2019 Rio Grande Cutthroat Trout, High-Elevation Lake Sampling Report

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INTRODUCTION AND OBJECTIVE

In Colorado, Rio Grande Cutthroat Trout (RGCT) were designated a state threatened species in 1973, however successful recovery efforts improved conditions for the species to the point that it was downlisted to a species of special concern in 1984. The species is now managed for refugia populations to conserve genetically pure "Core" populations. In addition to Core Conservation populations, 87 waters are managed to provide recreational opportunities. These recreational populations are defined by the genetic purity of the population. Recreational populations of RGCT have been determined to be at least 90% pure but less than 99% pure.

Sixty-six high elevation lakes in the San Luis Valley are managed to provide recreational angling opportunities for RGCT. The majority of these lakes are very remote and stocked biannually by airplane. The RGCT aerial stocking program began in 1994 but the remoteness of the lakes has made it very difficult to monitor success of the plants at many of these waters.

In 2018, a 2-person crew was hired to assess the RGCT aerial stocking program. The crew surveyed 15 lakes during the summer of 2018. In 2019, another crew was hired to continue the monitoring of these high mountain lakes. In 2019 an additional 16 lakes were surveyed. Each survey consisted of overnight gillnet sets to sample fish populations at each lake. In this report, the sampling effort at each water is summarized and recommendations for future management are suggested.

WATERS SAMPLED

The following lakes were surveyed in 2019: Beaver Lake, Black Mountain Lake, Blue Lake, Cherry Lake, Como Lake, Crater Lake, Glacier Lake, Goose Lake, Kerr Lake, Lost Lake, Timber Lake, Upper San Francisco Lake, Upper (west) Twin Lake, Ute Lake Lower Twin, Ute Lake (main), and Ute Lake Upper Twin.

DETAILED INFORMATION ABOUT EACH SURVEY

Water: Beaver Lake
Location: Elk Creek Drainage of the Conejos River, approximately 4.7 miles northeast of Trujillo Meadows Reservoir
Sampling Date: 6/25/2019
Gear: One 75 foot coldwater experimental gillnet
Drainage: Rio Grande
Water Code: 88496
UTM Zone: 13S
Easting: 374435
Northing: 4108380

HISTORY

Beaver Lake is four surface acres with an average depth of 3 feet and a maximum depth of 8 feet. The lake is located near the Elk Creek Drainage of the Conejos River in the Rio Grande National Forest. The elevation of Beaver Lake is 9,621 feet and it can be accessed from the Duck Lake Trail #732. The trail originates off Forest Road 128 near La Manga Creek. The distance from the trailhead to the lake is approximately 2.3 miles. The trail is considered moderately difficult, lightly trafficked and is dog friendly.

Pikes Peak Native Cutthroat Trout were stocked periodically from 1974 to 1980. Snake River Cutthroat Trout were stocked on 9 occasions from 1981 until 1995. The first plant of Rio Grande Cutthroat Trout was stocked in 1997, but the lake was not stocked again until 2000. Rio Grande Cutthroat Trout are now stocked on a biannual basis. The last time the lake was stocked was in July of 2019 after this sampling event.

RESULTS

Beaver Lake has a very accessible shoreline with approximately 90% of it accessible to anglers. The lake is shallow with a predominately silt bottom that can have large amounts of aquatic vegetation. In addition to Rio Grande Cutthroat Trout, the lake supports a self-sustaining population of Fathead Minnows. Aquatic insects observed in the lake during this sampling event included water striders, water boatmen, caddisflies, mayflies, leeches and scuds. The large size of the fish sampled is likely due to the high productivity of the lake and low competition with other fish.

One 75-foot gillnet was set overnight for 13.5 hours. Twelve Rio Grande Cutthroat Trout were sampled giving a catch rate of 0.89 fish per hour. The largest fish sampled was 21.3 inches and was too heavy for our scale to weigh. The average length of fish sampled was 15.1 inches, and the smallest fish sampled was 8.8 inches (Fig 1). Of the fish sampled, three were over 20 inches and too heavy for our scale to weigh. The average relative weight of the remaining fish was 120, with a maximum of 139.1 and a minimum of 94.1 (Fig 2). All of the fish weighed were in very healthy condition.

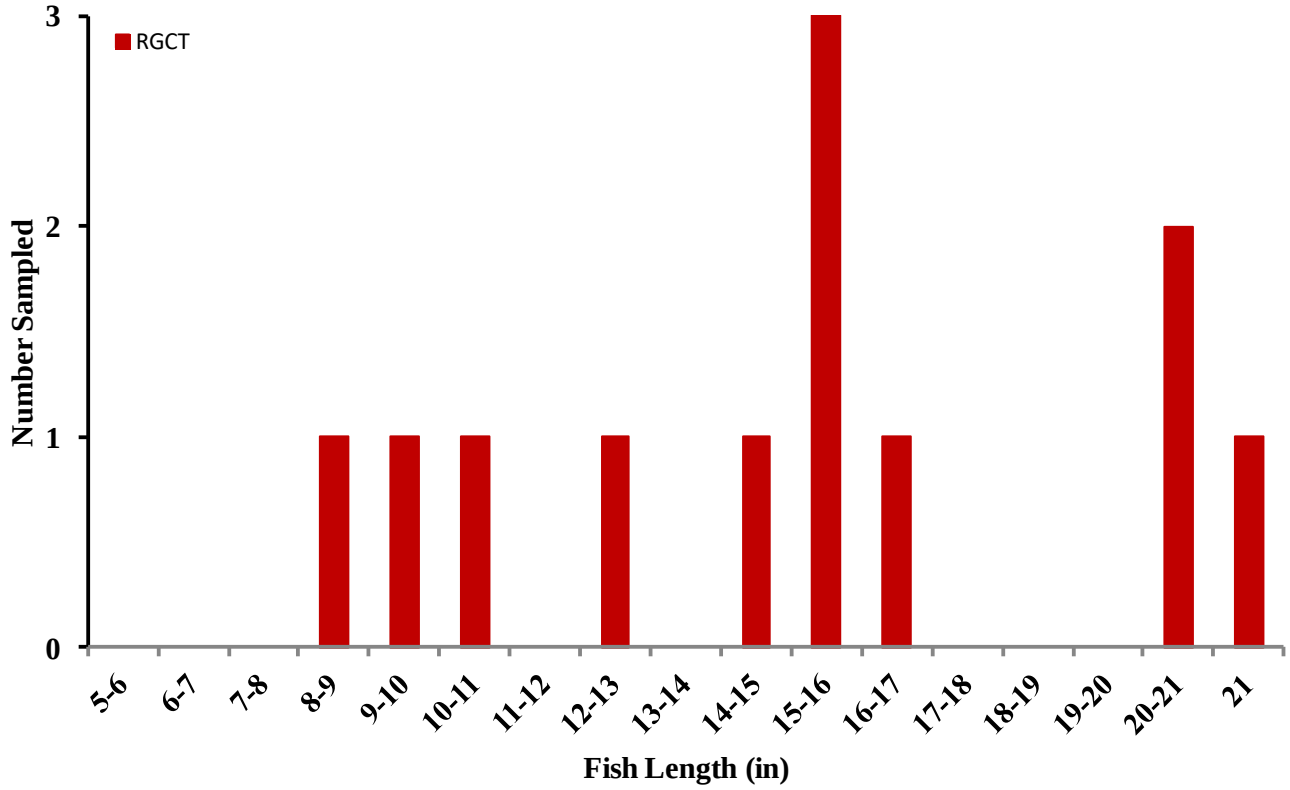

Figure 1. Length-Frequency histogram of Rio Grande Cutthroat Trout sampled from Beaver Lake, 2019.

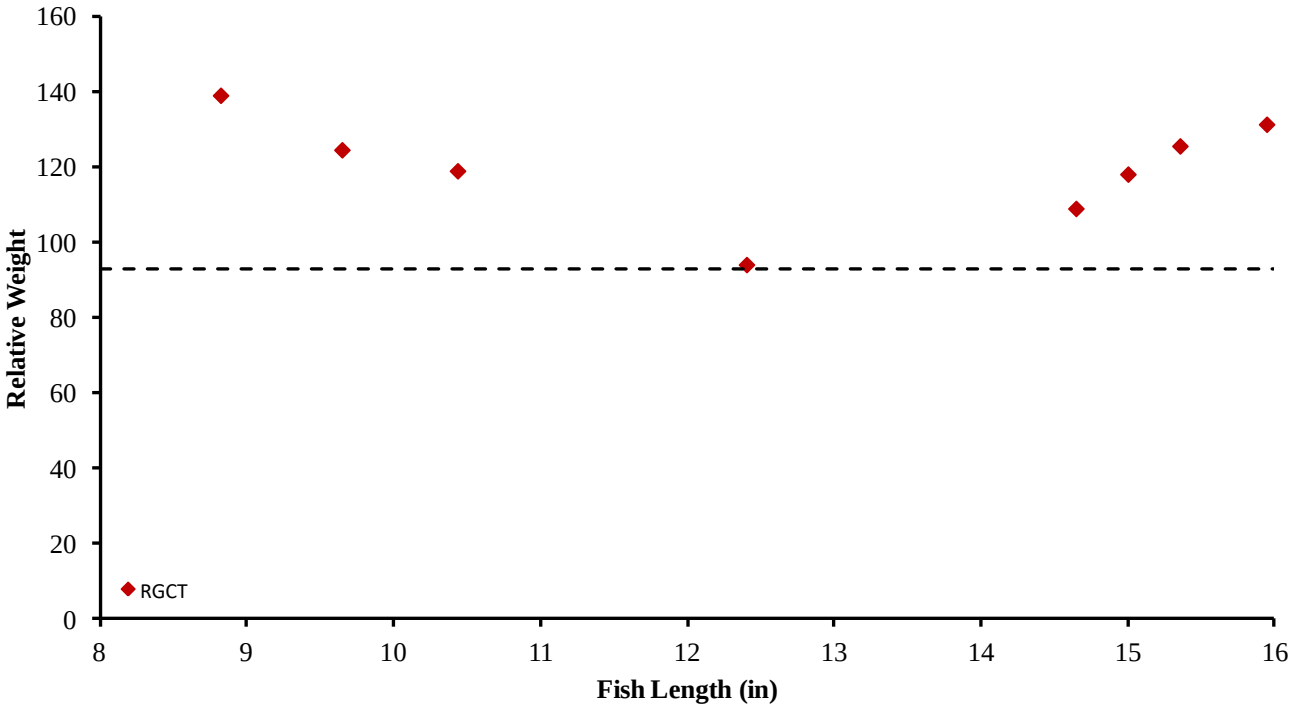

Figure 2. Relative Weights of Rio Grande Cutthroat Trout sampled from Beaver Lake, 2019

CONCLUSIONS

Beaver Lake is a small, shallow but very productive lake. The lake supports numerous aquatic insects, and a self-sustaining population of Fathead Minnows. The catch rate for Rio Grande Cutthroat Trout was 0.89 fish/hour and all of the fish were very healthy. Given the condition of the fish and the slightly low catch rate, the lake could likely support a slightly higher stocking rate. If stocking rates are increased to provide more fish in the lake, the condition of the fish should be monitored to maintain the trophy potential.

Rio Grande Cutthroat Trout sampled from Beaver Lake, 2019

Water: Black Mountain Lake
Location: Hinsdale County, located approximately 2.7 miles northwest of Browns Lakes.
Sampling Date: 6/12/2019 – 6/18/2019
Gear: One 75 foot coldwater experimental gillnet – Three 75 foot coldwater experimental gillnets
Drainage: Rio Grande
Water Code: 88624
UTM Zone: 13S
Easting: 303334
Northing: 4191169

HISTORY

Black Mountain Lake is six surface acres, with an average depth of 17 feet and a maximum depth of 32 feet. The lake is located in Hinsdale County, northeast of Browns Lake SWA and southeast of Continental Reservoir. The lake is located at an elevation of 11,200 feet, but can be accessed by road. From the Brown Lakes turn off on Colorado Highway 149 go 4.1 miles to the Pearl Lakes Road. Turn right on the Pearl Lakes Road and follow for 3.7 miles to the Black Mountain Lake Road. The Black Mountain Lake Road is a 4X4 road that runs about 4.3 miles and dead ends at the lake.

Pikes Peak Native Cutthroat Trout were stocked periodically from 1973 to 1978. Brook Trout were stocked frequently from 1979 until 1995. Rio Grande Cutthroat Trout were stocked in 2000, 2001, and 2002. Since 2003, the lake has been stocked biannually with Rio Grande Cutthroat Trout. The last time the lake was stocked was in July of 2019 after this sampling event.

RESULTS

No fish were sampled on our first trip to Black Mountain Lake on 6/12/2019. We had only set one overnight gill net so we decided to survey again the following week to determine the status of the fishery. On our next sampling event we set, three overnight gillnets and again sampled no fish.

Although no Cutthroat Trout were sampled, Fathead Minnows were observed around the margins of the lake. One Tiger Salamander was also observed in the lake. Thirteen dead and decomposing Cutthroat Trout were also observed along the bank. The lake did support populations of aquatic insects including scuds, leeches, water striders, and caddisflies. The shoreline is easily accessible and fishable from 100% of the bank.

CONCLUSIONS

During the winter of 2018-2019, we experienced an extremely high snow pack likely causing the Cutthroat Trout in the lake to die from winterkill conditions. This lake has been known to winterkill in the past and due to that requires stocking to maintain a sport fishery. The lake was stocked in 2019 after this sampling event. We will continue to stock the lake on a biannual basis to maintain fishing opportunities for Cutthroat Trout.

Water: Blue Lake
Location: Alamosa County near Mt. Blanca
Sampling Date: 7/9/2019
Gear: One 75 foot coldwater experimental gillnet
Drainage: Rio Grande
Water Code: 88674
UTM Zone: 13S
Easting: 455584
Northing: 4158505

HISTORY

Blue Lake is located on MT. Blanca and can be accessed from the Lake Como Trail. The trail starts at the bottom of Mt. Blanca and runs approximately five miles up to Blue Lake. The trail is an extreme 4x4 road and is considered a difficult hiking trail. Blue Lake is a shallow lake with a maximum depth of 6 feet and an average depth of 4 feet located at 12,140 feet in elevation. The lake is about five surface acres with a predominantly silt bottom.

Pikes Peak Native Cutthroat Trout were stocked periodically from 1976 to 1983. Stocking of Snake River Cutthroat began in 1985 and continued until 1993. Rio Grande Cutthroat Trout were first stocked in 1995. Blue Lake was stocked eleven times between 1995 and 2014. The lake has not been stocked since 2014.

RESULTS

Blue Lake has a shoreline that is approximately 90% accessible to fish from the bank. The aquatic invertebrate density seemed low and only water striders and caddisflies were observed. The lake has one outlet located on the south side and three inlets found on the northeast side.

One 75 foot gillnet was set overnight in Blue Lake for 14.5 hours, during which time 22 fish were sampled. The catch per unit effort at this water was 1.5 fish/hour. Cutthroat Trout were the only species sampled from the lake and they had an average length of 8 inches. The maximum length sampled was 13.3 inches and the minimum length sampled was 4.5 inches. Two size classes of Cutthroat Trout were sampled in the lake (Fig 3). The average relative weight of fish sampled was 130 with a maximum of 204 and a minimum of 79. Relative weight was lower in larger size classes of fish as shown by (Fig 4).

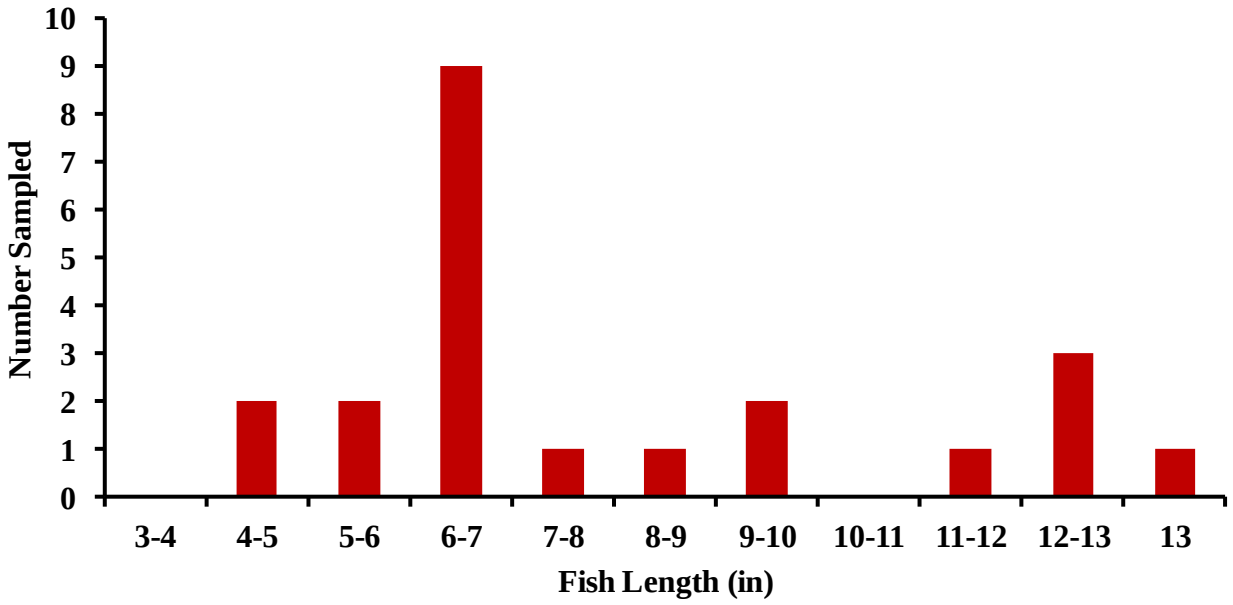

Figure 3. Length-Frequency of Cutthroat Trout sampled from Blue Lake, 2019.

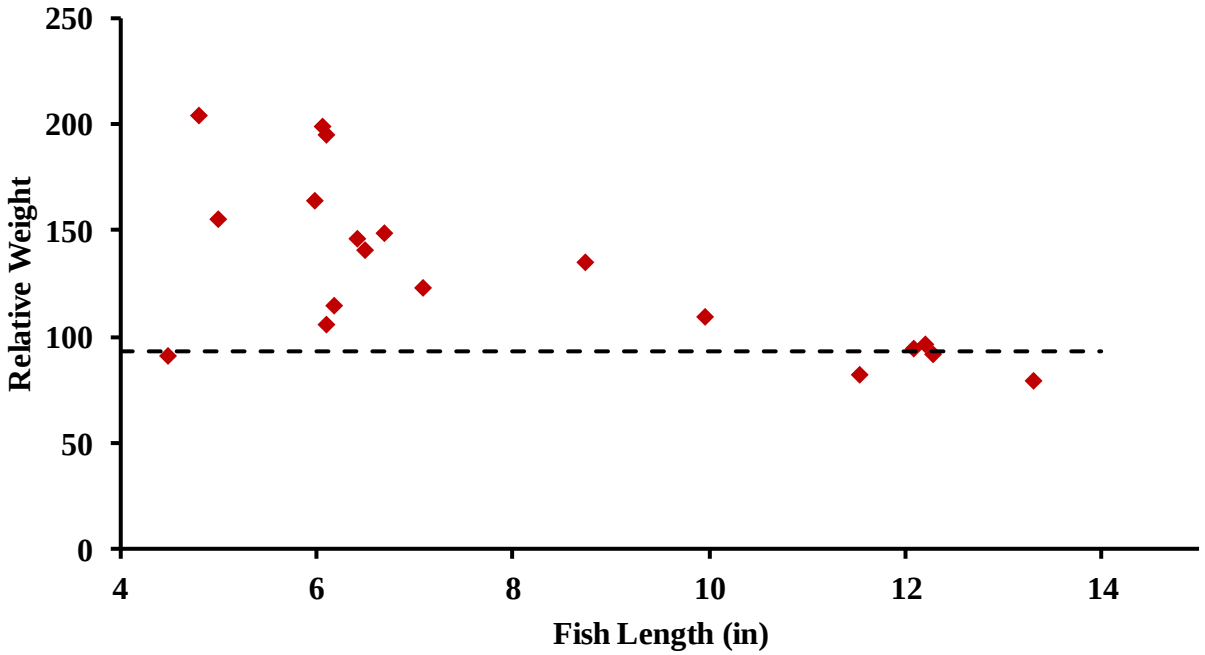

Figure 4. Relative weight of Cutthroat Trout sampled from Blue Lake, 2019.

CONCLUSIONS

Blue Lake continues to support a population of Cutthroat Trout despite having not been stocked since 2014. The continued presence of fish in the lake suggests successful reproduction. Cutthroat Trout sampled also displayed a variety of spotting patterns likely due to genetic mixing of prior species stocked in the lake. A good number of fish were sampled and there appears to be good resources for smaller fish. As fish grow larger, the relative weights start to decline. The drop in condition as fish grow suggests limited resources especially for larger fish. At this time, no change in management is suggested, but this area could be considered for chemical reclamation in the future. A chemical reclamation in the future may be warranted as the lake supports natural reproduction and has a natural waterfall barrier downstream.

Gillnet set at Blue Lake, 2019.

Water: Cherry Lake
Location: Sangre de Cristo Wilderness, approximately 9 miles north of Crestone
Sampling Date: 7/16/2019
Gear: One 75 foot coldwater experimental gillnet
Drainage: Rio Grande
Water Code: 88989
UTM Zone: 13S
Easting: 437591
Northing: 4220109

HISTORY

Cherry Lake is a 10 surface acre lake located at an elevation of 11,769 feet. The lake has a maximum depth of this 19.5 feet, with an average depth of 8.5 feet. The lake is located in the Sangre de Cristo Wilderness, north of the town of Crestone. Around 50% of the shoreline is fishable due to high density of willows in some areas. The lake is accessible from the Wild Cherry Trail, which follows Wild Cherry Creek about six miles to the lake. The trail is considered a moderately trafficked, difficult hiking trail.

Pikes Peak Native Cutthroat Trout were stocked periodically from 1974 to 1983. Snake River Cutthroat Trout were stocked on 4 occasions between 1985 and 1991. Rio Grande Cutthroat Trout have been stocked biannually since 1996. The last stocking event prior to this sampling occurred in August of 2018.

RESULTS

The hike to Cherry Lake was more difficult for the crew then anticipated and they did not make it to the lake on the first day of the trip. Due to lack of resources the crew was not prepared to stay overnight a second night. This complication led to the gillnet being set in the morning when the crew arrived at the lake. The gillnet was set at 7:30am and pulled at 12:30pm, for a total fishing time of five hours.

Although the net was not fished overnight, we still sampled seven Cutthroat Trout giving a catch per unit effort of 1.4 fish/hour. The fish sampled had an average length of 13.9 inches with a maximum of 16.5 inches and a minimum of 11.8 inches. No fish were sampled in the smaller size classes and only one size class is apparent on the length-frequency histogram (Fig. 5). The relative weights of the fish sampled show good condition of the fish with an average value of 116.5, a maximum of 138.3, and a minimum of 100.2 (Fig. 6).

The aquatic insects observed in the lake were scuds, caddisflies, and water striders.

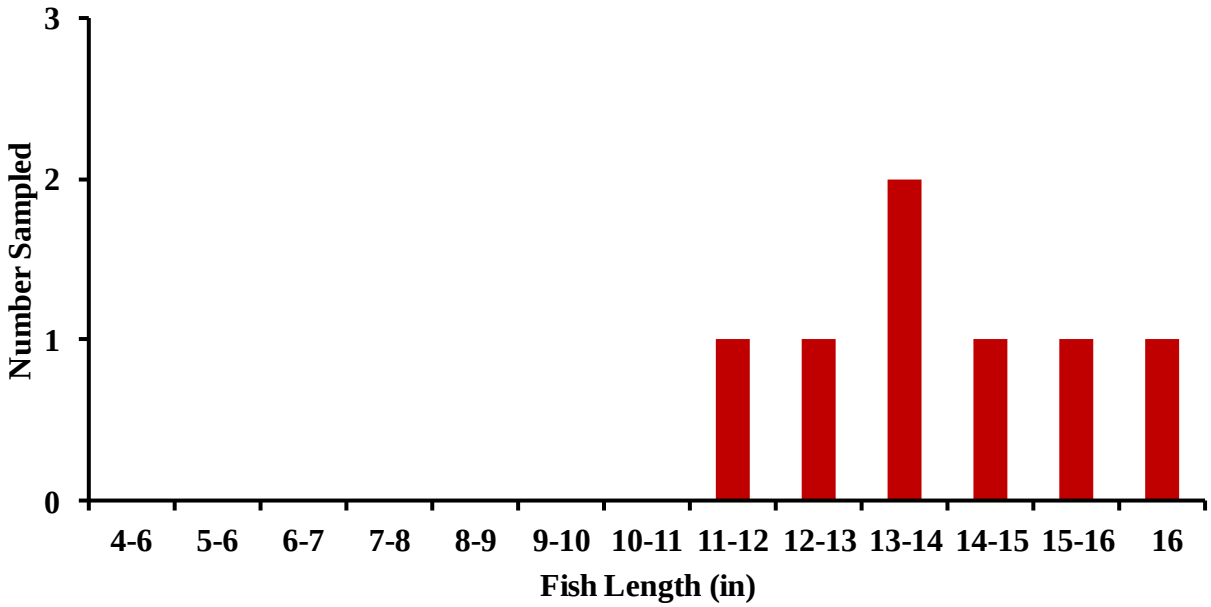

Figure 5. Length-frequency of Cutthroat Trout sampled from Cherry Lake, 2019.

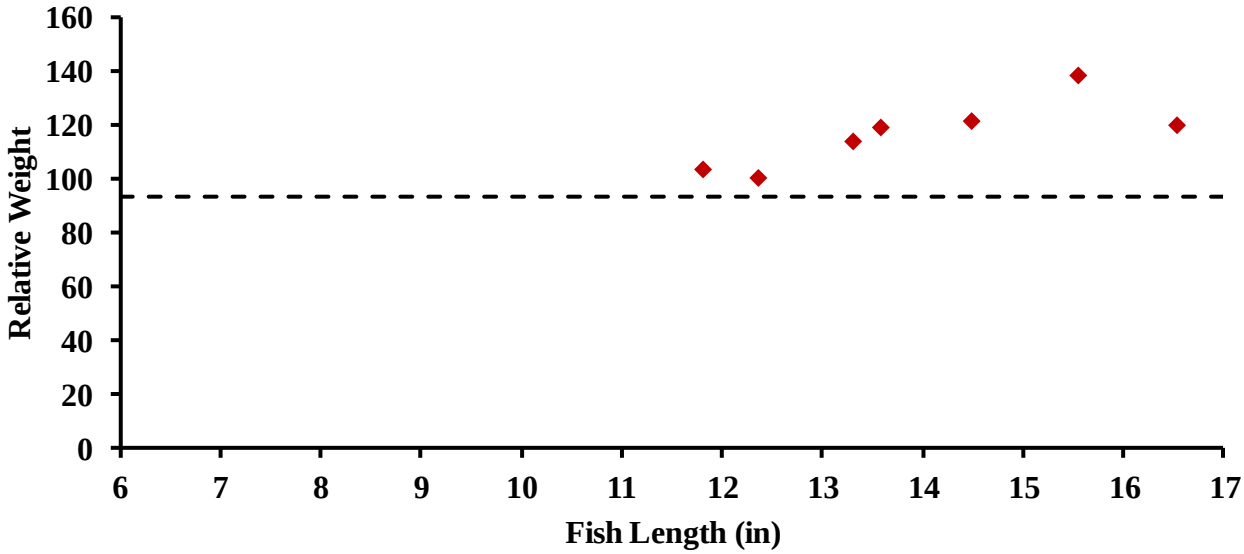

Figure 6. Relative weights of Cutthroat Trout sampled from Cherry Lake, 2019.

CONCLUSIONS

This survey is different from other lakes sampled because we were unable to set the gillnet overnight. The gillnet was set in the morning for 5 hours but still had a good catch rate of 1.4 fish per hour. Based on the fish sampled the lake continues to support a good Cutthroat Trout population. One concern is the lack of smaller size classes in the sample. The lack of a smaller size class could be due to temporal bias of the gillnet set. All of the fish sampled were in good shape and no change of management is suggested at this time. However it is recommended that this lake be sampled again with an overnight gillnet to determine if there was any bias related to the time the gillnet was set.

Cherry Lake, 2019.

Water: Como Lake
Location: Alamosa County, near Mt. Blanca
Sampling Date: 7/10/2019
Gear: One 75 foot coldwater experimental gillnet
Drainage: Rio Grande
Water Code: 94413
UTM Zone: 13S
Easting: 454565
Northing: 4158199

HISTORY

Como Lake is a seven surface acre, relatively shallow lake. The lake has a maximum depth of 10.5 feet and an average depth of six feet. The substrate of the lake is silt dominated with some large cobble. Approximately 70% of the shoreline is accessible to anglers. The lake has two inlets located on the east side, and one outlet located on the northwest shore. Como Lake can be accessed from the Lake Como Trail. The trail starts at the bottom of Mt. Blanca and runs just over four miles up to Como Lake. The trail is an extreme 4x4 road and is considered a difficult hiking trail.

Rio Grande Cutthroat Trout have been the only species of Cutthroat stocked in the Como Lake. The lake has been stocked nine times with Rio Grande Cutthroat Trout since 2001, with the last stocking event taking place in 2018.

RESULTS

One 75 foot gillnet was set overnight for 15 hours, during which time we sampled 75 Brook Trout and one Cutthroat Trout. The catch per unit effort was five Brook Trout per hour. Brook Trout ranged in size from 8.9 inches to 14.5 inches, and had an average length of 11 inches. No smaller size classes of fish were sampled as shown by the length-frequency histogram (Fig. 7). Although no smaller size classes of fish were sampled, juvenile Brook Trout were observed along the shoreline. The average relative weight of Brook Trout sampled was 92.8 with a maximum of 121 and a minimum of 68 (Fig. 8). The one Cutthroat Trout that was sampled had a length of 11.8 inches and a relative weight of 98. Three classes of aquatic invertebrates were observed including mayflies, caddisflies, and water striders.

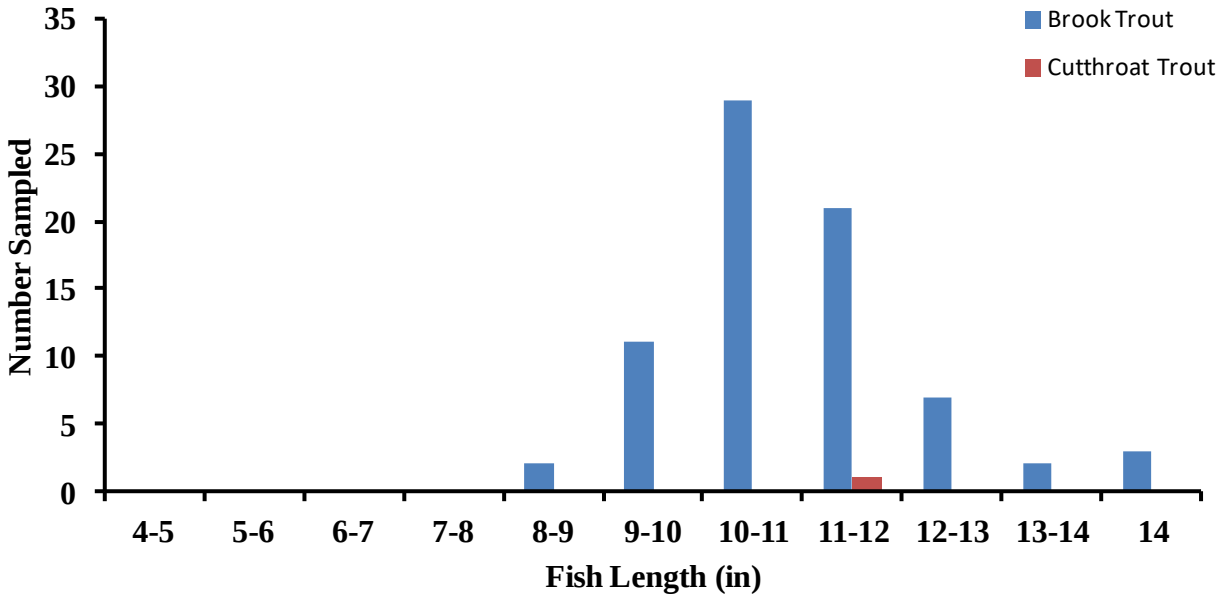

Figure 7. Length-frequency of fish sampled from Como Lake, 2019.

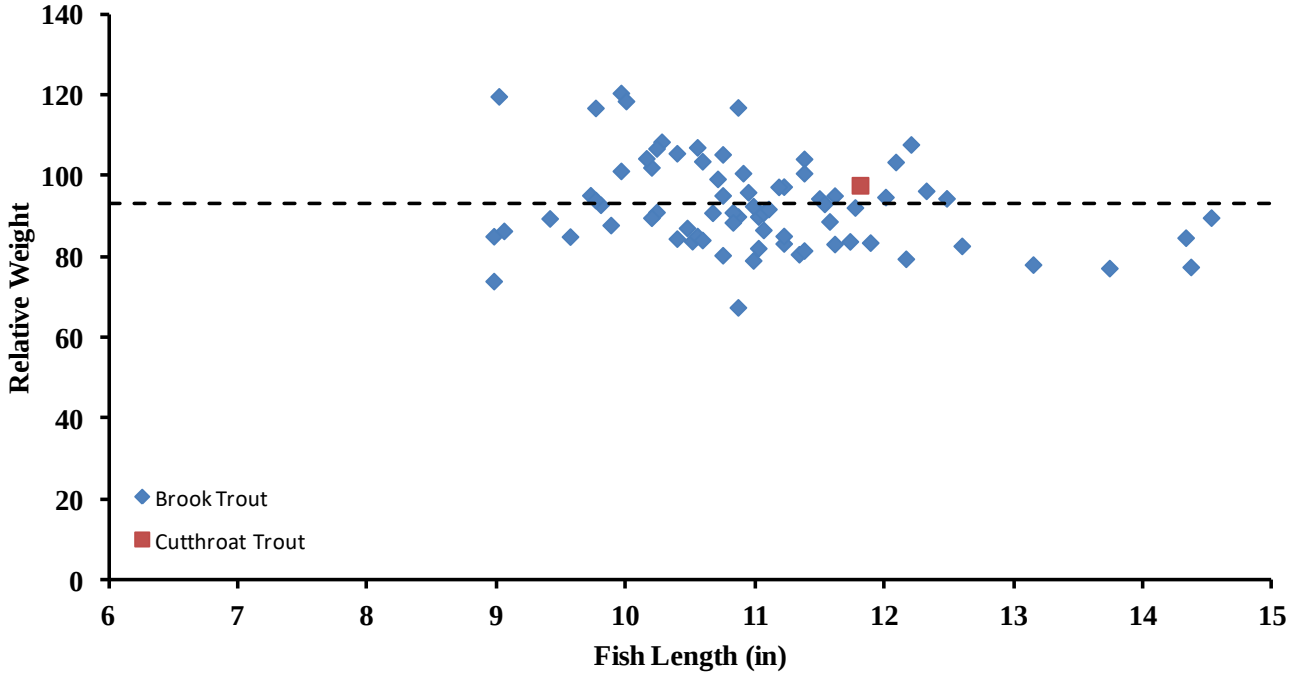

Figure 8. Relative weights of fish sampled from Como Lake, 2019.

CONCLUSIONS

Como Lake supports a large population of Brook Trout. The last Cutthroat Trout stocking event took place in 2018 and we expected to see some of those fish show up in the survey. Only one Cutthroat Trout was sampled in Como Lake suggesting low survival of stocked fish. The low survival rate of Cutthroat Trout is likely due to competition with the large Brook Trout population. Due to the low survival rate of Cutthroat Trout, Como Lake should be removed from the Cutthroat stocking schedule.

Cutthroat Trout sampled from Como Lake, 2019

Brook Trout sampled from Como Lake, 2019

Water: Crater Lake
Location: Alamosa County, near Mt. Blanca
Sampling Date: 8/14/2019
Gear: One 75 foot coldwater experimental gillnet
Drainage: Rio Grande
Water Code: 89246
UTM Zone: 13S
Easting: 456294
Northing: 4158853

HISTORY

Crater Lake is located at the headwaters of Holbrook Creek, located on the west side of Mt. Blanca. The lake is 10 surface acres and is located at an elevation of 12,700 feet. Approximately 60% of the shoreline is fishable due to large cliffs in some areas of the lake. Crater Lake is a deep lake that has an average depth of 22 feet and a maximum depth of 46.3 feet. The lake drops off quickly and has very little to no shallow water along the shore. Crater Lake can be accessed from the Lake Como Trail. The trail starts at the bottom of Mt. Blanca and runs approximately 8.3 miles up to Crater Lake. The trail is an extreme 4x4 road and is considered a difficult hiking trail.

Pikes Peak Native Cutthroat Trout were stocked eight times between 1974 and 1983 in Crater Lake. Biannual stocking of Snake River Cutthroat started in 1985 and ran until 1991. The first plant of Rio Grande Cutthroat Trout occurred in 1998. Rio Grande Cutthroat Trout have been stocked in the lake on eight separate years but infrequently. The last time Rio Grande Cutthroat Trout were stocked was in 2018.

RESULTS

Twenty-four Cutthroat Trout were sampled in one 14.5 hour, overnight gillnet set, giving a catch per unit effort of 1.7 fish per hour. No other species of fish were sampled from Crater Lake. The Cutthroat Trout sampled ranged in size from 12.2 inches to 17.3 inches with an average length of 15 inches. Only the one size class was sampled and no smaller fish were observed (Fig. 9). On average, the fish sampled were in good condition and had an average relative weight of 113.1 and a maximum relative weight of 137.8 (Fig 10). Only two fish had relative weights under 100 and the minimum relative weight calculated was 68.5. During this survey, the fish sampled were in ripe spawning condition. Very few aquatic invertebrates were observed, likely due to the quick drop off in shoreline. The aquatic insects observed were mayflies and scuds. There were also numerous dead Cutthroat Trout observed along the shore of Crater Lake during this survey.

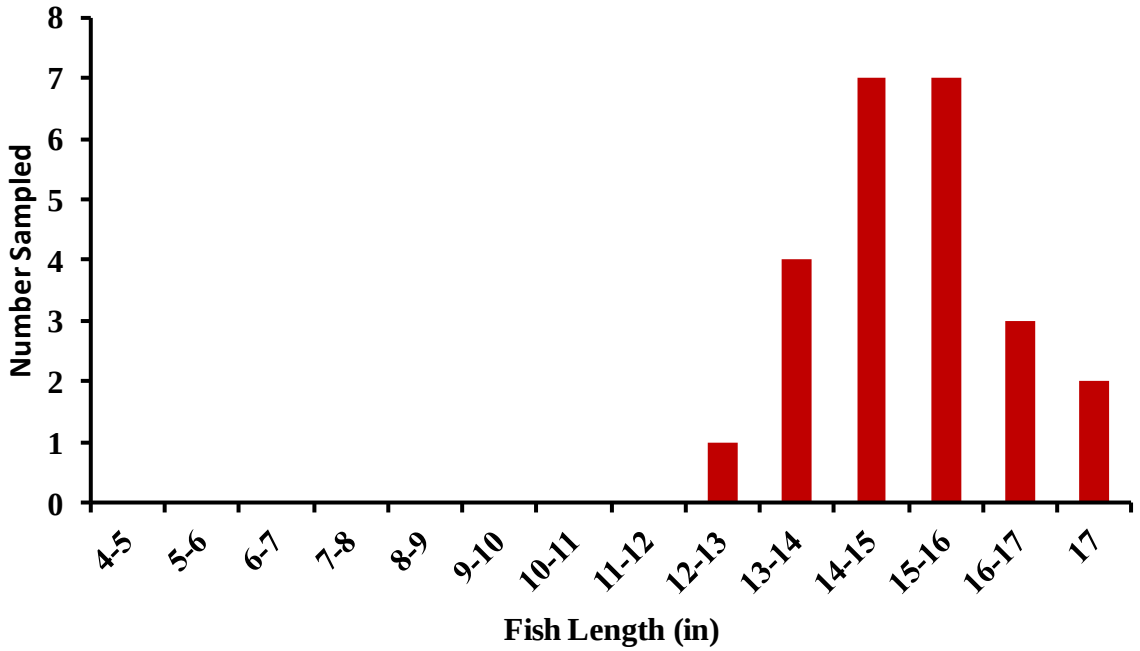

Figure 9. Length-frequency of Cutthroat Trout sampled from Crater Lake, 2019

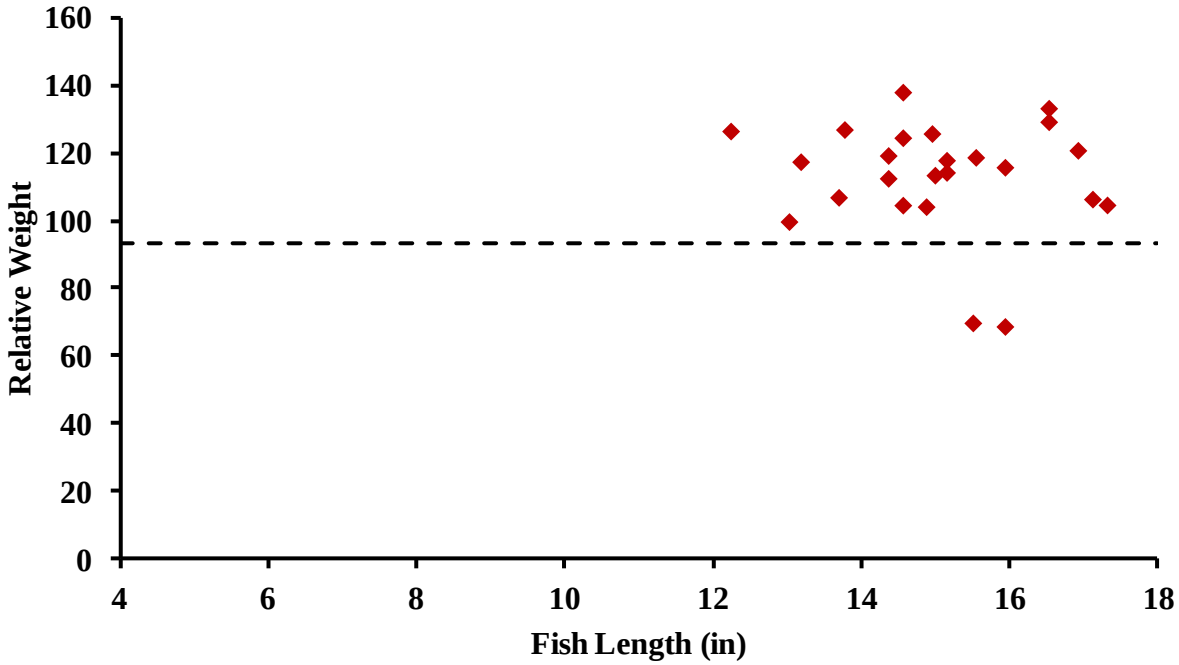

Figure 10. Relative weights of Cutthroat Trout sampled from Crater Lake, 2019.

CONCLUSIONS

Crater Lake supports a decent Cutthroat Trout population and no other species of fish were present in the lake. The last stocking event took place in 2018 but no smaller fish were sampled during this survey. The lack of a smaller size class could be due to low survival of the fish stocked in 2018. The low survival of the last stocking event could be due to a number of environmental conditions but the specific cause is unknown. Although no smaller fish were sampled, the population of larger fish was healthy and a catch per unit effort of 1.7 fish per hour suggests good numbers of Cutthroat Trout in the lake. No changes in management are suggested at this time.

Cutthroat Trout sampled from Crater Lake, 2019.

Water: Glacier Lake
Location: Headwaters of South Fork Conejos River
Sampling Date: 8/1/2019
Gear: One 75 foot coldwater experimental gillnet
Drainage: Rio Grande
Water Code: 90061
UTM Zone: 13S
Easting: 359218
Northing: 4124656

HISTORY

Glacier Lake is a 22 surface acre lake located at an elevation of 11,940 feet at the headwaters of the South Fork of the Conejos River. The lake is relatively deep with an average depth of 26 feet and a maximum depth of 36 feet with a predominantly large rock substrate. Glacier Lake has one outlet and no inlet as it is filled through seepage from snowmelt. Approximately 60-70% of the shoreline is accessible for angling. The lake is accessible from the Rio Grande Forest South Fork Conejos Trail #724. Take the forest trail #724 approximately 10.5 miles to the junction with Rio Grande Forest Trail #711 (Glacier Lake Trail). From the junction with trail #724 it is about 3.5 miles to the lake.

Glacier Lake was stocked with Rainbow Trout periodically from 1954 to 1995. The first time Rio Grande Cutthroat Trout were stocked was in 1997, but they were not stocked again until the year 2000. The lake has been stocked biannually since 2001, and the last time Cutthroat Trout were stocked was in August of 2017.

RESULTS

One overnight gillnet was set for 14.5 hours and caught 28 fish for a catch per unit effort of 1.9 fish per hour. Rio Grande Cutthroat Trout were the only fish species sampled and they ranged in size from 6.1 inches to 16.2 inches. The average length of Cutthroat Trout sampled was 10 inches. Multiple size classes were sampled from Glacier Lake (Fig. 11). The average relative weight of fish sampled was 113.2, with a maximum relative weight of 166.5 and a minimum of 54.3 (Fig 12). Only two fish sampled had poor relative weights. There appeared to be abundant aquatic insects present in the lake including beetles, water striders, and caddisflies. There was also an abundance of mosquitoes at Glacier Lake during this survey.

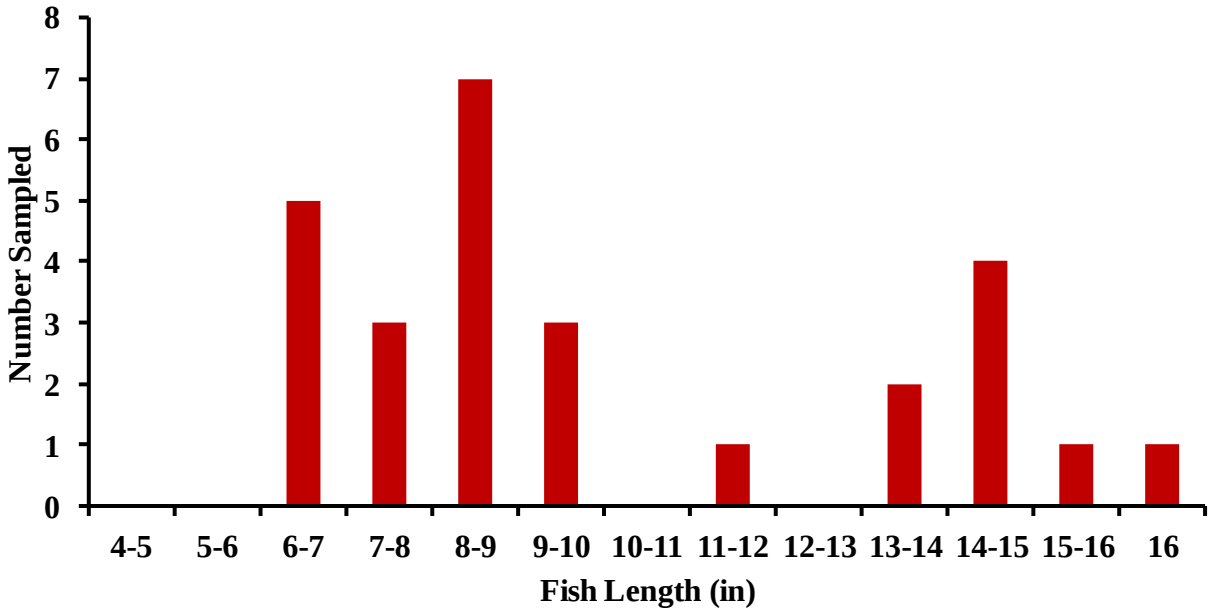

Figure 11. Length Frequency of Rio Grande Cutthroat Trout sampled from Glacier Lake, 2019

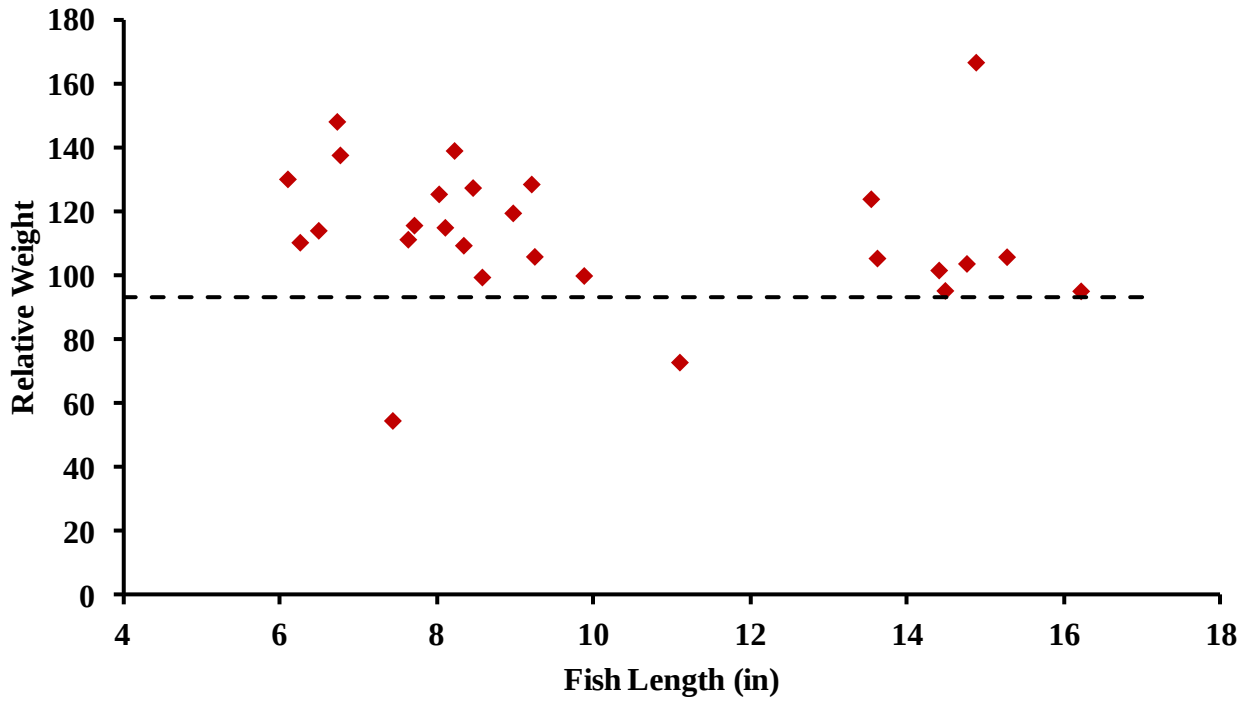

Figure 12. Relative weights of Rio Grande Cutthroat Trout sampled from Glacier Lake, 2019

CONCLUSIONS

Glacier Lake supports a healthy population of Rio Grande Cutthroat Trout. Multiple size classes of fish were sampled during this survey showing good survival of stocked fish. The majority of the fish sampled were in great condition with high relative weights suggesting ample resources in the lake for the current stocking density. The Rio Grande Cutthroat Trout population in Glacier Lake is in great shape and no change in management practices is suggested at this time.

Rio Grande Cutthroat Trout sampled from Glacier Lake 2019

Water: Goose Lake
Location: Rio Grande National Forest, Weminuche Wilderness
Sampling Date: 8/21/2019
Gear: One 75 foot coldwater experimental gillnet
Drainage: Rio Grande
Water Code: 90112
UTM Zone: 13S
Easting: 325839
Northing: 4163088

HISTORY

Goose Lake is a 32 surface acre lake, located at an elevation of 11,809 feet. The shoreline is very accessible and approximately 90% is fishable. The lake has a maximum depth of 13.6 feet and an average depth of four feet. Two outlets are located on the north end of the lake and two inlets are located on the south shore. The substrate of the lake is dominated by large rocks with some areas of mud. Goose Lake can be accessed from the Ivy Creek Trailhead located off Forest Road 526. The Ivy Creek Trail #805 is a moderately trafficked trail that runs about 8 miles to Goose Lake.

Pikes Peak Cutthroat were stocked in Goose Lake from 1974 until 1980. From 1981 until 1995 Snake River Cutthroat were stocked on a biannual basis. Rio Grande Cutthroat were stocked periodically from 1996 to 2002, beginning in 2003 they have been stocked on a biannual basis. The last time the lake was stocked was in July of 2019, prior to this survey.

RESULTS

Twenty-one Cutthroat Trout were sampled in one overnight gillnet set for 15.25 hours for a catch per unit effort of 1.4 fish per hour. Cutthroat Trout were the only species of fish sampled during this survey. Fish sampled ranged in size from 8.5 inches to 13.1 inches with an average length of 10.8 inches. Only one size class was apparent and no smaller or larger fish were sampled (Fig. 13). Fish sampled form Goose Lake had healthy relative weights averaging 114 with the minimum relative weight calculated at 96 (Fig. 14). Although the fish in Goose Lake had healthy relative weights, some external signs of disease were noticed on most fish. All of the fish sampled showed some signs of disease including red spots on skin and cloudy eye. The level of disease varied among the fish sampled.

During this survey, Goose Lake had a large amount of floating algae in the water column however, the lake was still relatively clear and the bottom could be seen even in the deepest parts. Aquatic invertebrates observed in the lake included leeches and caddisflies.

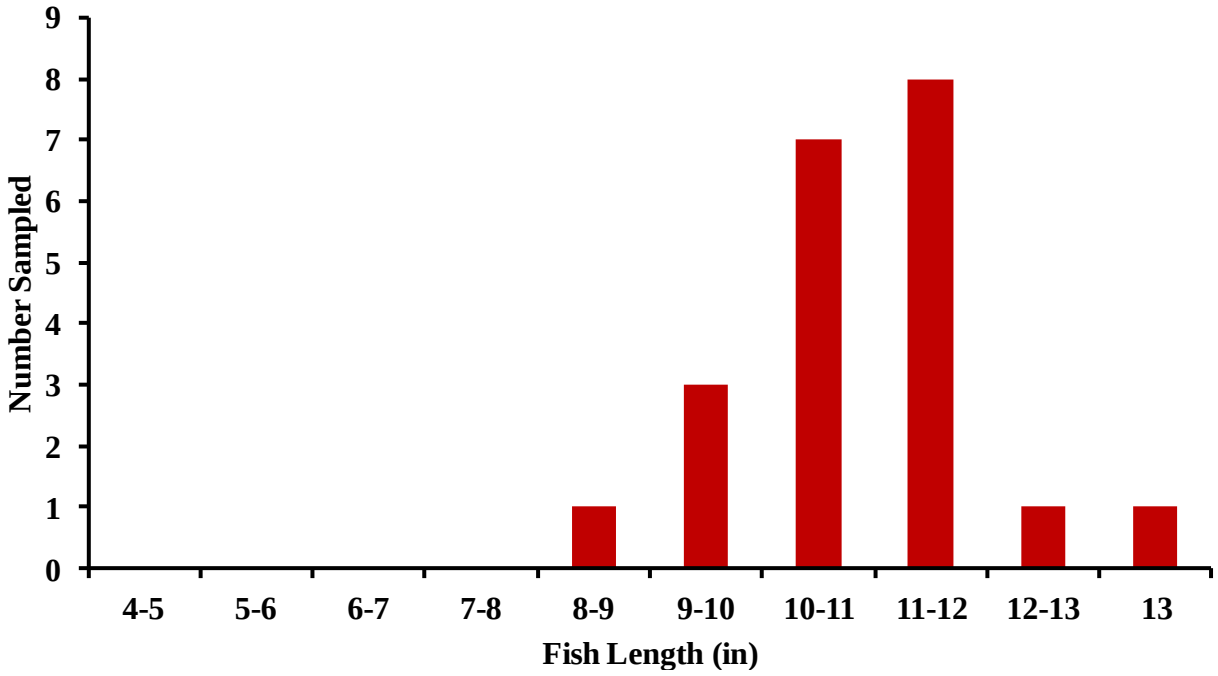

Figure 13. Length frequency of Cutthroat Trout sampled from Goose Lake, 2019

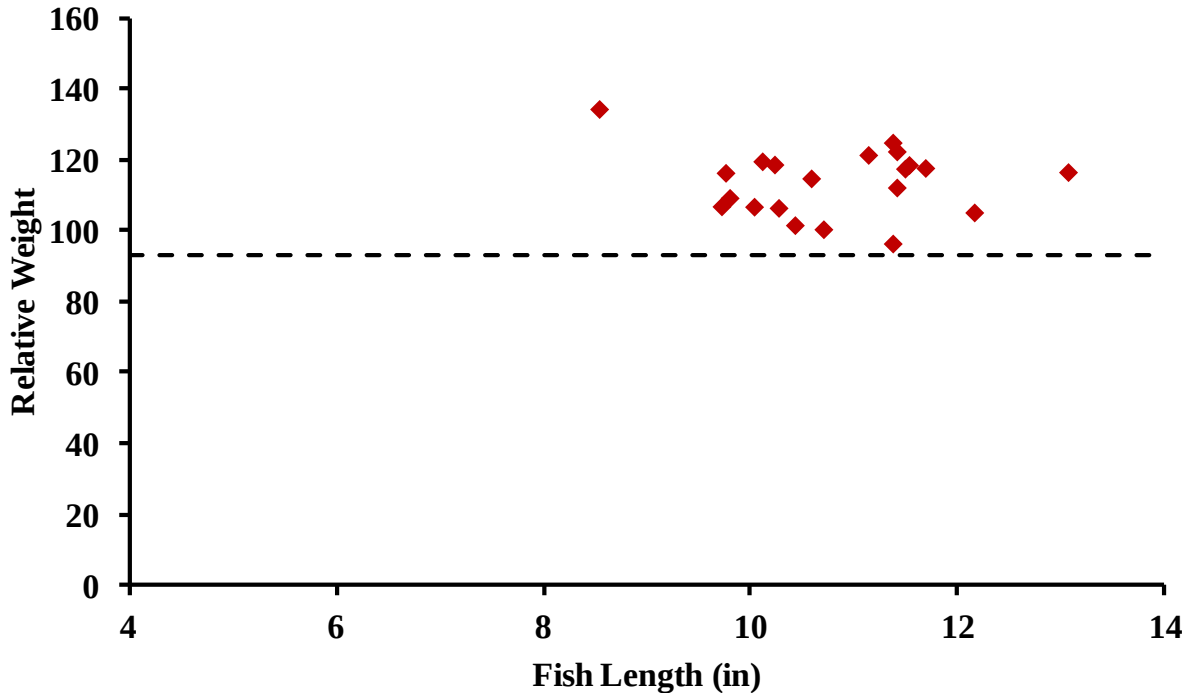

Figure 14. Relative weights of Cutthroat Trout sampled from Goose Lake, 2019

CONCLUSIONS

Goose Lake supports a recreational population of Cutthroat Trout. Most of the fish sampled were between 10 and 12 inches and had healthy weights for their given lengths. No smaller fish were sampled but the lake had just been stocked one month prior to this effort and those fish would still have been too small to effectively sample with gillnets. The lake appears to have sufficient resources for the current density of fish in the lake based on the relative weights of the fish sampled. The largest fish sampled was 13.1 inches but given the availability of resources, it is likely that fish could grow larger in this system. It has been documented that the lake experiences winterkill in some years. The lack of larger fish could be due to a winterkill event that may have occurred in the last few years. No change of management is suggested at this time however, it should be sampled again soon to identify and evaluate the extent of disease in the lake.

Rio Grande Cutthroat Trout sampled from Goose Lake, 2019

Water: Kerr Lake
Location: Approximately 3 miles NE of Platoro Reservoir
Sampling Date: 7/18/2019
Gear: One 75 foot coldwater experimental gillnet
Drainage: Rio Grande
Water Code: 90794
UTM Zone: 13S
Easting: 365927
Northing: 4138757

HISTORY

Kerr Lake is a 40 surface acre natural lake located at an elevation of 11,382 feet in the Alamosa River Drainage. The lake is very productive and has an average depth of 22 feet and a maximum depth of 55 feet. The lake has a mostly rocky substrate with some areas of silt. Kerr Lake was treated with rotenone in 1975 to remove White Suckers. Kerr Lake is also unique as it is managed by special regulations restricting angling to flies and lures only, and a maximum daily bag limit of two trout. Kerr Lake is accessible through Forest Service Road 257 located on the south side of Stunner Pass. The road runs for about four miles to Kerr Lake, and is accessible by four-wheel drive truck. The road is extremely technical and ATV travel is preferable over driving a truck.

Following the rotenone treatment in 1975, Pikes Peak Cutthroat were stocked annually from 1976 to 1980. Snake River Cutthroat Trout were stocked periodically from 1981 to 1993. In 1995 a single stocking event of Brown Trout were introduced to the lake. Rio Grande Cutthroat Trout were stocked periodically from 1998 to 2002 and biannually since. The last time the lake was stocked was in 2019.

RESULTS

One overnight gillnet was set for 13 hours and caught 59 Cutthroat Trout, no other species were sampled. The catch per unit effort for this survey was 4.5 fish per hour. The fish sampled ranged in size from 6.7 inches to 16.7 inches and had an average length of 11 inches. Multiple size classes of Cutthroat Trout were sampled as shown in the length-frequency histogram (Fig. 15). The fish sampled were in good condition and had an average relative weight of 109, with a maximum of 152 and a minimum of 61. The majority of the fish sampled had weights at our above the expected weight related to length (Fig. 16). Only a few fish weighed less than the expected weight. Kerr Lake is considered to be highly productive and multiple families of aquatic invertebrates were observed including scuds, caddisflies, leeches, and water striders.

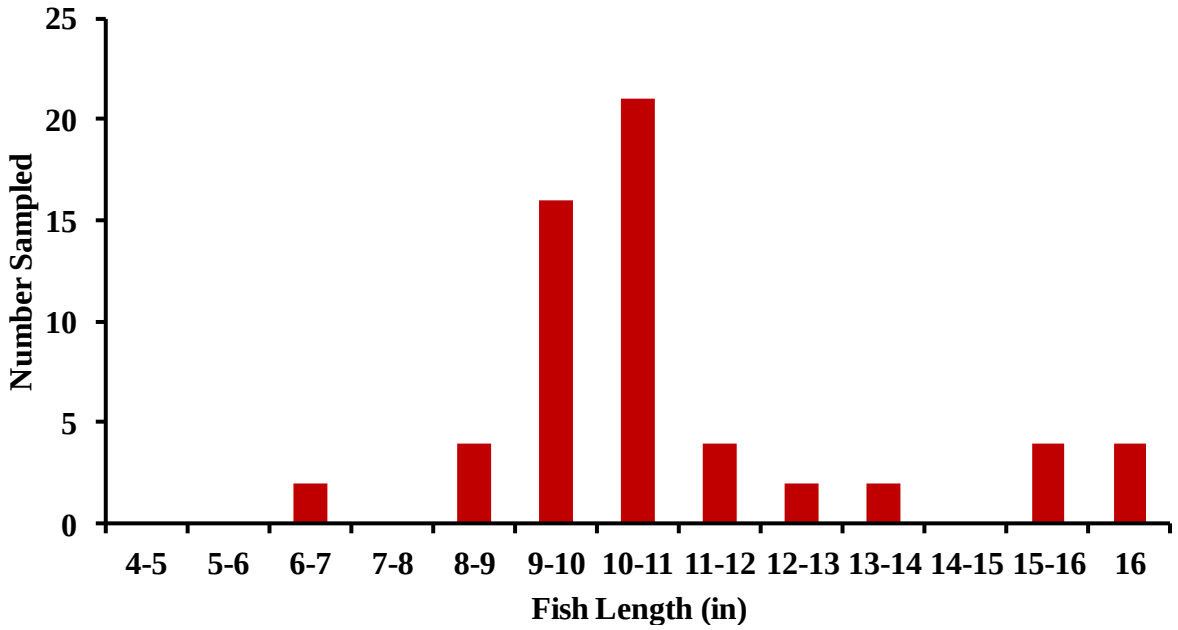

Figure 15. Length frequency of Cutthroat Trout sampled from Kerr Lake, 2019.

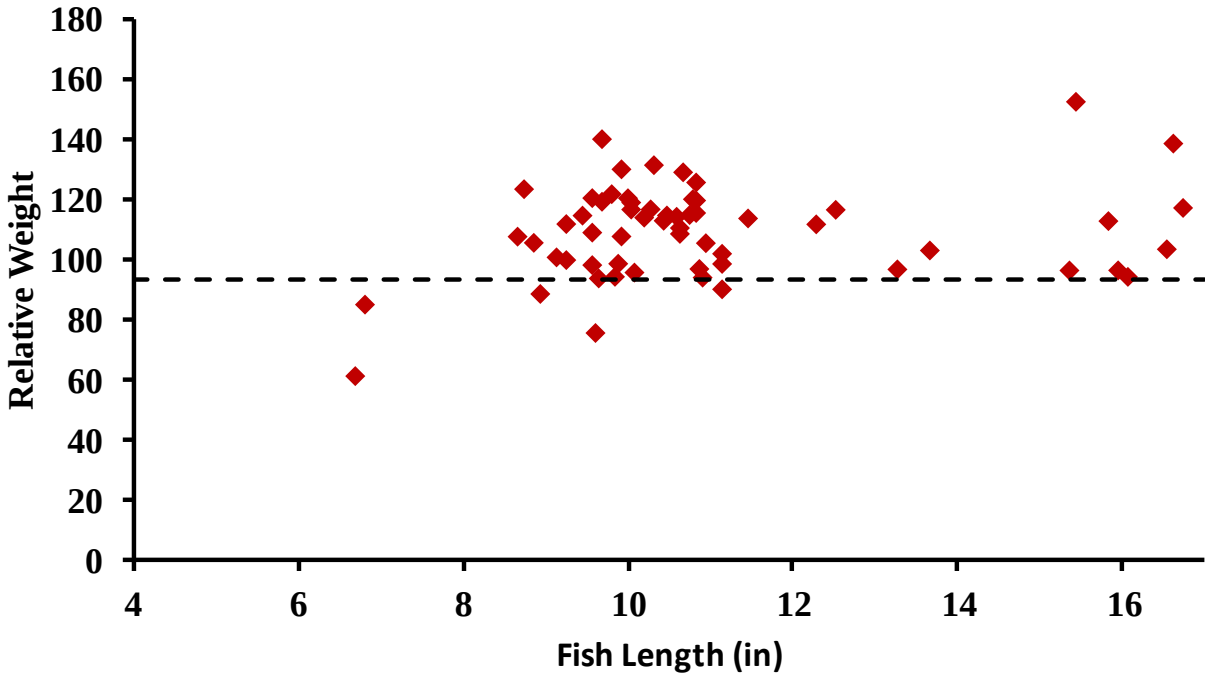

Figure 16. Relative weights of Cutthroat Trout sampled from Kerr Lake, 2019

CONCLUSIONS

Kerr Lake continues to support a healthy population of Cutthroat Trout maintained through biannual stocking. A catch per unit effort of 4.5 fish per hour suggests a high density of Cutthroat Trout in the lake. The fish sampled were all in good condition, despite the high density of fish in the lake. The high productivity of the lake allows for high densities of fish with little competition for resources. No change in management is suggested for Kerr Lake at this time.

Cutthroat Trout sampled from Kerr Lake, 2019

Water: Lost Lake
Location: Rio Grande National Forest, 4 miles SW of La Jara Reservoir
Sampling Date: 7/2/2019
Gear: Two 75 foot coldwater experimental gillnet
Drainage: Rio Grande
Water Code: 93942
UTM Zone: 13S
Easting: 373124
Northing: 4122789

HISTORY

Lost Lake is a 28 surface acre lake located about 4.1 miles southwest of La Jara Reservoir. The Lake is a natural lake located at an elevation of 10,580 feet. The average depth of Lost Lake is 11 feet, and the maximum depth is 25 feet. The shoreline is very accessible with approximately 90% being accessible to anglers. To access Lost Lake take Forest Road 255 to Forest Road 240 toward La Jara Reservoir. Once at La Jara Reservoir, follow the roads along the south shore of the lake to Forest Road 249A. Forest Road 249A is a rough 4X4 road that starts near the campground on the south side of the reservoir, and runs approximately 10 miles to Lost Lake.

Historically, Lost Lake was managed as a Brook Trout fishery and was stocked periodically with Brook Trout from 1976 to 1995. No fish were stocked in the lake from 1996 to 2000. From 2001 until 2003 Rio Grande Cutthroat Trout were stocked in the lake annually and biannual stocking started in 2005. The last time the lake was stocked was in July of 2019, after this survey was completed.

RESULTS

Two 75 foot gillnets were set overnight in Lost Lake. Twenty-four Cutthroat Trout were sampled in a total fishing time of 28.75 hours for a catch per unit effort of 0.83 fish per hour. No other fish species were sampled, however schools of Fathead Minnows were observed along the shoreline. The Cutthroat Trout sampled ranged in size from 10.2 inches to 21.5 inches, and had an average length of 15.45 inches. Multiple size classes were apparent in the sample as shown by the length-frequency plot (Fig. 17). Of the 24 fish sampled, five were too heavy for our scale, which had a maximum capacity of 4.4lbs. These larger fish were unable to be used in the relative weight calculations. Based on the relative weights that were calculated, fish appear to be in great shape. The average relative weight of fish sampled was 139, with a maximum of 269, and a minimum of 65.5 (Fig. 18). Lost Lake appears to be a highly productive lake and many aquatic invertebrates were observed as well. Aquatic insects found in the lake included water striders, caddisflies, mayflies, leeches, and dragonfly larva.

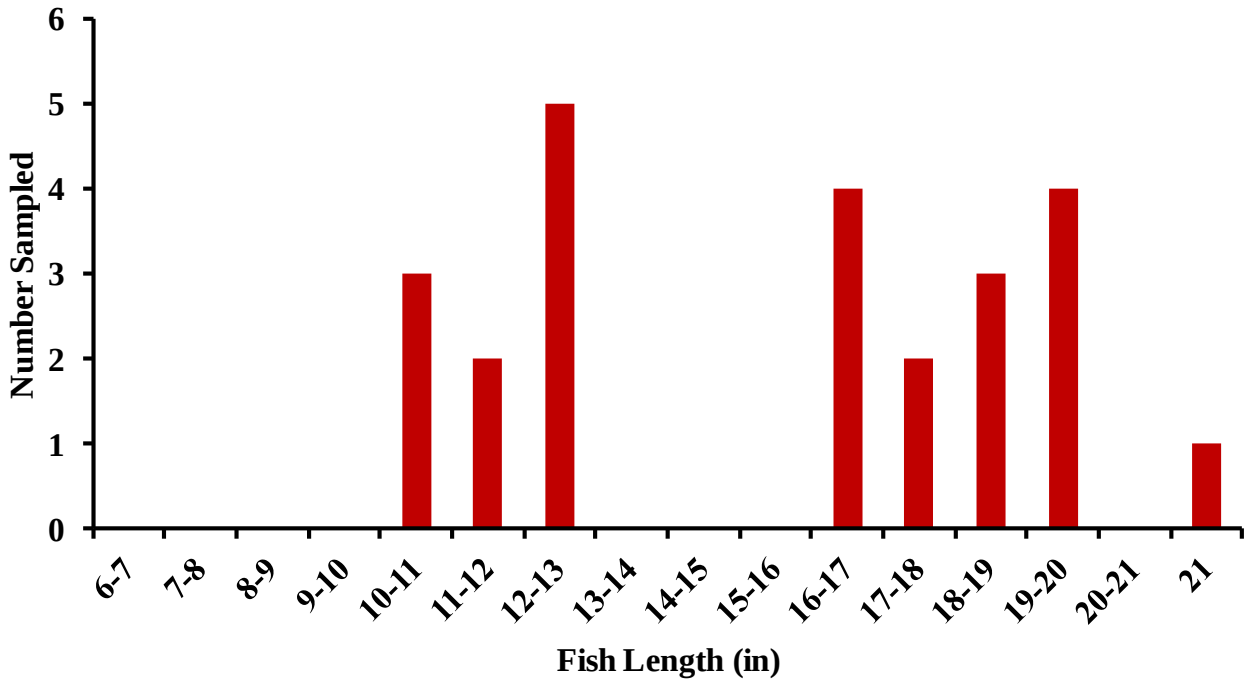

Figure 17. Length frequency of Cutthroat Trout sampled from Lost Lake, 2019

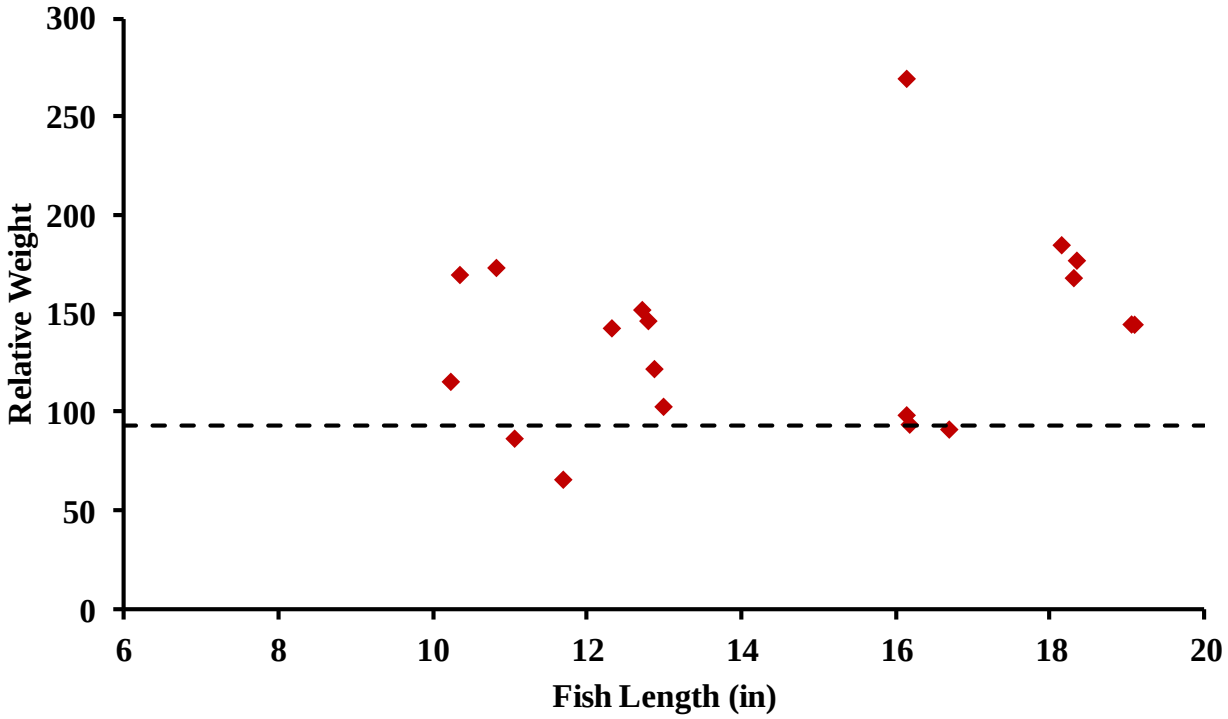

Figure 18. Relative weights of Cutthroat Trout sampled from Lost Lake, 2019

CONCLUSIONS

Lost Lake is a very productive lake that appears to have a large amount of prey resources for Cutthroat Trout. The catch per unit effort during this survey was slightly under one fish per hour suggesting a lower density of fish in the lake. The fish that were sampled were in extremely good condition as shown by the relative weights of the fish that were weighed. The lower density of fish in the lake coupled with the ample prey resources has produced a “trophy” component for anglers. Based on the density of fish sampled, Lost Lake could support a higher stocking rate. However, a decrease in fish size would likely occur if the stocking rate were increased due to increased completion in the lake. In order to maintain the large sized fish in the lake, no change in management is recommended at this time. The lake should continue to be monitored for drops in population size so stocking can be adjusted accordingly if needed.

Rio Grande Cutthroat Trout sampled from Lost Lake, 2019

Water: Timber Lake
Location: Rio Grande National Forest
Sampling Date: 8/2/2019
Gear: One 75 foot coldwater experimental gillnet
Drainage: Rio Grande
Water Code: 92609
UTM Zone: 13S
Easting: 361377
Northing: 4122673

HISTORY

Timber Lake is a 12 surface acre natural lake located at an elevation of 11,322 feet. The lake is located in the Rio Grande National Forest approximately six miles south of Platoro Reservoir. The lake has an average depth of 10 feet and a maximum depth of 18.2 feet. The substrate is mixed silt and gravel and 90% of the shoreline is accessible to angling. Timber Lake is fed by seepage and has one outlet located on the south shore. The lake is accessible from the Canyon Rincon Trail #722. The trail begins at Forest Road 105, and runs about 5 miles to the junction with Timber Lake Trail #723. At this point, there is a sign but you must cross an open field to find the trail. The Timber Lake Trail runs about 2 miles up to the lake.

Timber Lake was stocked with Pikes Peak Native Cutthroat Trout on four occasions from 1973 to 1978. Starting in 1980 the lake was managed as a Brook Trout fishery with numerous stocking events occurring until 1995. Rio Grande Cutthroat Trout were first stocked into the lake in 2001 and 2002. Starting in 2003 the lake has been stocked on a biannual basis, with the last stocking event occurring in July of 2019.

RESULTS

One overnight experimental gillnet was set for 14 hours and no fish were sampled. Some small unidentifiable fish were observed swimming along the shore but no fish were sampled during this survey. The lake was stocked with one inch Cutthroat Trout two weeks prior to this survey, which could be the small fish, observed from shore. During the observational walk along the lakeshore, numerous dead and decomposing fish were observed on the lake bottom. It was also noted that many dead trees had fallen into the lake. A good diversity of aquatic insects was observed including leeches, caddisflies, diving beetles, waterstriders, mosquitoes, and damselflies.

CONCLUSIONS

Timber Lake appears to have winterkilled over the winter of 2018-2019. The lake appears to still be productive based on the number and diversity of aquatic insects. The Rio Grande Cutthroat Trout that were stocked in July are expected to have survived and the lake will provide opportunities for Cutthroat anglers in the future. At this time, no change in management is suggested. However, the lake should be monitored for future winterkill events to assess the extent of these occurrences.

Water: Upper San Francisco Lake
Location: Rio Grande National Forest, South of Del Norte
Sampling Date: 8/19/2019
Gear: One 75 foot coldwater experimental gillnet
Drainage: Rio Grande
Water Code: 93283
UTM Zone: 13S
Easting: 373902
Northing: 4150118

HISTORY

Upper San Francisco Lake is a 4.3 surface acre natural lake located at the headwaters of San Francisco Creek at an elevation of 11,980 feet. The lake is relatively shallow with an average depth of 5 feet and a maximum depth of 7 feet. Due to the shallow depth and high elevation, the lake is often subject to winterkill events. Approximately 90% of the shoreline is accessible to anglers. Upper San Francisco Lake has a large rock dominated substrate with some areas of silt bottom. The lake is accessible from Forest Service Road 1331 south of Del Norte, which leads to a trailhead for San Francisco Creek. Follow the hiking trail approximately 6 miles to the lake.

Pikes Peak Native Cutthroat Trout were stocked in Upper San Francisco Lake until 1979 when the lake was chemically treated to remove all trout. After the chemical treatment in 1979, the lake was stocked with Rio Grande Cutthroat Trout that same year. Rio Grande Cutthroat Trout have been stocked in the lake many times since 1979. Currently, San Francisco Lake is stocked on a biannual basis with the last stocking event taking place in July of 2019.

RESULTS

One 75 foot gillnet set overnight for 15 hours at Upper San Francisco Lake and caught 24 Rio Grande Cutthroat Trout. The catch per unit effort was 1.6 fish per hour of the net being set. Rio Grande Cutthroat Trout were the only species of fish sampled during this survey. Fish ranged in size from 8.3 inches to 20 inches and had an average length of 8.3 inches. Two size classes of fish were apparent in the fish sampled (Fig. 19). No smaller fish were sampled but this is likely due to gear selectivity as one-inch fish were stocked two weeks prior to this survey. All of the fish sampled were in good condition however, 10 individual fish were not included in the relative weight data because they were too heavy for our scale. Of the relative weights that could be calculated the maximum value was 169, the minimum value was 75 and the average relative weight was 127 (Fig 20). Aquatic invertebrates observed at Upper San Francisco Lake include mayflies, caddisflies, and scuds.

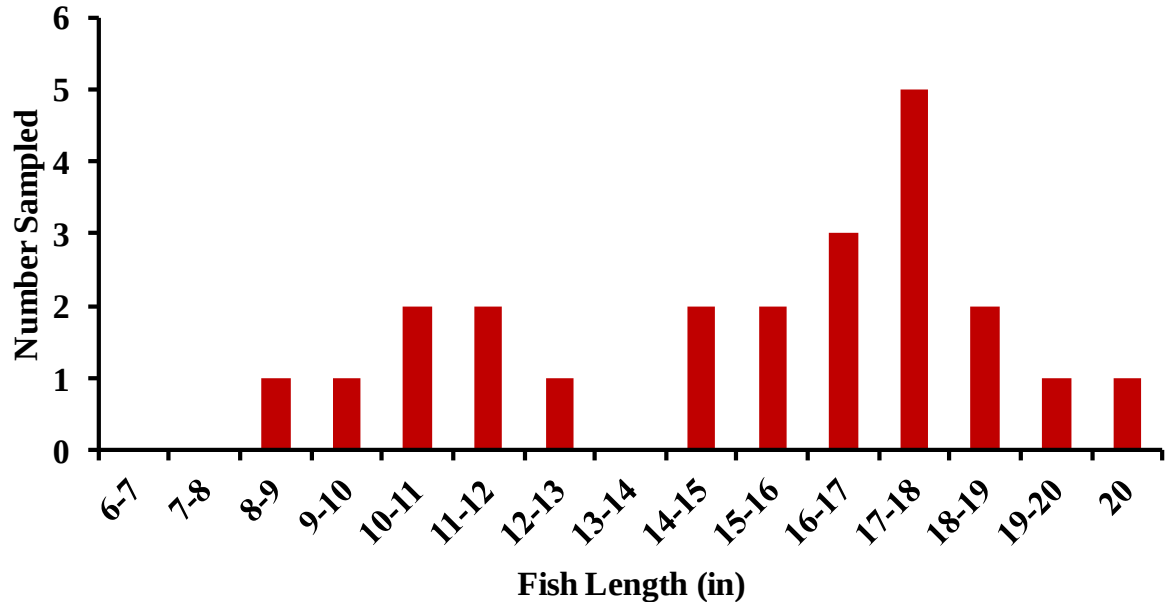

Figure 19. Length frequency of Rio Grande Cutthroat Trout sampled from Upper San Francisco Lake, 2019

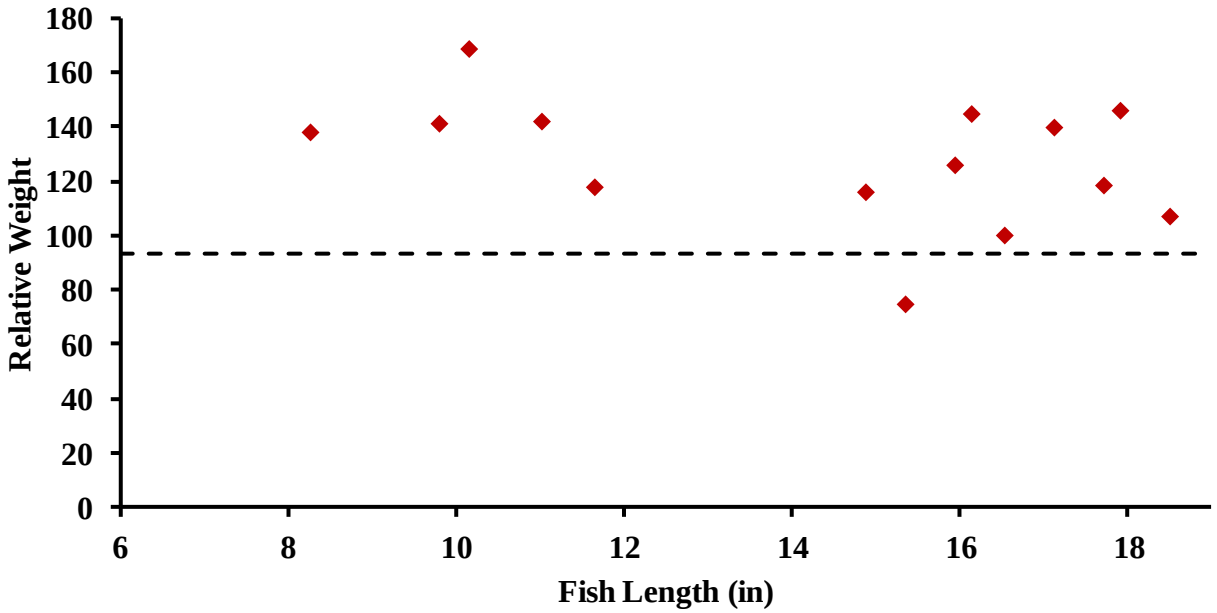

Figure 20. Relative weights of Rio Grande Cutthroat Trout sampled from Upper San Francisco Lake, 2019

CONCLUSIONS

Upper San Francisco Lake supports a healthy population of Rio Grande Cutthroat Trout. Multiple size classes in the lake suggest survival has been good for the past few years and no winterkill events have occurred. The relative weights of the fish we were able to weigh show good growth and condition of the fish in this lake. The condition of the fish suggests ample resources for the current stocking rate. At this time, no change in management is suggested for Upper San Francisco Lake.

Rio Grande Cutthroat Trout sampled from Upper San Francisco Lake, 2019

Water: Upper Twin Lake (West)
Location: Rio Grande National Forest (Conejos)
Sampling Date: 7/31/2019
Gear: One 75 foot coldwater experimental gillnet
Drainage: Rio Grande
Water Code: 92750
UTM Zone: 13S
Easting: 359733
Northing: 4125480

HISTORY

Upper Twin Lake also known as West Twin Lake is located in the Conejos River Forest District of the Rio Grande National Forest. The lake is located at the headwaters of Canon Rincon in the South Fork Conejos River drainage. Upper Twin Lake is a two surface acre lake, with a maximum depth of four feet located at an elevation of 11,797 feet. The lake has multiple small inlets and one outlet. Approximately 90% of the shoreline is accessible to anglers and the substrate of the lake is predominately silt/mud. To access Upper Twin Lake take the South Fork Conejos River Trail #724 approximately 7.5 miles to Rincon Trail #722. Trail #722 runs about 2.7 miles to the juncture with Trail #711. Follow Trail #711 about ½ mile to Upper Twin Lake.

Upper Twin Lake was stocked many times with Rainbow Trout from 1973 until 1995. Rio Grande Cutthroat Trout were first stocked in 1997 and are now stocked on a biannual basis. The last time the lake was stocked was in July of 2019 about 1 week prior to this survey.

RESULTS

Eight Rainbow Trout were sampled in one 13.5 hour, overnight gillnet set. The catch per unit effort was 0.6 fish per net hour. No other species of fish were sampled during this survey. Rainbow Trout sampled ranged in size from 9.4 inches to 16.1 inches and had an average length of 12.8 inches. There were no well-defined size classes due to the low number of fish sampled (Fig 21). The relative weights of the fish sampled averaged 86.5 and ranged from 73.1 to 104.8 (Fig. 22). Very few aquatic invertebrates were observed in the lake, and only diving beetles were identified.

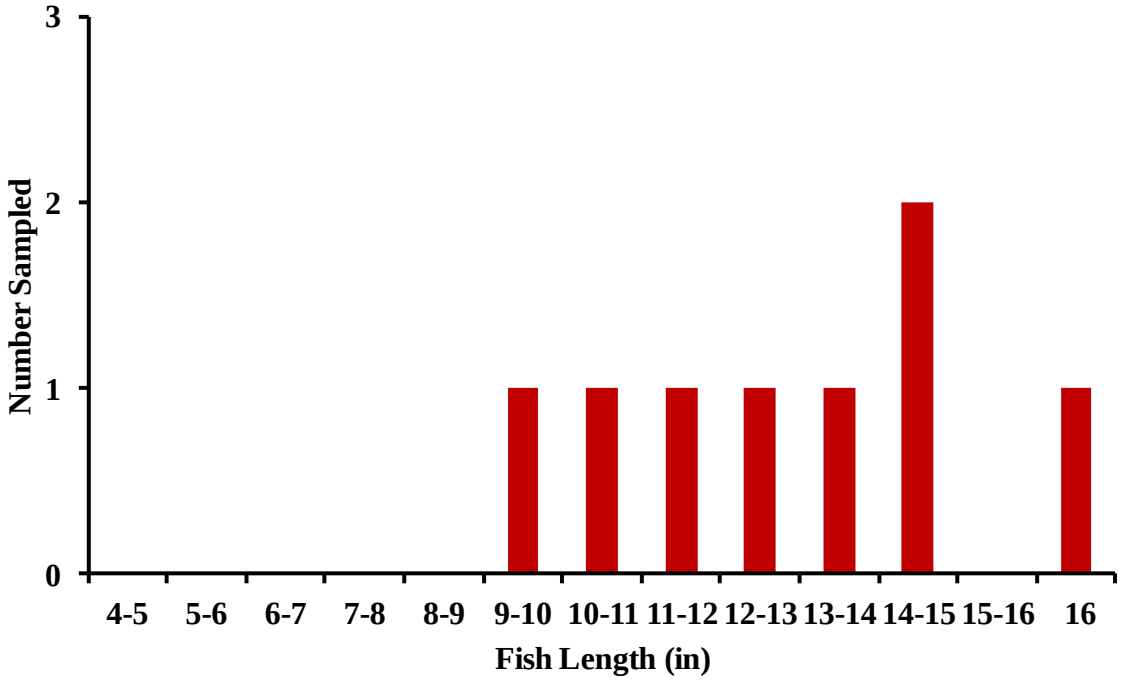

Figure 21. Length frequency of Rainbow Trout sampled from Upper Twin Lake, 2019

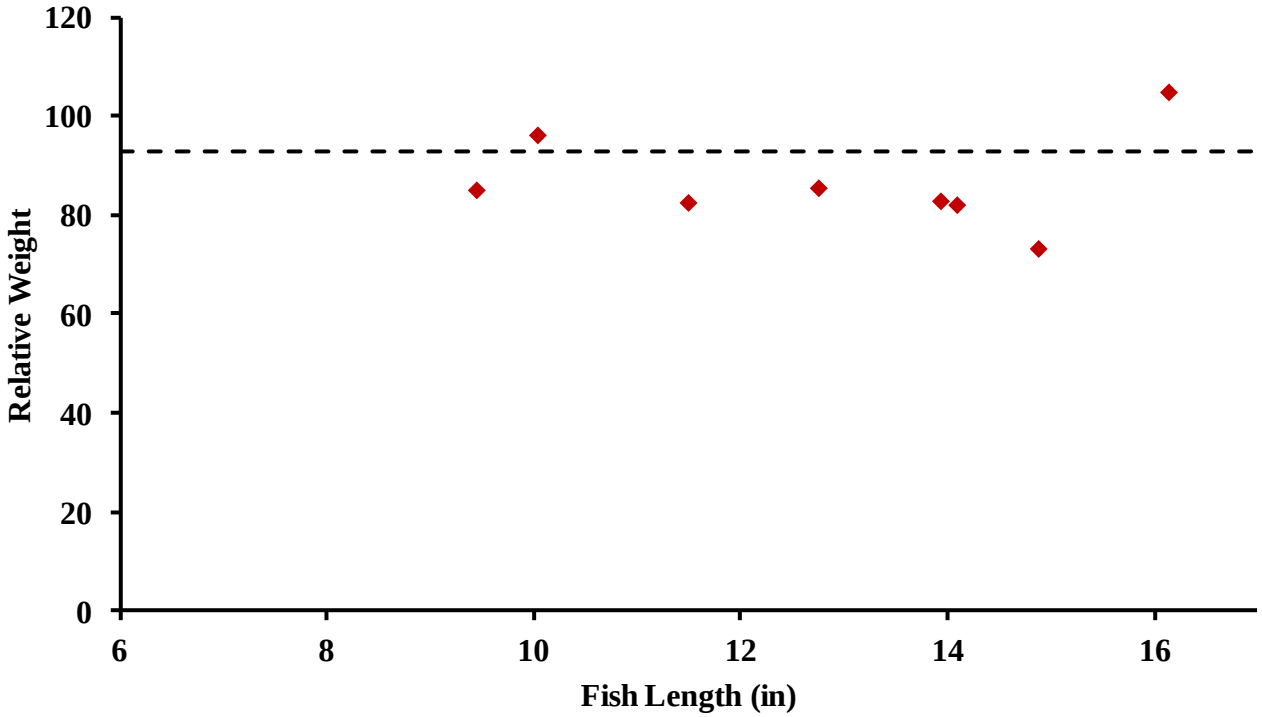

Figure 22. Relative Weights of Rainbow Trout sampled from Upper Twin Lake, 2019

CONCLUSIONS

Upper Twin Lake supports a small self-sustaining population of Rainbow Trout. The catch per unit effort of 0.6 fish per net hour suggests a low density of fish in the lake. Although the density of fish appears to be low, the majority of those fish had relative weights smaller than expected for their given size. The high elevation and shallow nature of this lake cause it to have low productivity as shown by both the fish population and lack of aquatic insects. No Rainbow Trout have been stocked in the lake since 1995, and their continued persistence shows some level of natural reproduction occurring in the lake. At this time, it is recommended to remove Upper Twin Lake from the Cutthroat stocking program and manage the lake as a natural reproducing Rainbow Trout lake.

Rainbow Trout sampled from Upper Twin Lake, 2019

Water: Ute Twin (Main)
Location: Rio Grande National Forest, Weminuche Wilderness
Sampling Date: 8/9/2019
Gear: One 75 foot coldwater experimental gillnet
Drainage: Rio Grande
Water Code: 92813
UTM Zone: 13S
Easting: 284869
Northing: 4168790

HISTORY

Main Ute Lake is located in the Weminuche Wilderness near the continental divide at an elevation of 11,847 feet. The lake is a deep natural lake with an average depth of 90 feet and a maximum depth of 126 feet. Main Ute Lake is a large lake at a size of 33 surface acres with a gravel and sandy substrate. Some sides of the lake are large cliffs and about 50% of the shoreline is accessible to anglers. The lake has two inlets, one on the east and one on the west side. The lake also has one outlet located on the northeast shore. To access Main Ute Lake take the Ute Creek Trail #819 which starts at Rio Grande Reservoir. Follow trail #819 for approximately 9.8 miles to the juncture with Ute Lake Trail #905. Follow tail #905 for approximately 2 miles until you can see the lake in the basin below you. From the trail, it is about 400 feet to the lake. The Ute Creek Trail #819 begins with a crossing of the Rio Grande and it is not recommended in early spring or during high flows.

Main Ute Lake was stocked with Rainbow Trout and Brook Trout in 1947. Rainbow Trout were also stocked in 1948, 1961, 1966, 1967, and 1970. Cutthroat Trout were stocked in 1950 for the first time but were not stocked on a regular basis until the 1970s. From 1972 to 1980 Pikes Peak Native Cutthroat were stocked six times. Snake River Cutthroat Trout were stocked in many years from 1981 until 1995. Rio Grande Cutthroat Trout stocking started in 1996 and they are now stocked on a biannual basis. The last time the lake was stocked was in July of 2019, about two weeks prior to this survey.

RESULTS

Brook Trout were the only species of fish sampled from Main Ute Lake during this survey. During one 15.5 hour overnight gillnet set 64 Brook Trout were sampled for catch per unit effort of 4.1 fish per net hour. The fish sampled ranged in size from 5.9 inches to 11.1 inches and had an average length of 8.8 inches. The majority of fish sampled were between 8-10 inches and no other large size classes were apparent (Fig. 23). Relative weights of fish sampled were highly variable and ranged from 44 to 166 with an average relative weight of 98 (Fig 24). Very few aquatic invertebrates were observed and included caddisflies, mayflies, and water striders. Although not sampled with our gillnet, many young of year trout were observed along the shoreline of the lake.

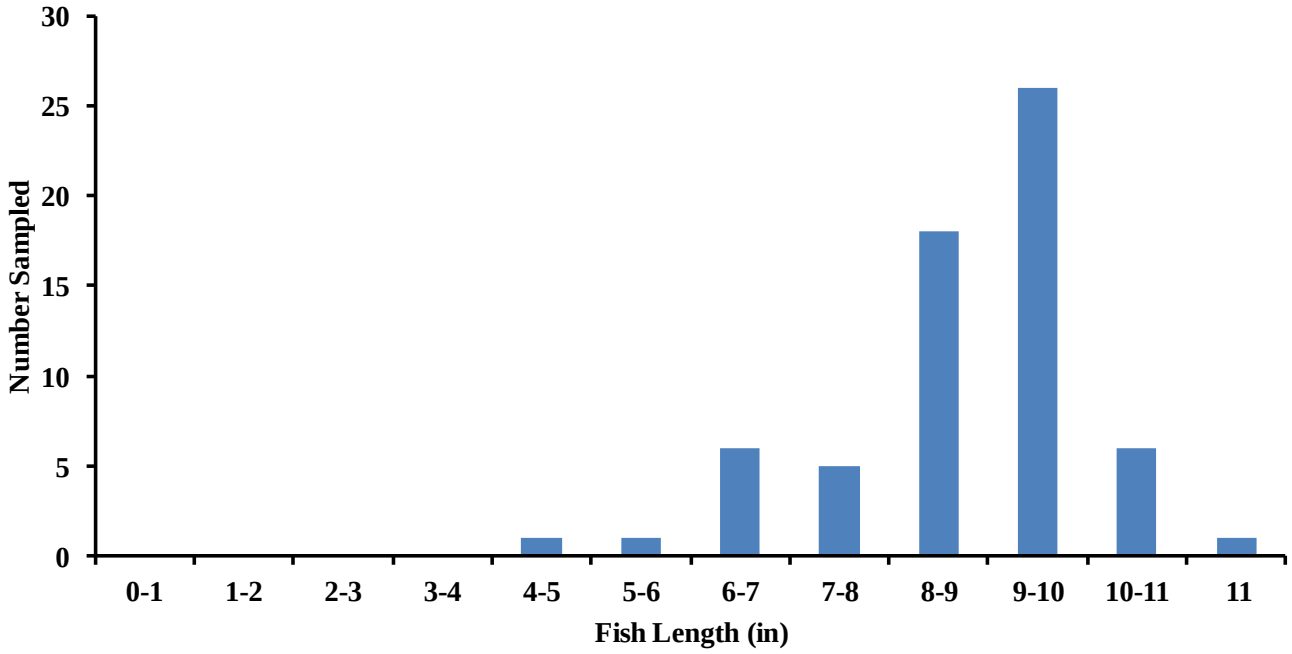

Figure 23. Length frequency of Brook Trout sampled from Main Ute Lake, 2019

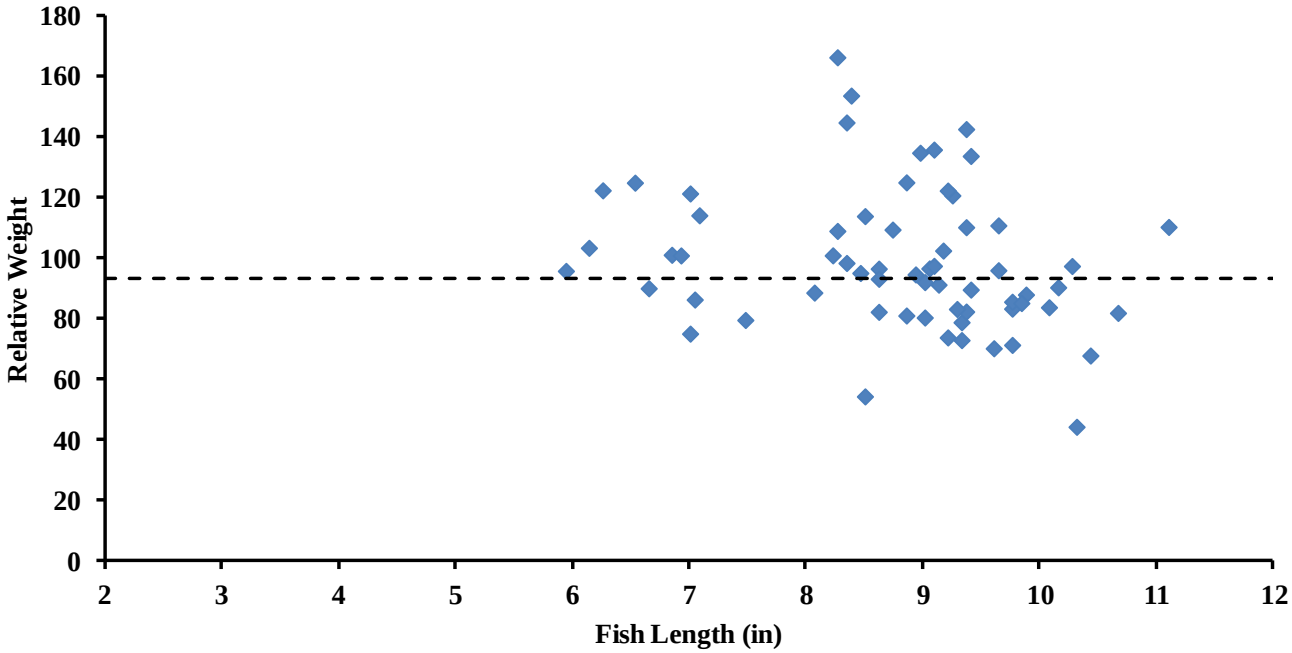

Figure 24. Relative weights of Brook Trout sampled from Main Ute Lake, 2019

CONCLUSIONS

Main Ute Lake supports a large population of small Brook Trout. The condition of the fish is highly variable as shown by the relative weights, suggesting high completion for resources in the lake. The small young of year fish observed from shore were unidentifiable however, the fish observed could have been the Rio Grande Cutthroat stocked two weeks prior to this survey. Although the lake is stocked frequently with Rio Grande Cutthroat, survival of those fish is low. The high density of Brook Trout is likely outcompeting the stocked Cutthroat Trout. At this time, Main Ute Lake should be removed from the Rio Grande Cutthroat stocking schedule.

Brook Trout sampled from Main Ute Lake, 2019

Water: Ute Lakes, Lower Twin and Upper Twin
Location: Rio Grande National Forest, Weminuche Wilderness
Sampling Date: 8/8/2019
Gear: One 75 foot coldwater experimental gillnet
Drainage: Rio Grande
Water Code: 92837, 92849
UTM Zone: 13S

Lower Twin	Upper Twin
Easting: 283232	**Easting:** 283113
Northing: 4168740	**Northing:** 4168541

HISTORY

Ute Lakes, Lower Twin and Upper Twin are connected by a small channel allowing movement of fish between the two waters. Due to the connected nature of these lakes, I have combined the data for the purpose of this report. Upper Twin Ute Lake is the larger of the two lakes at 15.8 surface acres. Lower Twin Lake is much smaller at approximately five surface acres. Both lakes have similar depths with an average depth of 13 feet and a maximum depth of 22.6 feet found in the Upper Lake. The substrate of Ute Twin Lakes is dominated by silt with some areas of gravel. The lakes are fed by multiple small inlets and no outlet was apparent. To access the Twin Ute Lakes, take the Ute Creek Trail #819, which starts, at Rio Grande Reservoir. Follow trail #819 for approximately 11.5 miles to the juncture with Continental Divide National Scenic Trail #813. Take Trail #813 approximately ¾ of a mile to Twin Ute Lakes. The Ute Creek Trail #819 begins with a crossing of the Rio Grande and it is not recommended in early spring or during high flows.

The stocking history is the same for both of the Twin Ute Lakes. From 1974 to 1980 Pikes Peak Native Cutthroat were stocked on five occasions. Starting in 1981, Snake River Cutthroat Trout were stocked in the lakes until 1995. In 1996 Rio Grande Cutthroat were stocked in the lakes for the first time. Currently, the lakes are stocked on a biannual basis, with the last plant occurring in July of 2019, about 2 weeks prior to this survey.

RESULTS

Two overnight gillnets were set in The Ute Twin Lakes, one net in each lake. The total net set time was 30.55 hours (15.25 hours/net) during which time six Rio Grande Cutthroat Trout and no other species were sampled. The combined catch per unit effort was 0.19 fish per net hour. The fish sampled ranged in size from 8 to 10.5 inches and had an average length of 9.1 inches (Fig. 25). All of the fish sampled were in healthy condition and had an average relative weight of 117 (Fig. 26). The maximum and minimum relative weights for fish sampled from Ute Twin Lakes were 105 and 112 respectively. Aquatic invertebrate density appeared low and included caddisflies, water striders, and scuds.

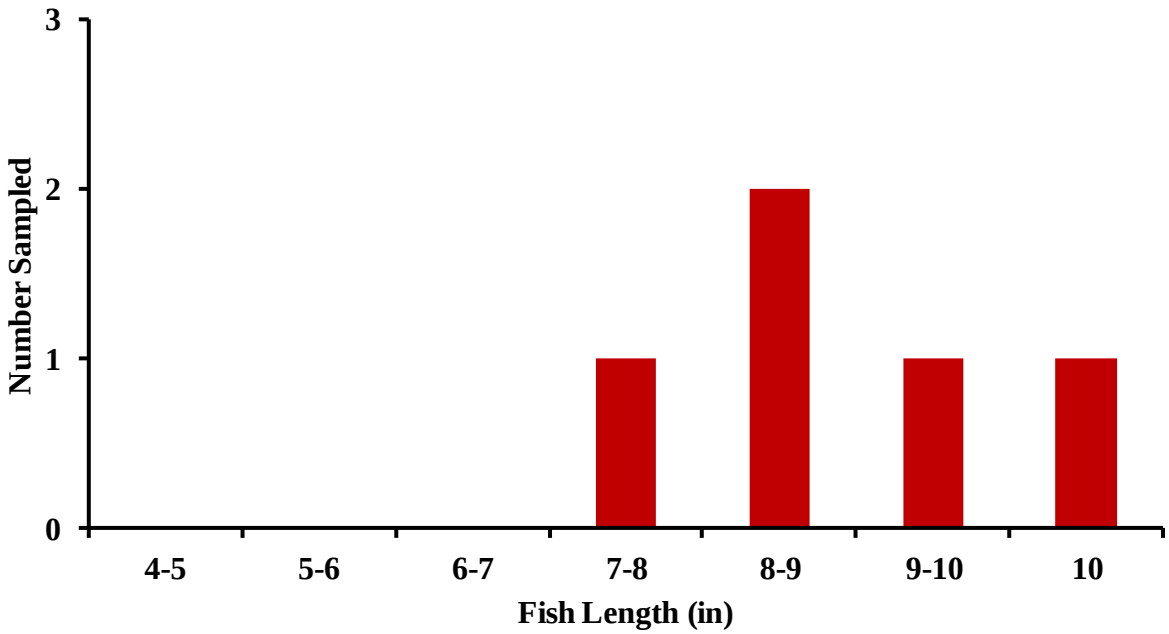

Figure 25. Length frequency of Cutthroat Trout sampled from Ute Twin Lakes, 2019

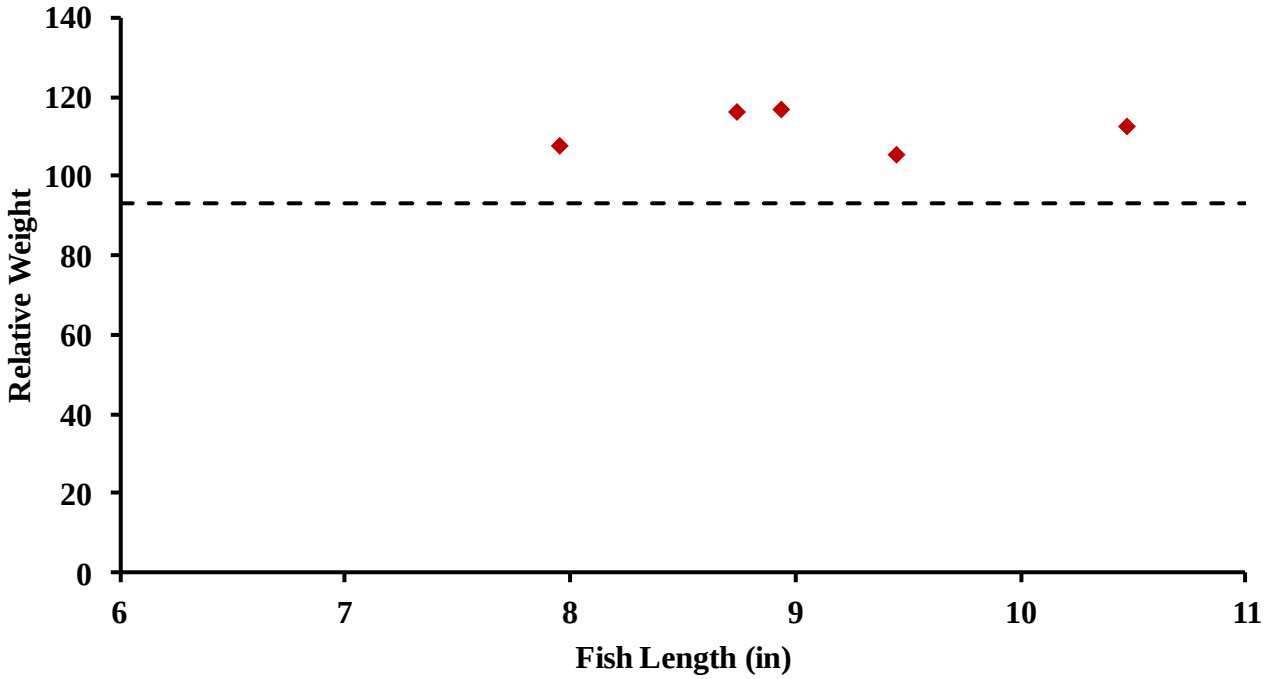

Figure 26. Relative weights of Cutthroat Trout sampled from Ute Twin Lakes, 2019

CONCLUSIONS

The Twin Ute Lakes support a small population of Cutthroat Trout. The low catch per unit effort suggests issues with survival of fish in these lakes. The low survival is likely due to winterkill events. The relative weights of fish sampled show the fish to be in good condition suggesting low levels of competition in the lakes. At this time, no change in management is suggested however, the lakes should be monitored frequently to gain a better understanding of winterkill events and any other survival issues. If the lake continues to have a small population of Rio Grande Cutthroat Trout, a higher stocking rate may be considered in the future.

Cutthroat Trout sampled from Ute Twin Lakes, 2019