

What Lure Color Is Best?



Background

I think fishing is amazing and fun. I fish with my dad and my brother, and I think in my family it is really important because it gets us out of the house and off screens. I really appreciate fishing because all the fish we catch are beautiful and we get to witness those animals and see their behavior in the water. I also like Parker Canyon Lake the most out of all the lakes in Arizona because of its beauty and fish species in the summer we go there to fish for bass and bluegill, and in the winter for trout in fact while fishing we saw a couple of people trying to catch a big catfish.

I also think that in the future this could help me and my dad and brother to have a fun time fishing. If we go fishing instead of catching 5 fish we might catch 10 fish.

Introduction: Research

- * Trout can see colors as well as flashing lights.³
- * They also eat bugs, minnows, worms, and crawfish the lures we use mimic small fish.²
- * You should try not to take the fish out of the water.¹
- * Don't carry the trout out of the water by line.¹
- * Do not squeeze the fish or touch its gills.¹
- * Use a wet hand when handling the fish.¹
- * Trout like temperatures from 0 degrees Celsius to 21 degrees Celsius.²
 - * On the first 2 days it was 13 degrees Celsius and on the 3rd it was 11 degrees Celsius.

Research Question / Purpose

- * Question: What color lure catches the most trout in Parker Canyon Lake?
- * Purpose: Sometimes I catch nothing while fishing and this project would help me and others catch more fish.



Front of Z-Ray lure
Left to Right: white, green, black, silver



Back of Z-Ray lure
Left to Right: white, green, black, silver

Hypothesis

My Hypothesis is that the silver lure will catch 9 fish, the white lure will catch 8 fish, the green lure will catch 5, and the black lure will catch 4 fish. I believe this because the silver and white lure mimic bait fish that are in Parker Canyon Lake. I also think the flashing lights on the silver lure will attract more trout because of the trout's reflexes. I don't think green will catch as many because the only thing I can see it mimicking is a small bullhead catfish with slime on it, and I don't think the black lure mimics anything in Parker Canyon Lake.

Variables

- * Independent Variable – The color of the lure we use.
- * Dependent Variable – How many fish we catch.
- * Controls
 - * The same size and type of lures.
 - * Fished the same spot in the lake on all three trips.
 - * The weather, water clarity, and the wind were all the same on all three trips.
 - * The number of casts for each color, each day, was the same.

Materials

Each person that fished used the same materials:

- * Rod
- * Reel
- * 4 pound test Berkely Trilene fishing line (green color)
- * Number 14 snap swivel to attach the lure to the line
- * Z-Ray lures, 1/8 oz. (3.54 g)
 - * Colors: green, black, white, and silver
- * Fishing boat

Methods and Procedure

1. Go to the lake from 9 to 10 AM and fish until 3 PM.
2. Go on three different days for about 6 hours each day.
3. Ensure they are all sunny days with similar weather forecasts.
4. Use lures that are the same (1/8 oz. 3.54 g Z-Rays, which is the best lure at Parker Canyon lake) but are different colors.
5. Switch colors every 10th cast and record the number of fish caught on each color. Cast each color the same amount of times (it ended up being 260 total).
6. Release all of the fish caught this way without holding them and by keeping them in the water. This keeps the fish safe so they can all swim away healthily.
7. The fish we are catching are stocked.

Note: We got SRC approval before starting the project. All fishers that helped with the experiment have fishing licenses.

11/11 data

	Trout caught on green	Trout caught on black	Trout caught on silver	Trout caught on white
Casts 1-10	1	0	1	2
Casts 11-20	0	0	2	3
Casts 21-30	0	1	0	0
Casts 31- 40	1	0	0	0
Casts 41-50	1	0	0	0
Casts 51- 60	1	1	0	0
Casts 61-70	0	1	0	1
Casts 71-80	0	0	0	0
Casts 81- 90	0	0	0	0
Casts 91-100	0	0	0	1
total	4/100	3/100	3/100	7/100
percent	4%	3%	3%	7%

11/13 data

	Trout caught on green	Trout caught on black	Trout caught on silver	Trout caught on white
Casts 1-10	0	1	0	0
Casts 11-20	0	1	2	1
Casts 21-30	0	1	0	0
Casts 31- 40	0	1	1	1
Casts 41-50	0	0	0	0
Casts 51- 60	0	0	0	0
Casts 61-70	0	0	0	0
Casts 71-80	0	0	0	0
Casts 81- 90	0	0	0	0
Casts 91-100	0	0	0	0
total	0/100	4/100	3/100	2/100
percent	0%	4%	3%	2%

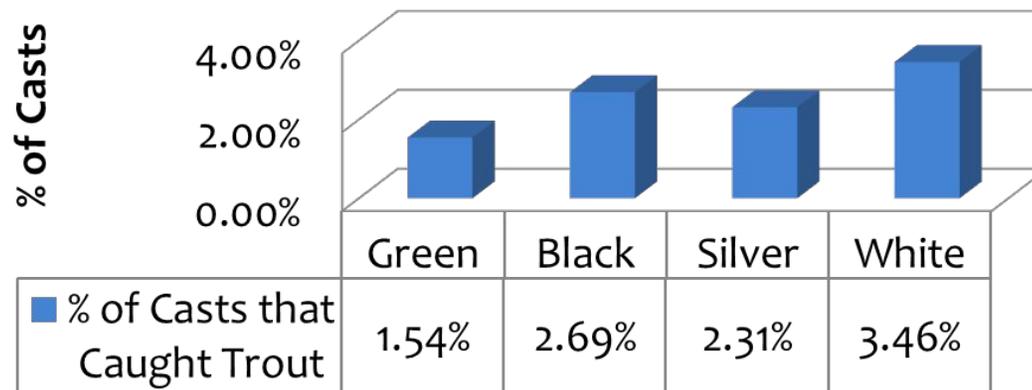
11/27 data

	Trout caught on green	Trout caught on black	Trout caught on silver	Trout caught on white
Casts 1-10	0	0	0	0
Casts 11-20	0	0	0	0
Casts 21-30	0	0	0	0
Casts 31- 40	0	0	0	0
Casts 41-50	0	0	0	0
Casts 51- 60	0	0	0	0
total	0/60	0/60	0/60	0/60
percent	0%	0%	0%	0%

Total Amount

	Trout caught on green	Trout caught on black	Trout caught on silver	Trout caught on white
Day 1: 11/11	4/100	3/100	3/100	7/100
Day 2: 11/13	0/100	4/100	3/100	2/100
Day 3: 11/27	0/60	0/60	0/60	0/60
Total	4/260	7/260	6/260	9/260
Percentage	1.54	2.69	2.31	3.46

% of Casts that Caught Trout



Discussion and Interpretation

11/11/2021

- * The white lures caught more fish by 3 than any other lure color. The green and black lures caught more fish throughout the day. And the silver lures caught more trout right away.
- * On this day, the color of the lures did seem to matter because white caught 7 fish whereas the next highest one caught 4 fish.

11/13/2021

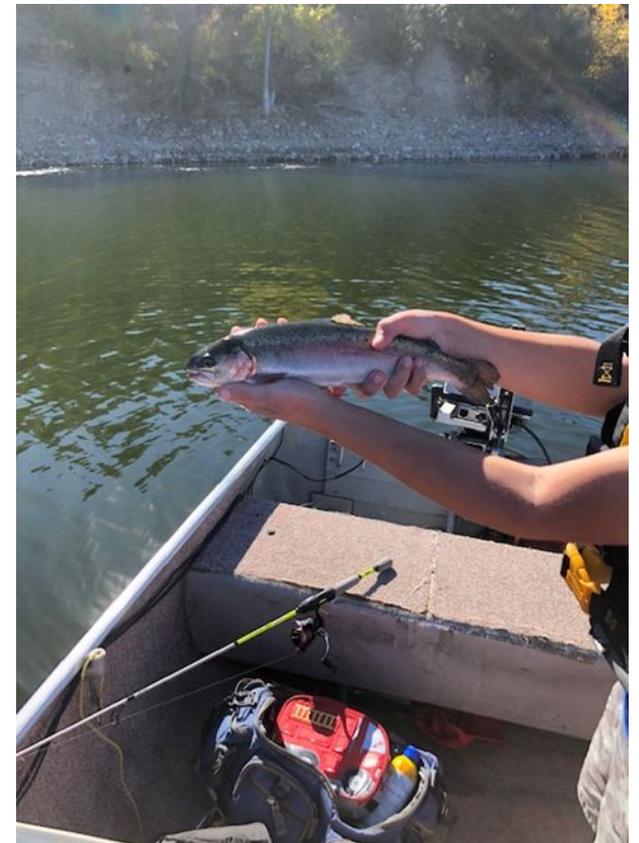
- * The first 40 casts with every lure except green were good, but after that we didn't catch any more trout.
- * On this day, the color of the lure didn't matter, except for green, because all the lures except green caught between 2 and 4 fish.
- * If you are having a bad day fishing on the green lure, maybe you should switch colors.

11/27/2021

- * On this day, the color of the lure didn't matter because we didn't get any fish.
- * If the fish are not biting at all, then changing colors might not help.

Overall Analysis

- * The lure color matters because white is 3.46% on catching fish per cast and green is only 1.54% at catching fish per cast.
- * If you only used white for 1000 casts, you would catch about 34 fish and using green for 1000 casts you would catch about 15 fish. You would be more than twice as successful using white.



Rainbow trout caught on 11/13/2021

Implications and Ideas for Future Research

- * I think fishing is important as it really helps my family get out of the house. Before this experiment, I had never used the black or white lure. The only lure I think I ever used was the silver lure. Now for sure I will use black and white lures next time I go fishing.
- * My hypothesis was incorrect I thought that the silver lure was going to catch the most fish but white got a lot more and black got more fish too.
- * I thought silver was best because my dad always used silver and he caught most of his fish on the silver lure.
- * White might be best lure for trout because it mimics another fish smaller than trout, like a minnow, which have white bellies. Black might have done well because The trout have been recently stocked and are test biting the lure out of curiosity not because they are hungry. The green lure might not have worked so well because it doesn't mimic much out of Parker Canyon lake.
- * I think I could continue this experiment by using other color lures. I think I would be interested in doing this as an experiment. We could also do this with spinnerbaits, cast masters, and fly lures.
- * Also each day had the same conditions: no clouds, clear water, and a slight breeze. Would the results of the experiment be the same if it was windy or cloudy?
- * Also if you want to go fishing at Parker Canyon Lake, black, white, and silver might be good color lures to use.

References

¹Nale, Mark. "Tips for Releasing Trout Successfully." *Outdoornews*, Outdoor News, 18 June 2016, www.outdoornews.com/2016/04/30/tips-for-releasing-trout-successfully/#:~:text=To%20unhook%20a%20trout%2C%20use,close%20to%20the%20trout's%20mouth.

²"Rainbow Trout." *U.S. Fish & Wildlife Service*, U.S. Fish & Wildlife Service, 9 Jan. 2020, www.fws.gov/southeast/wildlife/fishes/rainbow-trout/.

³Sagi, Guy J. *Fishing Arizona: Your Guide to Arizona's Best Fishing*. Golden West, 2003.

"What Trout See." *American Angler*, 16 Jan. 2018, www.americanangler.com/what-trout-see/.

⁴Whitlock, Dave. *L.L. Bean Fly-Fishing Handbook*. The Lyons Press, 2006.