43	6	0	49	11	104	132
LTL03	23.7	1	1	7	0	8	9	0	0	9	5	23	29
LTL04	20.0	3	4	10	0	5	20	0	0	20	8	36	46
LTL05	15.8	37	36	67	0	103	83	0	0	83	59	282	359
LTL06	27.5	3	0	10	0	10	33	0	0	33	1	47	60
LTL07	15.3	1	3	12	0	15	31	1	0	32	5	53	68
Total		60	50	144	0	194	244	11	0	255	101	610	N/M
Mean		8.57	7.14	20.57	0.00	27.71	34.86	1.57	0.00	36.43	14.43	87.14	111.01
SD		12.99	12.80	22.40	0.00	34.49	23.77	2.44	0.00	23.93	20.02	89.68	114.24



Table A6.112. Number of *Mysis diluviana* captured by life stage/sex (J = juvenile, M = male, F = female, U = unknown) and density estimated from vertical tows with a 1.0-m diameter, 500- $\mu$ m mesh plankton net. See text for explanation of developmental stages of males and females.

Lower Twin Lake, 11/21/14													
Station	Depth (m)	Males					Females				U	Total	Density (ind./m <sup>2</sup> )
		J	M1	M2	M3	Total	F1	F2	F3	Total			
LTL01	24.5	0	0	7	0	7	5	0	0	5	3	15	19
LTL02	28.3	0	0	16	0	16	4	2	0	6	1	23	29
LTL03	24.8	1	0	17	0	17	5	3	0	8	6	32	41
LTL04	20.5	0	0	2	0	2	29	14	0	43	17	62	79
LTL05	16.6	3	0	3	0	3	10	6	0	16	5	27	34
LTL06	28.0	0	0	29	0	29	18	7	0	25	9	63	80
LTL07	15.9	3	0	8	0	8	2	0	0	2	5	18	23
Total		7	0	82	0	82	73	32	0	105	46	240	N/M
Mean		1.00	0.00	11.71	0.00	11.71	10.43	4.57	0.00	15.00	6.57	34.29	43.68
SD		1.41	0.00	9.59	0.00	9.59	9.78	4.96	0.00	14.63	5.22	20.06	25.56

Table A6.113. Number of *Mysis diluviana* captured by life stage/sex (J = juvenile, M = male, F = female, U = unknown) and density estimated from vertical tows with a 1.0-m diameter, 500- $\mu$ m mesh plankton net. See text for explanation of developmental stages of males and females.

Mt. Elbert Forebay, 09/08/15													
Station	Depth (m)	Males					Females				U	Total	Density (ind./m <sup>2</sup> )
		J	M1	M2	M3	Total	F1	F2	F3	Total			
MEF01	9.1	6	15	0	0	15	1	0	0	1	8	30	38
MEF02	15.8	11	5	0	0	5	0	0	0	0	2	18	23
MEF03	15.9	14	18	0	0	18	0	0	0	0	22	54	69
Total		31	38	0	0	38	1	0	0	1	32	102	N/M
Mean		10.33	12.67	0.00	0.00	12.67	0.33	0.00	0.00	0.33	10.67	34.00	43.31
SD		4.04	6.81	0.00	0.00	6.81	0.58	0.00	0.00	0.58	10.26	18.33	23.35

Table A6.114. Number of *Mysis diluviana* captured by life stage/sex (J = juvenile, M = male, F = female, U = unknown) and density estimated from horizontal tows with a 0.5-m diameter, 500- $\mu$ m mesh plankton net. See text for explanation of developmental stages of males and females.

Pass Lake, 08/12/15													
Station	Depth (m)	Males					Females				U	Total	Density (ind./m <sup>2</sup> )
		J	M1	M2	M3	Total	F1	F2	F3	Total			
Tow#1	3.0	0	0	0	0	0	0	0	0	0	0	0	0
Tow#1	3.0	0	0	0	0	0	0	0	0	0	0	0	0
Total		0	0	0	0	0	0	0	0	0	0	0	N/M
Mean		0	0	0	0	0	0	0	0	0	0	0	0
SD		0	0	0	0	0	0	0	0	0	0	0	0

Table A6.115. Number of *Mysis diluviana* captured by life stage/sex (J = juvenile, M = male, F = female, U = unknown) and density estimated from vertical tows with a 1.0-m diameter, 500- $\mu$ m mesh plankton net. See text for explanation of developmental stages of males and females.

Pinewood Reservoir, 05/01/14													
Station	Depth (m)	Males					Females				U	Total	Density (ind./m <sup>2</sup> )
		J	M1	M2	M3	Total	F1	F2	F3	Total			
PWR01	17.7	11	0	0	0	0	5	1	1	7	0	18	23
PWR02	11.5	0	0	1	0	1	0	0	0	0	0	1	1
Total		11	0	1	0	1	5	1	1	7	0	19	N/M
Mean		5.50	0.00	0.50	0.00	0.50	2.50	0.50	0.50	3.50	0.00	9.50	12.10
SD		7.78	0.00	0.71	0.000	0.71	3.54	0.71	0.71	4.95	0.00	12.02	15.31

Table A6.116. Number of *Mysis diluviana* captured by life stage/sex (J = juvenile, M = male, F = female, U = unknown) and density estimated from vertical tows with a 1.0-m diameter, 500- $\mu$ m mesh plankton net. See text for explanation of developmental stages of males and females.

Pueblo Reservoir, 10/23//14													
Station	Depth (m)	Males					Females				U	Total	Density (ind./m <sup>2</sup> )
		J	M1	M2	M3	Total	F1	F2	F3	Total			
PUE01	32.2	0	0	0	0	0	0	0	0	0	0	0	0
PUE02	21.9	0	0	0	0	0	0	0	0	0	0	0	0
PUE03	25.3	0	0	0	0	0	0	0	0	0	0	0	0
PUE04	12.3	0	0	0	0	0	0	0	0	0	0	0	0
PUE05	17.9	0	0	0	0	0	0	0	0	0	0	0	0
PUE06	17.1	0	0	0	0	0	0	0	0	0	0	0	0
PUE07	15.2	0	0	0	0	0	0	0	0	0	0	0	0
PUE08	13.1	0	0	0	0	0	0	0	0	0	0	0	0
PUE09	10.2	0	0	0	0	0	0	0	0	0	0	0	0
PUE010	31.6	0	0	0	0	0	0	0	0	0	0	0	0
Total		0	0	0	0	0	0	0	0	0	0	0	N/M
Mean		0	0	0	0	0	0	0	0	0	0	0	0
SD		0	0	0	0	0	0	0	0	0	0	0	0

Table A6.117. Number of *Mysis diluviana* captured by life stage/sex (J = juvenile, M = male, F = female, U = unknown) and density estimated from vertical tows with a 1.0-m diameter, 500- $\mu$ m mesh plankton net. See text for explanation of developmental stages of males and females.

Ruedi Reservoir, 6/25/14													
Station	Depth (m)	Males					Females				U	Total	Density (ind./m <sup>2</sup> )
		J	M1	M2	M3	Total	F1	F2	F3	Total			
RUE01	45.9	1,195	61	3	0	64	40	6	4	50	60	1,369	1,744
RUE02	44.1	178	21	0	0	21	11	0	2	13	16	228	290
RUE03	66.0	67	14	0	0	14	5	2	1	8	8	97	124
RUE04	30.2	204	23	1	0	24	17	2	0	19	16	263	335
RUE05	21.3	123	10	0	0	10	5	0	1	6	3	142	181
RUE06	37.8	40	4	0	0	4	3	0	0	3	4	51	65
RUE07	21.8	102	1	0	0	1	3	0	0	3	9	115	146
RUE08	21.5	30	1	0	0	1	3	0	0	4	1	36	46
RUE09	31.0	12	0	0	0	0	3	1	0	3	2	17	22
RUE010	21.5	12	2	0	0	2	11	0	0	11	2	27	34
Total		1,963	137	4	0	141	101	11	8	120	121	2,345	N/M
Mean		196.30	13.70	0.40	0.00	14.10	10.10	1.10	0.80	12.00	12.10	234.50	298.73
SD		357.27	18.66	0.97	0.00	19.56	11.53	1.91	1.32	14.35	17.72	407.31	518.87

Table A6.118. Number of *Mysis diluviana* captured by life stage/sex (J = juvenile, M = male, F = female, U = unknown) and density estimated from vertical tows with a 1.0-m diameter, 500- $\mu$ m mesh plankton net. See text for explanation of developmental stages of males and females.

Shadow Mountain Reservoir, 08/22/14													
Station	Depth (m)	Males					Females				U	Total	Density (ind./m <sup>2</sup> )
		J	M1	M2	M3	Total	F1	F2	F3	Total			
SHA01	9.5	2	29	0	0	29	3	0	0	3	34	68	87
Total		2	29	0	0	29	3	0	0	3	34	68	N/M
Mean		2.00	29.00	0.00	0.00	29.00	3.00	0.00	0.00	3.00	34.00	68.00	82.62
SD		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Table A6.119. Number of *Mysis diluviana* captured by life stage/sex (J = juvenile, M = male, F = female, U = unknown) and density estimated from vertical tows with a 1.0-m diameter, 500- $\mu$ m mesh plankton net. See text for explanation of developmental stages of males and females.

Stillwater Reservoir, 07/16/15													
Station	Depth (m)	Males					Females				U	Total	Density (ind./m <sup>2</sup> )
		J	M1	M2	M3	Total	F1	F2	F3	Total			
STI001	15.8	0	0	0	0	0	0	0	0	0	0	0	0
STI002	14.9	0	0	0	0	0	0	0	0	0	0	0	0
STI003	14.9	0	0	0	0	0	0	0	0	0	0	0	0
STI004	13.7	0	0	0	0	0	0	0	0	0	0	0	0
STI005	10.7	0	0	0	0	0	0	0	0	0	0	0	0
Total		0	0	0	0	0	0	0	0	0	0	0	N/M
Mean		0	0	0	0	0	0	0	0	0	0	0	0
SD		0	0	0	0	0	0	0	0	0	0	0	0

Table A6.120. Number of *Mysis diluviana* captured by life stage/sex (J = juvenile, M = male, F = female, U = unknown) and density estimated from vertical tows with a 1.0-m diameter, 500- $\mu$ m mesh plankton net. See text for explanation of developmental stages of males and females.

Strontia Springs, 07/25/18													
Station	Depth (m)	Males					Females				U	Total	Density (ind./m <sup>2</sup> )
		J	M1	M2	M3	Total	F1	F2	F3	Total			
STR01	60.2	0	0	0	0	0	0	0	0	0	0	0	0
STR02	49.1	0	0	0	0	0	0	0	0	0	0	0	0
STR03	36.1	0	0	0	0	0	0	0	0	0	0	0	0
Total		0	0	0	0	0	0	0	0	0	0	0	N/M
Mean		0	0	0	0	0	0	0	0	0	0	0	0
SD		0	0	0	0	0	0	0	0	0	0	0	0

Table A6.121. Number of *Mysis diluviana* captured by life stage/sex (J = juvenile, M = male, F = female, U = unknown) and density estimated from vertical tows with a 1.0-m diameter, 500- $\mu$ m mesh plankton net. See text for explanation of developmental stages of males and females.

Taylor Park Reservoir, 06/14/10													
Station*	Depth (m)	Males					Females				U	Total	Density (ind./m <sup>2</sup> )
		J	M1	M2	M3	Total	F1	F2	F3	Total			
TP1A	38.0	.	.	.	.	.	.	.	.	.	131	131	166.2
TP1B	40.0	.	.	.	.	.	.	.	.	.	48	48	60.5
TP2A	25.0	.	.	.	.	.	.	.	.	.	122	122	155.4
TP2B	29.5	.	.	.	.	.	.	.	.	.	123	123	156.7
TP2C	18.0	.	.	.	.	.	.	.	.	.	49	49	61.8
TP2D	24.0	.	.	.	.	.	.	.	.	.	89	89	112.7
TP3A	10.0	.	.	.	.	.	.	.	.	.	163	163	207.6
TP3B	9.1	.	.	.	.	.	.	.	.	.	198	198	252.2
TP3C	13.0	.	.	.	.	.	.	.	.	.	58	58	73.9
TP3D	10.0	.	.	.	.	.	.	.	.	.	78	78	99.4
Total		.	.	.	.	.	.	.	.	.	1057.0	1057.0	N/M
Mean		.	.	.	.	.	.	.	.	.	192.2	192.2	134.6
SD		.	.	.	.	.	.	.	.	.	50.5	50.5	64.4

\*CPW stations

Table A6.122. Number of *Mysis diluviana* captured by life stage/sex (J = juvenile, M = male, F = female, U = unknown) and density estimated from vertical tows with a 1.0-m diameter, 500- $\mu$ m mesh plankton net. See text for explanation of developmental stages of males and females.

Taylor Park Reservoir, 07/12/10													
Station*	Depth (m)	Males					Females				U	Total	Density (ind./m <sup>2</sup> )
		J	M1	M2	M3	Total	F1	F2	F3	Total			
TP1A	38.0	.	.	.	.	.	.	.	.	.	282	282	358.6
TP1B	40.0	.	.	.	.	.	.	.	.	.	86	86	108.9
TP2A	25.0	.	.	.	.	.	.	.	.	.	133	133	169.4
TP2B	29.5	.	.	.	.	.	.	.	.	.	123	123	156.7
TP2C	18.0	.	.	.	.	.	.	.	.	.	262	262	333.8
TP2D	24.0	.	.	.	.	.	.	.	.	.	138	138	175.2
TP3A	10.0	.	.	.	.	.	.	.	.	.	194	194	247.1
TP3B	9.1	.	.	.	.	.	.	.	.	.	398	398	506.4
TP3C	13.0	.	.	.	.	.	.	.	.	.	226	226	287.3
TP3D	10.0	.	.	.	.	.	.	.	.	.	110	110	140.1
Total		.	.	.	.	.	.	.	.	.	1949.5	1949.5	N/M
Mean		.	.	.	.	.	.	.	.	.	354.5	354.5	248.3
SD		.	.	.	.	.	.	.	.	.	97.4	97.4	124.1

\*CPW stations

Table A6.123. Number of *Mysis diluviana* captured by life stage/sex (J = juvenile, M = male, F = female, U = unknown) and density estimated from vertical tows with a 1.0-m diameter, 500- $\mu$ m mesh plankton net. See text for explanation of developmental stages of males and females.

Taylor Park Reservoir, 08/19/12													
Station*	Depth (m)	Males					Females				U	Total	Density (ind./m <sup>2</sup> )
		J	M1	M2	M3	Total	F1	F2	F3	Total			
TP1A	24.0	.	.	.	.	.	.	.	.	.	232	232	295.5
TP1B	36.0	.	.	.	.	.	.	.	.	.	226	226	287.9
TP2A	21.0	.	.	.	.	.	.	.	.	.	266	266	338.9
TP2B	24.0	.	.	.	.	.	.	.	.	.	313	313	398.7
TP2C	13.0	.	.	.	.	.	.	.	.	.	221	221	281.5
TP2D	19.0	.	.	.	.	.	.	.	.	.	286	286	364.3
TP3A	.	.	.	.	.	.	.	.	.	.	.	.	.
TP3B	.	.	.	.	.	.	.	.	.	.	.	.	.
TP3C	.	.	.	.	.	.	.	.	.	.	.	.	.
TP3D	.	.	.	.	.	.	.	.	.	.	.	.	.
Total		.	.	.	.	.	.	.	.	.	1544.0	1544.0	N/M
Mean		.	.	.	.	.	.	.	.	.	257.3	257.3	327.8
SD		.	.	.	.	.	.	.	.	.	37.3	37.3	47.5

\*CPW stations



Table A6.124. Number of *Mysis diluviana* captured by life stage/sex (J = juvenile, M = male, F = female, U = unknown) and density estimated from vertical tows with a 1.0-m diameter, 500- $\mu$ m mesh plankton net. See text for explanation of developmental stages of males and females.

Taylor Park Reservoir, 08/11/13													
Station*	Depth (m)	Males					Females				U	Total	Density (ind./m <sup>2</sup> )
		J	M1	M2	M3	Total	F1	F2	F3	Total			
TP1A	32.7	.	.	.	.	.	.	.	.	.	114	114	145.22
TP1B	26.2	.	.	.	.	.	.	.	.	.	364	364	463.69
TP2A	244.7	.	.	.	.	.	.	.	.	.	181	181	230.57
TP2B	22.9	.	.	.	.	.	.	.	.	.	119	119	151.59
TP2C	10.2	.	.	.	.	.	.	.	.	.	24	24	30.57
TP2D	10.2	.	.	.	.	.	.	.	.	.	9	9	11.46
TP3A	8.9	.	.	.	.	.	.	.	.	.	2	2	2.55
TP3B	.	.	.	.	.	.	.	.	.	.	.	.	.
TP3C	.	.	.	.	.	.	.	.	.	.	.	.	.
TP3D	.	.	.	.	.	.	.	.	.	.	.	.	.
Total		.	.	.	.	.	.	.	.	.	813.00	813.00	N/M
Mean		.	.	.	.	.	.	.	.	.	116.14	116.14	147.95
SD		.	.	.	.	.	.	.	.	.	128.23	128.23	163.34

\*CPW stations

Table A6.125. Number of *Mysis diluviana* captured by life stage/sex (J = juvenile, M = male, F = female, U = unknown) and density estimated from vertical tows with a 1.0-m diameter, 500- $\mu$ m mesh plankton net. See text for explanation of developmental stages of males and females.

Taylor Park Reservoir, 06/25/14													
Station*	Depth (m)	Males					Females				U	Total	Density (ind./m <sup>2</sup> )
		J	M1	M2	M3	Total	F1	F2	F3	Total			
TAY01	20.5	251	21	2	0	23	35	8	0	43	14	331	422
TAY02	35.1	108	12	0	0	12	29	2	0	31	7	158	201
TAY03	24.4	182	22	1	0	23	24	2	1	27	4	236	301
TAY04	25.3	75	3	0	0	3	6	0	0	6	4	88	112
TAY05	19.9	120	21	0	0	21	49	0	0	49	6	196	250
TAY06	16.4	94	6	0	0	6	17	0	0	17	1	118	150
TAY07	13.8	97	9	1	0	10	30	0	0	30	10	147	187
TAY08	11.6	134	33	0	0	33	50	1	0	51	18	236	301
TAY09	20.5	135	4	0	0	4	12	0	0	12	8	159	203
TAY10	10.9	153	1	0	0	1	8	0	0	8	1	163	208
Total		1,349	132	4	0	136	260	13	1	274	73	1,832	N/M
Mean		134.90	13.20	0.40	0.00	13.60	26.00	1.30	0.10	27.40	7.30	183.20	233.38
SD		51.28	10.54	0.70	0.00	10.77	15.69	2.50	0.32	16.55	5.48	69.79	88.91

\*CPW stations

Table A6.126. Number of *Mysis diluviana* captured by life stage/sex (J = juvenile, M = male, F = female, U = unknown) and density estimated from vertical tows with a 1.0-m diameter, 500- $\mu$ m mesh plankton net. See text for explanation of developmental stages of males and females.

Taylor Park Reservoir, 08/22/17													
Station*	Depth (m)	Males					Females				U	Total	Density (ind./m <sup>2</sup> )
		J	M1	M2	M3	Total	F1	F2	F3	Total			
M1	37.5	.	.	.	.	.	.	.	.	.	550	550	700.6
M2	39.1	.	.	.	.	.	.	.	.	.	452	452	575.8
M3	25.0	.	.	.	.	.	.	.	.	.	200	200	254.8
M4	28.5	.	.	.	.	.	.	.	.	.	297	297	378.3
M5	18.0	.	.	.	.	.	.	.	.	.	204	204	259.9
M6	22.5	.	.	.	.	.	.	.	.	.	233	233	296.8
M7	8.2	.	.	.	.	.	.	.	.	.	7	7	8.9
M8	7.8	.	.	.	.	.	.	.	.	.	29	29	36.9
M9	12.5	.	.	.	.	.	.	.	.	.	103	103	131.2
M 10	11.5	.	.	.	.	.	.	.	.	.	141	141	179.6
Total		.	.	.	.	.	.	.	.	.	2216.0	2216.0	N/M
Mean		.	.	.	.	.	.	.	.	.	221.6	221.6	282.3
SD		.	.	.	.	.	.	.	.	.	173.6	173.6	221.2

\*CPW stations

Table A6.127. Number of *Mysis diluviana* captured by life stage/sex (J = juvenile, M = male, F = female, U = unknown) and density estimated from vertical tows with a 1.0-m diameter, 500- $\mu$ m mesh plankton net. See text for explanation of developmental stages of males and females.

Taylor Park Reservoir, 09/11/18													
Station*	Depth (m)	Males					Females				U	Total	Density (ind./m <sup>2</sup> )
		J	M1	M2	M3	Total	F1	F2	F3	Total			
M1	29.0	.	.	.	.	.	.	.	.	.	290	290	369
M2	31.0	.	.	.	.	.	.	.	.	.	340	340	433
M3	18.0	.	.	.	.	.	.	.	.	.	117	117	149
M4	22.0	.	.	.	.	.	.	.	.	.	347	347	442
M5	16.0	.	.	.	.	.	.	.	.	.	237	237	302
M6	20.0	.	.	.	.	.	.	.	.	.	173	173	220
M7	11.0	.	.	.	.	.	.	.	.	.	161	161	205
M8	12.0	.	.	.	.	.	.	.	.	.	226	226	288
M9	15.5	.	.	.	.	.	.	.	.	.	305	305	389
M 10	15.5	.	.	.	.	.	.	.	.	.	181	181	231
Total		.	.	.	.	.	.	.	.	.	2377.0	2377.0	N/M
Mean		.	.	.	.	.	.	.	.	.	237.7	237.7	302.8
SD		.	.	.	.	.	.	.	.	.	80.0	80.0	102.0

\*CPW stations

Table A6.128. Number of *Mysis diluviana* captured by life stage/sex (J = juvenile, M = male, F = female, U = unknown) and density estimated from vertical tows with a 1.0-m diameter, 500- $\mu$ m mesh plankton net. See text for explanation of developmental stages of males and females.

Taylor Park Reservoir, 09/26/19													
Station*	Depth (m)	Males					Females				U	Total	Density (ind./m <sup>2</sup> )
		J	M1	M2	M3	Total	F1	F2	F3	Total			
M1	33.5	8	76	24	0	100	160	0	0	160	64	332	423
M2	36.8	4	40	8	0	48	92	4	0	96	12	160	204
M3	27.4	4	22	2	0	24	54	0	0	54	28	110	140
M4	25.5	6	22	12	0	34	44	0	0	44	42	126	161
M5	15.5	12	60	20	0	80	96	0	0	96	24	212	270
M6	20.5	18	80	16	0	96	62	0	0	62	68	244	311
M7	13.0	6	45	13	0	58	40	0	0	40	9	113	144
M8	10.0	6	54	8	0	62	57	0	0	57	7	132	168
M9	11.5	5	34	3	0	37	36	0	0	36	8	86	110
M10	10.0	16	26	0	0	26	30	0	0	30	26	98	125
Total		85	459	106	0	565	671	4	0	675	288	1,613	N/M
Mean		8.5	45.9	10.6	--	56.5	67.1	0.4	--	67.5	28.8	161.3	205
SD		5.1	21.2	7.9	--	27.9	39.4	1.3	--	39.7	22.5	78.4	100

\*CPW stations

Table A6.129. Number of *Mysis diluviana* captured by life stage/sex (J = juvenile, M = male, F = female, U = unknown) and density estimated from vertical tows with a 1.0-m diameter, 500- $\mu$ m mesh plankton net. See text for explanation of developmental stages of males and females.

Turquoise Lake, 06/21/14													
Station	Depth (m)	Males					Females				U	Total	Density (ind./m <sup>2</sup> )
		J	M1	M2	M3	Total	F1	F2	F3	Total			
TUR01	24.6	0	0	0	0	0	0	0	0	0	0	0	0
TUR02	25.7	1	0	0	0	0	0	0	0	0	0	1	1
TUR03	29.4	1	0	0	0	0	0	0	0	0	0	1	1
TUR04	29.6	3	0	0	0	0	0	0	0	0	0	3	4
TUR05	27.7	1	0	0	0	0	0	0	0	0	0	1	1
TUR06	27.6	2	0	0	0	0	0	0	0	0	0	2	3
TUR07	14.9	1	0	0	0	0	0	0	0	0	0	1	1
TUR08	15.4	0	0	0	0	0	0	0	0	0	0	0	0
TUR09	13.8	0	0	0	0	0	0	0	0	0	0	0	0
TUR10	10.5	0	0	0	0	0	0	0	0	0	0	0	0
Total		9	0	0	0	0	0	0	0	0	0	9	N/M
Mean		0.90	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.90	1.15
SD		0.99	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.99	1.27

Table A6.130. Number of *Mysis diluviana* captured by life stage/sex (J = juvenile, M = male, F = female, U = unknown) and density estimated from vertical tows with a 1.0-m diameter, 500- $\mu$ m mesh plankton net. See text for explanation of developmental stages of males and females.

Upper Stillwater Reservoir, 07/15/15													
Station	Depth (m)	Males					Females				U	Total	Density (ind./m <sup>2</sup> )
		J	M1	M2	M3	Total	F1	F2	F3	Total			
UTL01	6.8	0	0	0	0	0	0	0	0	0	0	0	0
UTL02	6.3	0	0	0	0	0	0	0	0	0	0	0	0
UTL03	7.0	0	0	0	0	0	0	0	0	0	0	0	0
Total		0	0	0	0	0	0	0	0	0	0	0	N/M
Mean		0	0	0	0	0	0	0	0	0	0	0	0
SD		0	0	0	0	0	0	0	0	0	0	0	0

Table A6.131. Number of *Mysis diluviana* captured by life stage/sex (J = juvenile, M = male, F = female, U = unknown) and density estimated from vertical tows with a 1.0-m diameter, 500- $\mu$ m mesh plankton net. See text for explanation of developmental stages of males and females.

Upper Twin Lake, 06/22/14													
Station	Depth (m)	Males					Females				U	Total	Density (ind./m <sup>2</sup> )
		J	M1	M2	M3	Total	F1	F2	F3	Total			
UTL01	29.1	0	0	0	0	0	0	0	0	0	1	1	1
UTL02	17.6	3	4	0	0	4	0	0	0	0	4	11	14
UTL03	22.5	0	0	0	0	0	0	0	0	0	1	1	1
Total		3	4	0	0	4	0	0	0	0	6	13	N/M
Mean		1.00	1.33	0.00	0.00	1.33	0.00	0.00	0.00	0.00	2.00	4.33	5.52
SD		1.73	2.31	0.00	0.00	2.31	0.00	0.00	0.00	0.00	1.73	5.77	7.35

Table A6.132. Number of *Mysis diluviana* captured by life stage/sex (J = juvenile, M = male, F = female, U = unknown) and density estimated from vertical tows with a 1.0-m diameter, 500- $\mu$ m mesh plankton net. See text for explanation of developmental stages of males and females.

Upper Twin Lake, 07/22/14													
Station	Depth (m)	Males					Females				U	Total	Density (ind./m <sup>2</sup> )
		J	M1	M2	M3	Total	F1	F2	F3	Total			
UTL01	29.1	10	6	0	0	6	1	0	1	2	1	19	24
UTL02	22.2	17	9	0	0	9	0	1	2	3	5	34	43
UTL03	23.0	3	2	0	0	2	0	0	0	0	0	5	6
Total		30	17	0	0	17	1	1	3	5	6	58	N/M
Mean		10.00	5.67	0.00	0.00	5.67	0.33	0.33	1.00	1.67	2.00	19.33	24.63
SD		7.00	3.51	0.00	0.00	3.51	0.58	0.58	1.00	1.53	2.65	14.50	18.47

Table A6.133. Number of *Mysis diluviana* captured by life stage/sex (J = juvenile, M = male, F = female, U = unknown) and density estimated from vertical tows with a 1.0-m diameter, 500- $\mu$ m mesh plankton net. See text for explanation of developmental stages of males and females.

Willow Creek Reservoir, 08/25/14													
Station	Depth (m)	Males					Females				U	Total	Density (ind./m <sup>2</sup> )
		J	M1	M2	M3	Total	F1	F2	F3	Total			
WCR001	25.8	0	0	0	0	0	0	0	0	0	0	0	0
WCR002	22.3	0	0	0	0	0	0	0	0	0	0	0	0
WCR003	16.7	0	0	0	0	0	0	0	0	0	0	0	0
Total		0	0	0	0	0	0	0	0	0	0	0	N/M
Mean		0	0	0	0	0	0	0	0	0	0	0	0
SD		0	0	0	0	0	0	0	0	0	0	0	0



Table A6.134. Number of *Mysis diluviana* captured by life stage/sex (J = juvenile, M = male, F = female, U = unknown) and density estimated from vertical tows with a 1.0-m diameter, 500- $\mu$ m mesh plankton net. See text for explanation of developmental stages of males and females.

Yamcolo Reservoir, 07/19/15													
Station	Depth (m)	Males					Females				U	Total	Density (ind./m <sup>2</sup> )
		J	M1	M2	M3	Total	F1	F2	F3	Total			
YAM001	15.0	0	0	0	0	0	0	0	0	0	0	0	0
YAM002	22.0	0	0	0	0	0	0	0	0	0	0	0	0
YAM003	24.2	0	0	0	0	0	0	0	0	0	0	0	0
YAM004	24.6	0	0	0	0	0	0	0	0	0	0	0	0
YAM005	14.0	0	0	0	0	0	0	0	0	0	0	0	0
Total		0	0	0	0	0	0	0	0	0	0	0	N/M
Mean		0	0	0	0	0	0	0	0	0	0	0	0
SD		0	0	0	0	0	0	0	0	0	0	0	0

Table A6.135. Summary of all *Mysis* sampling by CPW and CSU at Horsetooth Reservoir, Larimer County, Colorado. Two hauls were made at each station prior to 2015 and one haul was made at each station during 2015-2018.

DATE	Sampled by	Parameter	Station										Sum	Mean	SD
			1	2	3	4	5	6	7	8	9	10			
10/06/99	CPW	depth (m)	35	43	43	20	22	16	21	9	11	5			
		total catch	0	0	0	0	0	0	0	0	0	0	0		
		mean catch	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00	0.00
		no./m2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00	0.00
06/30/03	CPW	depth (m)	14	30	32	13	28	13	10	14					
		total catch	0	1	0	0	0	0	0	0			1		
		mean catch	0.00	0.50	0.00	0.00	0.00	0.00	0.00	0.00				0.06	0.18
		no./m2	0.00	0.64	0.00	0.00	0.00	0.00	0.00	0.00				0.08	0.23
09/30/03	CPW	depth (m)	24	29	14	30	28	26	26	14					
		total catch	0	0	0	0	0	0	0	0			0		
		mean catch	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00				0.00	0.00
		no./m2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00				0.00	0.00
09/09/04	CSU	depth (m)	26	22	24	26									
		total catch	1	16	3	0							20		
		mean catch	0.50	8.00	1.50	0.00								2.50	3.72
		no./m2	0.64	10.19	1.91	0.00								3.18	4.74
09/20/04	CSU	depth (m)	45	25	46	23	28	48							
		total catch	6	0	1	0	0	0					7		
		mean catch	3.00	0.00	0.50	0.00	0.00	0.00						0.58	1.20
		no./m2	3.82	0.00	0.64	0.00	0.00	0.00						0.74	1.53
09/27/05	CPW	depth (m)	32	37	15	38	36	34	33						
		total catch	0	0	0	6	1	6	3				16		
		mean catch	0.00	0.00	0.00	3.00	0.50	3.00	1.50					1.14	1.38
		no./m2	0.00	0.00	0.00	3.82	0.64	3.82	1.91					1.46	1.75

Table A6.135. Continued. Summary of all *Mysis* sampling by CPW and CSU at Horsetooth Reservoir, Larimer County, Colorado. Two hauls were made at each station prior to 2015 and one haul was made at each station during 2015-2018.

DATE	Sampled by	Parameter	Station										Sum	Mean	SD	
			1	2	3	4	5	6	7	8	9	10				
08/16/06	CPW	depth (m)	31	36	22	37	35	32	32							
		total catch	0	0	5	6	4	10	8				33			
		mean catch	0.00	0.00	2.50	3.00	2.00	5.00	4.00					2.36	1.89	
		no./m2	0.00	0.00	3.18	3.82	2.55	6.37	5.10					3.00	2.40	
10/10/12	CSU	depth (m)														
		total catch	0.00	3.00	0.00	0.00	0.00	0.00	0.00				3			
		no./m2	0.0	3.8	0.0	0.0	0.0	0.0	0.0					0.55	1.44	
08/02/13	CSU	depth (m)														
		total catch	9.00	0.00	3.00	0.00	1.00	0.00	1.00				14			
		no./m2	11.5	0.0	3.8	0.0	1.3	0.0	1.3					2.55	4.16	
07/13/15	CSU	depth (m)	16	53	28	29	43	51	36	36	55	30				
		total catch	0	2	0	0	0	1	0	0	0	0	3			
		no./m2	0.00	2.55	0.00	0.00	0.00	1.27	0.00	0.00	0.00	0.00		0.38	0.86	
06/08/16	CSU	depth (m)	.	.	52	46	26	61	38	50	48	48				
		total catch	0	0	0	0	0	0	0	0	0	1	1			
		no./m2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.27		0.13	0.40	
08/22/17	CSU	depth (m)	12	48	27	25	38	47	32	32	52	32				
		total catch	0	0	0	0	0	0	0	0	0	0	0			
		no./m2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00	0.00	
09/05/18	CSU	depth (m)	14	36	23	19	34	44	16	28	45	21				
		total catch	0	0	0	0	0	0	0	0	0	0	0			
		no./m2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00	0.00	

