

NEVADA DEPARTMENT OF WILDLIFE STATEWIDE FISHERIES MANAGEMENT



FEDERAL AID JOB PROGRESS REPORTS

F-20-50
2014

BLUE LAKES WESTERN REGION



**NEVADA DEPARTMENT OF WILDLIFE, FISHERIES DIVISION
ANNUAL PROGRESS REPORT**

State: *Nevada*
Project Title: *Statewide Fisheries Program*
Job Title: *Blue Lakes*
Period Covered: *January 1, 2014 through December 31, 2014*

SUMMARY

The 2014 fishing season began on June 14, 2014 and ended November 15, 2014. During the 2014 fishing season, Blue Lakes was stocked with 3,528 triploid rainbow trout and 2,004 bowcutt trout. The water level at Blue Lakes remained low throughout the entire 2014 fishing season with the lower lakes receiving little to no water. The main lake water level was low at the start of the fishing season and was estimated to be 12–15 feet below the natural rim of the lake.

Anglers participating in the mail-in angler questionnaire survey reported fishing Blue Lakes during the 2013 fishing season. Angler drop-box forms were maintained throughout the 2014 fishing season and collected after the season closed from Blue Lakes. Opportunistic angler contact surveys were completed throughout the fishing season. These methods were used to determine angler success.

BACKGROUND

Blue Lakes are composed of three small lakes located in the Pine Forest Range Wilderness Area at 8,300 feet in elevation. The main lake covers 24 surface acres with a maximum depth of 44 feet and average depth of 24 feet. The lower lake covers 7.4 surface acres. Access to Blue Lakes requires an approximately 1/4 mile hike from the trailhead to the main lake.

Historically, Blue Lakes supported a Lahontan cutthroat trout fishery. Currently, there is a self-sustaining population of brook trout along with rainbow, tiger, and bowcutt trout, which are augmented by stocking using helicopters. Blue Lakes are managed as a quality coldwater fishery.

OBJECTIVES

- Conduct a general fisheries assessment through opportunistic angler contacts, angler drop-box surveys, and mail-in angler questionnaire data.
- Conduct a general habitat assessment through visual observations of water quantity (lake level) and water quality (clarity) when on site.

PROCEDURES

Conduct a general fisheries assessment through opportunistic angler contacts, angler drop-box surveys, and Mail-in Angler Questionnaire Survey. Opportunistic angler contacts were made during the 2014 fishing season by contacting anglers that were fishing Blue Lakes or camped at the Blue Lakes trailhead. The angler drop-box was maintained prior to the fishing season opening and was checked by the close of fishing season on November 15, 2014. Participating anglers rated their satisfaction in angling experience, size of fish, and number of fish caught on a scale of -2 (worst) to +2 (best). The 2013 mail-in angler questionnaire data was summarized. The voluntary angler questionnaire is randomly mailed to 30,000 fishing license holders for the year to estimate angler use and success.

Conduct a general habitat assessment through visual observations of water quantity (lake level) and water quality (clarity) when on site. Blue Lakes was visited in May, June, August, September, and November to monitor lake level, water clarity, and aquatic vegetation.

FINDINGS

Conduct a general fisheries assessment through opportunistic angler contacts, Angler Drop-Box Surveys, and Mail-in Angler Questionnaire Survey. Blue Lakes was stocked with 3,528 fingerling triploid rainbow trout and 2,004 bowcutt trout on September 18, 2014 using a helicopter. The stocking history from 2010 through 2014 is summarized in Table 1.

Table 1. Blue Lakes Stocking Data 2010-2014.

| Year | Species | Strain | Number of Fish | Pounds of Fish | Average Size (inches) | Annual Total | |
|-------|---------|-----------|----------------|----------------|-----------------------|--------------|--------|
| | | | | | | Number | Pounds |
| 2010 | Rainbow | Tahoe | 533 | 1 | 1.7 | 2,536 | 5 |
| | Bowcutt | | 2,003 | 4 | 1.7 | | |
| 2011* | - | - | - | - | - | - | - |
| 2012 | Rainbow | Fish Lake | 4,044 | 73 | 3.6 | 4,044 | 73 |
| 2013 | Rainbow | Triploid | 1,501 | 22 | 3.3 | 4,004 | 35 |
| | Bowcutt | | 2,503 | 13 | 2.3 | | |
| 2014 | Rainbow | Triploid | 3,528 | 120 | 4.4 | 5,532 | 126 |
| | Bowcutt | | 2,004 | 6 | 1.9 | | |

* No fish stocking occurred in 2011

Anglers completing mail-in angler questionnaire forms for the 2013 fishing season reported catching 4.01 fish per day, which is higher than the 2012 reported catch rate of 3.44 fish per day and right at the five-year average of 4.00 fish per day. The mail-in angler questionnaire results are summarized in Table 2.

Table 2. Blue Lakes Angler Questionnaire Data 2009-2013.

| Year | Anglers | Days | Fish | Fish/Day | Fish/Angler | Days/Angler |
|---------|---------|------|---------|----------|-------------|-------------|
| 2009 | 296 | 420 | 2,331 | 5.55 | 7.88 | 1.42 |
| 2010 | 381 | 563 | 1,652 | 2.93 | 4.34 | 1.48 |
| 2011 | 301 | 604 | 2,461 | 4.07 | 8.18 | 2.01 |
| 2012 | 227 | 392 | 1,349 | 3.44 | 5.94 | 1.73 |
| 2013 | 147 | 351 | 1,406 | 4.01 | 9.56 | 2.38 |
| Average | 270.4 | 466 | 1,839.8 | 4.00 | 7.18 | 1.80 |

Anglers completed angler drop-box forms for Blue Lakes from June through November. A total of 41 anglers participated. Angler satisfaction was rated positive for angling experience, size of fish, and number of fish caught. The average rating for angling experience was 1.48, size of fish 1.29, and number fish caught 1.31. The results of the angler drop-box survey are summarized in Tables 3 and 4.

Table 3. Monthly Angler Use and Success Data – Drop Box.

| Month | # of Anglers | # of Angler Hours | Angler Satisfaction | | | # of Fish Caught | # of Fish Harvested | Fish/Angler | Fish/Hour |
|-----------------------|--------------|-------------------|---------------------|--------------|-----------|------------------|---------------------|-------------|-----------|
| | | | Angling Experience | Size of Fish | # of Fish | | | | |
| June | 9 | 34 | 1.67 | 1.33 | 1.78 | 205 | 39 | 22.70 | 6.03 |
| July | 12 | 41 | 1.33 | 1.50 | 0.58 | 147 | 47 | 12.25 | 3.59 |
| August | 13 | 36 | 1.38 | 1.15 | 1.00 | 52 | 15 | 4.00 | 1.44 |
| September | 2 | 7 | 1.50 | 1.00 | 1.50 | 16 | 2 | 8.00 | 2.29 |
| October | 4 | 11.5 | 2.00 | 1.75 | 2.00 | 52 | 6 | 13.00 | 4.52 |
| November | 1 | 3 | 1.00 | 1.00 | 1.00 | 6 | 0 | 6.00 | 2.00 |
| Annual Summary | 41 | 132.5 | 1.48 | 1.29 | 1.31 | 478 | 109 | 9.42 | 2.84 |

Table 4. Length Frequency and Species Composition Data – Drop Box.

| Species | # Caught | Size Class | | | | | | | |
|---------------|----------|------------|----------|----------|----------|----------|----------|--------|------|
| | | <10" | 10-11.9" | 12-13.9" | 14-15.9" | 16-17.9" | 18-19.9" | 20-22" | >22" |
| Rainbow trout | 309 | 183 | 53 | 64 | 3 | 5 | 1 | 0 | 0 |
| Bowcutt | 51 | 16 | 6 | 26 | 1 | 2 | 0 | 0 | 0 |
| Tiger Trout | 25 | 12 | 5 | 7 | 1 | 0 | 0 | 0 | 0 |
| Brook Trout | 93 | 39 | 32 | 20 | 2 | 0 | 0 | 0 | 0 |

Opportunistic angler contacts were made twice during the summer while in the Pine Forest Range. Blue Lakes angler contacts were made once in June and once in August. Fish that anglers harvested were measured and total length of fish that were released by anglers were estimated. A total of four anglers were contacted during opportunistic angler surveys that caught 22 fish. The results of the angler survey are provided in Tables 5 and 6.

Conduct a general habitat assessment through visual observations of water quantity (lake level) and water quality (clarity) when on site. Blue Lakes were visited at least once a month from May through November 2014, with the exception of October. In May 2014, the main lake at Blue Lakes was approximately at

50 percent capacity with the lower three lakes nearly empty. By November of 2014, the main lake at Blue Lakes was less than 50 percent capacity with the lower three lakes being completely dry. Clarity was very good and aquatic vegetation was at a minimum. An information, picture, and record search of Blue Lakes water level was performed. The visual observations made at Blue Lakes in 2014 were the lowest observed in the search for information on Blue Lakes water level.

Table 5. Blue Lakes Opportunistic Angler Surveys.

| Month | Survey Days | Anglers | Angler Hours | Fish | Fish/Angler | Fish/Hour |
|----------------|-------------|---------|--------------|------|-------------|-----------|
| June | 1 | 4 | 6 | 10 | 2.5 | 1.67 |
| August | 1 | 3 | 6 | 12 | 4.0 | 2.0 |
| Summary | 2 | 7 | 12 | 22 | 3.25 | 1.84 |

Table 6. Length Frequency and Species Composition Data – Opportunistic Surveys.

| Species | # Caught | Size Class | | | | | | | |
|---------------|----------|------------|----------|----------|----------|----------|----------|--------|------|
| | | <10" | 10-11.9" | 12-13.9" | 14-15.9" | 16-17.9" | 18-19.9" | 20-22" | >22" |
| Rainbow trout | 17 | 2 | 9 | 7 | 1 | 0 | 0 | 0 | 0 |
| Tiger Trout | 1 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 |

MANAGEMENT REVIEW

The mail-in, angler questionnaire, and opportunistic angler contacts indicate that Blue Lakes is exceeding the standards of a Quality Fishery Management Concept. Angler satisfaction in 2014 also exceeds the standards of a Quality Fishery Management Concept.

The water level in Blue Lakes dropped continually throughout the season and was below 50 percent capacity by November 2014. Water levels may be the lowest they have been in recorded history. This is difficult to monitor, because there is no gauge or consistent monitoring of the water level at Blue Lakes. The only monitoring that exists is old photographs and descriptions in reports by NDOW.

RECOMMENDATIONS

- Conduct a general assessment of angler use, success, and harvest through roving creel survey, Angler Drop-Box Surveys, and Mail-in Angler Questionnaire Survey.
- Monitor lake level and water quality as access to the lakes permits.

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