August 2020 Quail Roadside Survey

By: Tell Judkins, Upland Game Biologist

The Oklahoma Department of Wildlife Conservation (ODWC) has conducted annual roadside surveys in August and October since 1990 to provide an index of annual population fluctuations. The number of quail observed are reported to provide an index of quail abundance and indicates reproductive success. Currently, ODWC employees survey 83 routes in 75 of Oklahoma's 77 counties. Oklahoma and Tulsa counties, both comprising almost exclusively urban landscapes, are excluded from the survey.

The state is divided into either geographic regions (Figure 1) or ecoregions (Figure 11) to compare the index year to year. By looking at both divisions we can get a more precise view of on-the-ground conditions in each county. One or two ecoregions being down can have an overall negative impact to the entire region's index, for example, the Northwest region shows to be down, but realistically only two of the three ecoregions are down, the Rolling Red Plains are actually up from last year. By comparing both, you can get a better look at the county you intend to hunt.

The 2020 August roadside quail survey shows the statewide quail index down from 2019 dropping from 2.88 to 1.68 which is 68.48% below the 31 year average (Table 1) (Figure 2), and 45.28% below the 10 year average of 3.07. There are several theories as to what has caused this decline, primarily habitat loss and weather. Peak production appears to have occurred early in the nesting season (mid-June). This early hatch could be playing a part in a low August survey numbers as older juvenile birds may be less likely to stay in brood groups while traveling. The northcentral and southeast regions of the state improved from the 2019 survey. All regions of the state are currently below their historic 31 year average except for the northcentral region which is 2.18% above the 31 year average (Figure 3-8). Rainfall, or lack thereof, has been an issue statewide for much of 2020, drought conditions in the west having negatively impacted many wildlife species. Below, figures 9 & 10 show the drought and rainfall conditions across the state.

Over the last 180 days some portions of Oklahoma have seen more rainfall than normal, and some portions have seen much less than normal. Dense vegetation along roadsides in some areas of the state could contribute to fewer observations. Given the current drought and rainfall issues we can get a better look at bird numbers if we look at surveys on an ecoregion basis. Figure 11 shows the 9 major ecoregions of Oklahoma while Table 2 gives a comparison of 2019 and 2020 survey results by ecoregion. Ecoregions like the Rolling Red Prairie, Southern High Plain, and Cross Timbers where we have experienced drought throughout the nesting season are showing lower numbers.

No scaled quail were observed during the 2020 August Roadside Surveys, 2 total scaled quail observed in August 2019. There are only a few routes in Oklahoma with the opportunity to observe scaled quail. Therefore, this is not a prediction of scaled quail abundance, strictly an observation.

Anecdotally, I have recieved numerous brood reports from across the state as recent as late August. Over the 31 years of the Roadside Surveys the August surveys have shown us that they are not always the most reliable when it comes to forecasting the season. Stay tuned for the October roadside surveys, which will provide a better indication of what the upcoming quail season could have in store.

Figure 1. Oklahoma Roadside Survey Regions

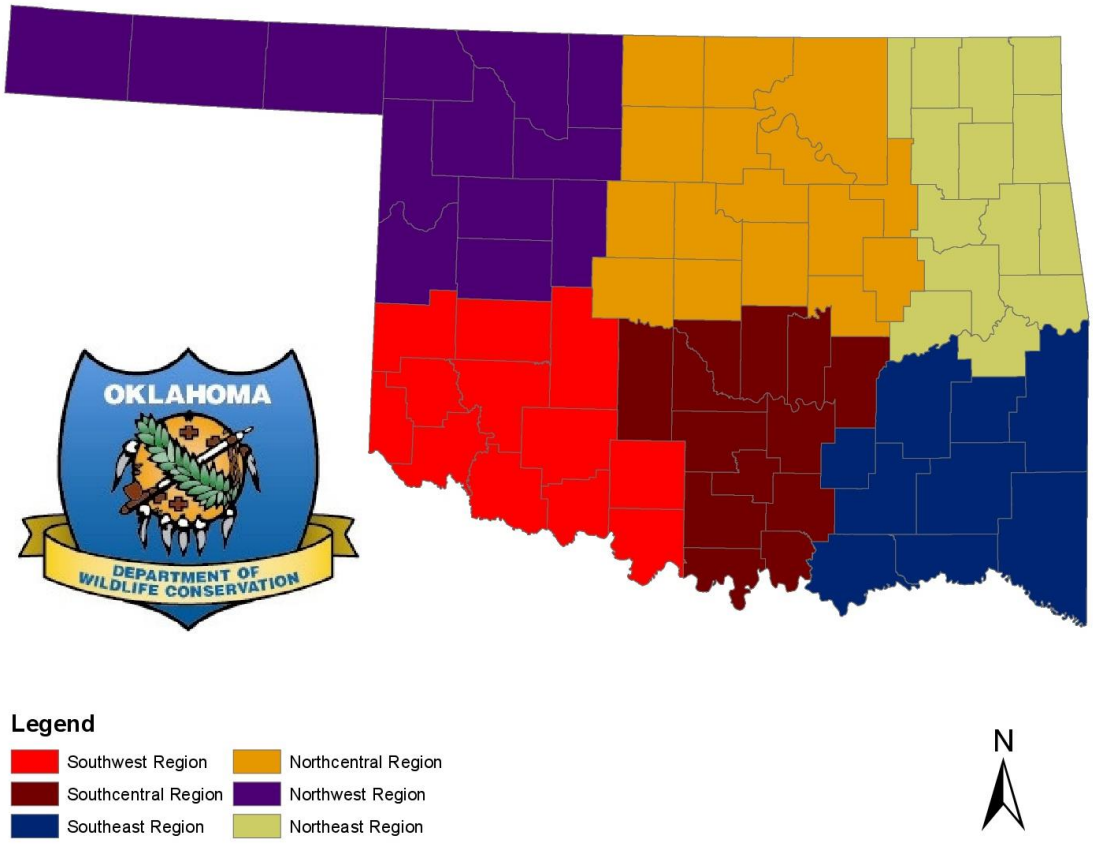

Table 1. Bobwhite quail numbers/20 mile route in the 6 geographic regions of Oklahoma.

	31 Year Average	10 Year Average	2018 Average	2019 Average	2020 Average
Statewide	5.33	3.07	1.41	2.88	1.68
Northwest	7.47	5.19	3.5	4.20	1.81
Northeast	2.89	1.02	0.86	1.15	0.64
Northcentral	3.22	2.35	1.26	1.73	3.29
Southwest	12.83	7.6	1.0	4.42	1.0
Southeast	3.93	1.44	1.46	1.55	4.0
Southcentral	1.989	0.42	0.0	0.23	0.0

Figure 2. Long-term average of bobwhites in Oklahoma.

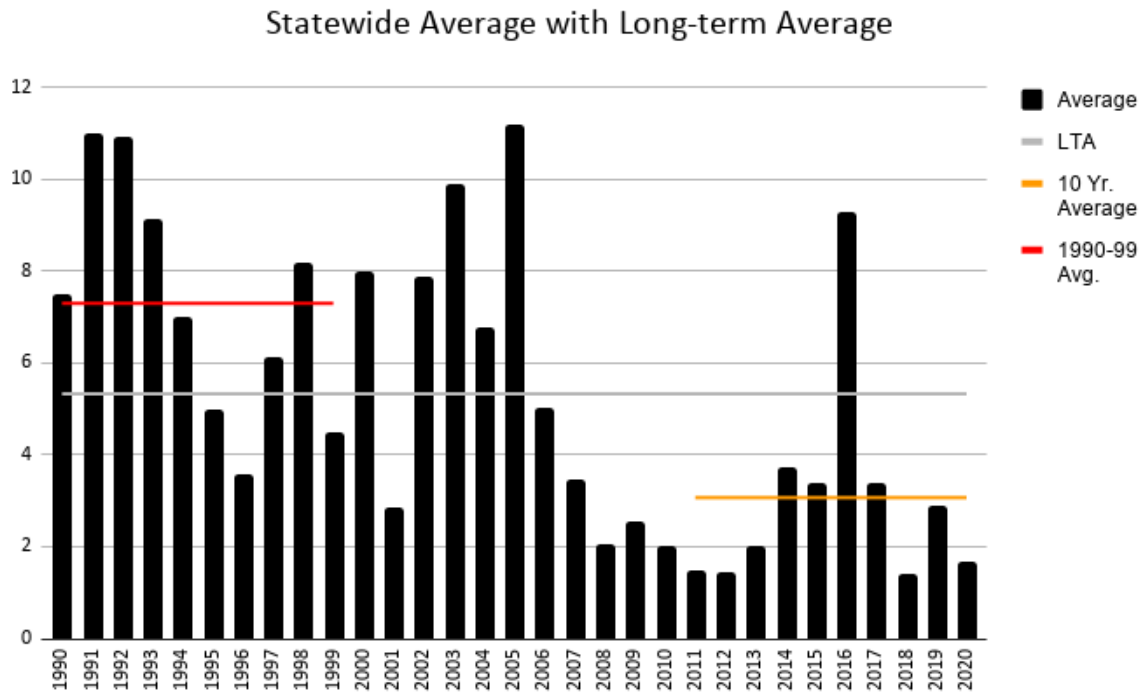

Figure 3. Long-term average of bobwhites in northwest Oklahoma.

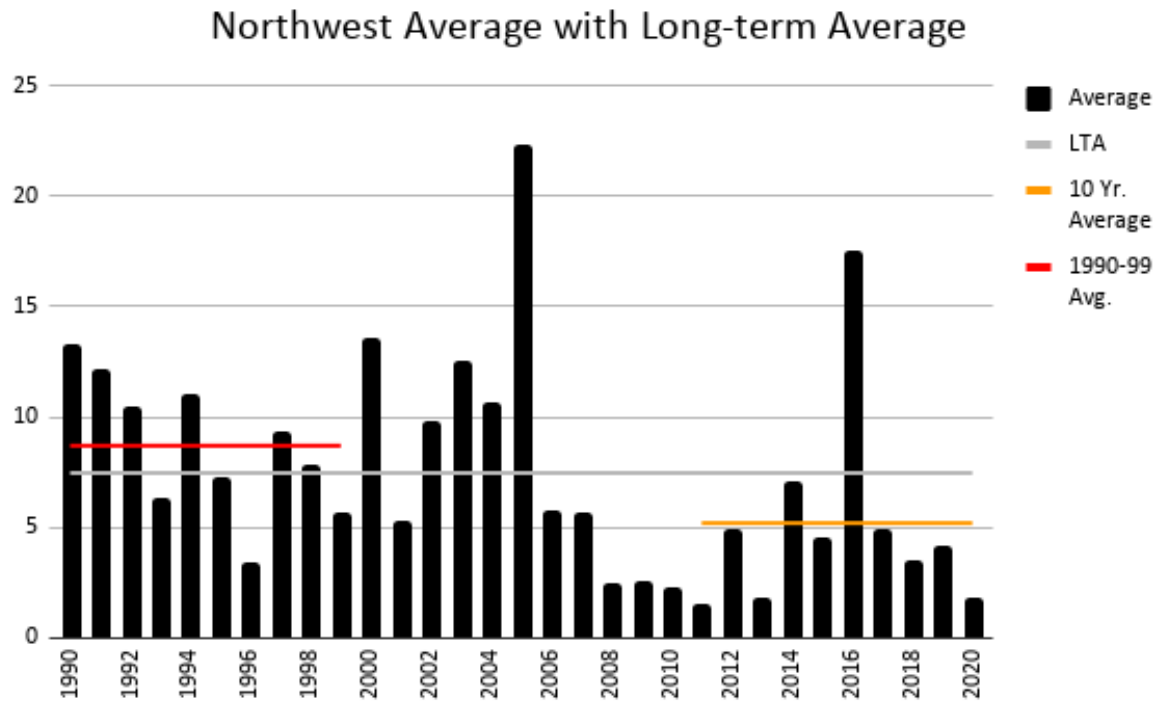

Figure 4. Long-term average of bobwhites in northeast Oklahoma.

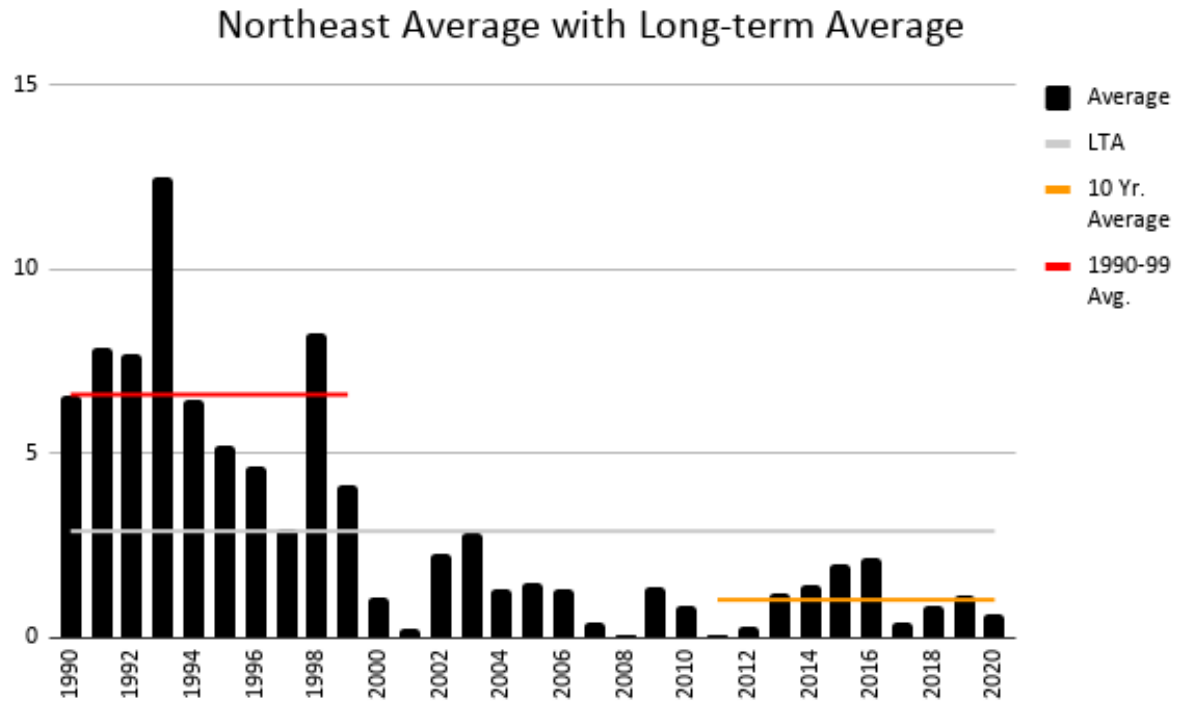

Figure 5. Long-term average of bobwhites in northcentral Oklahoma.

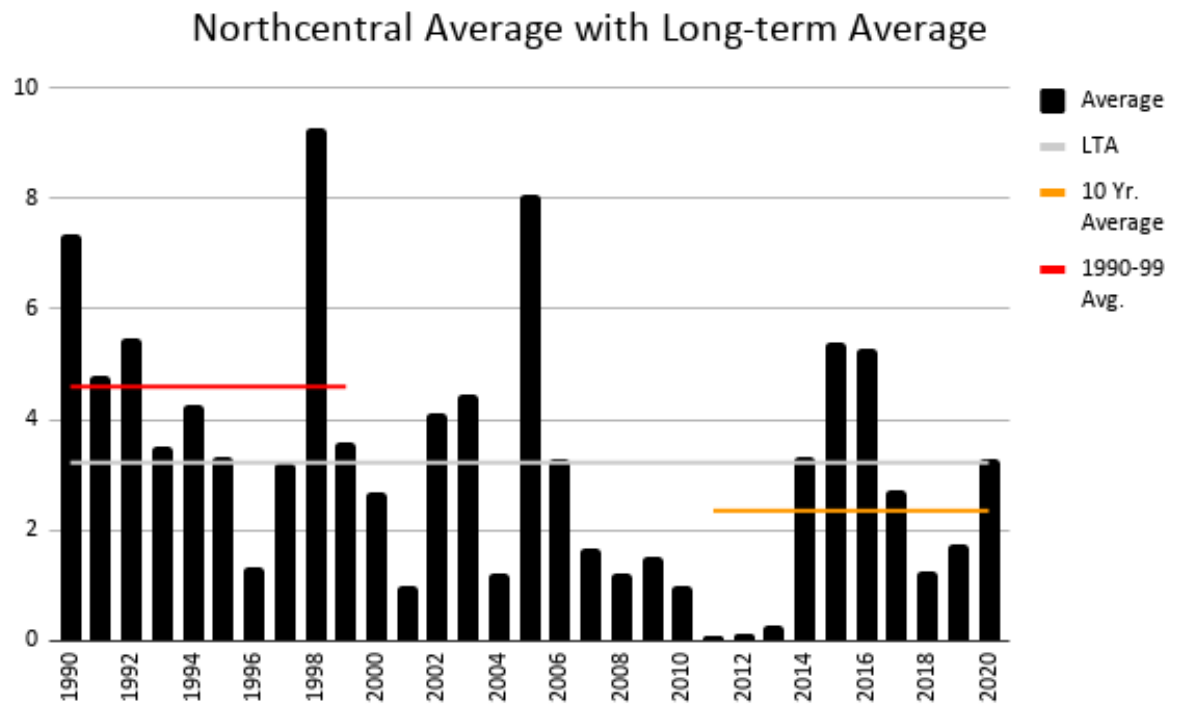

Figure 6. Long-term average of bobwhites in southwest Oklahoma.

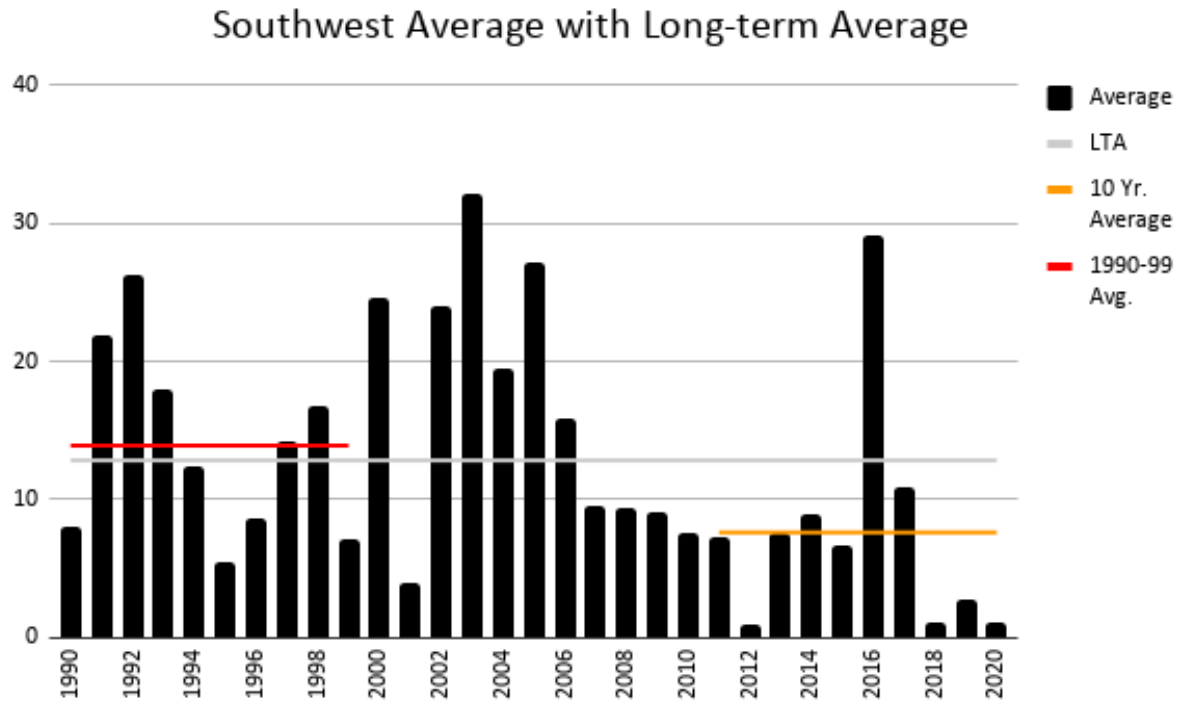

Figure 7. Long-term average of bobwhites in southeast Oklahoma.

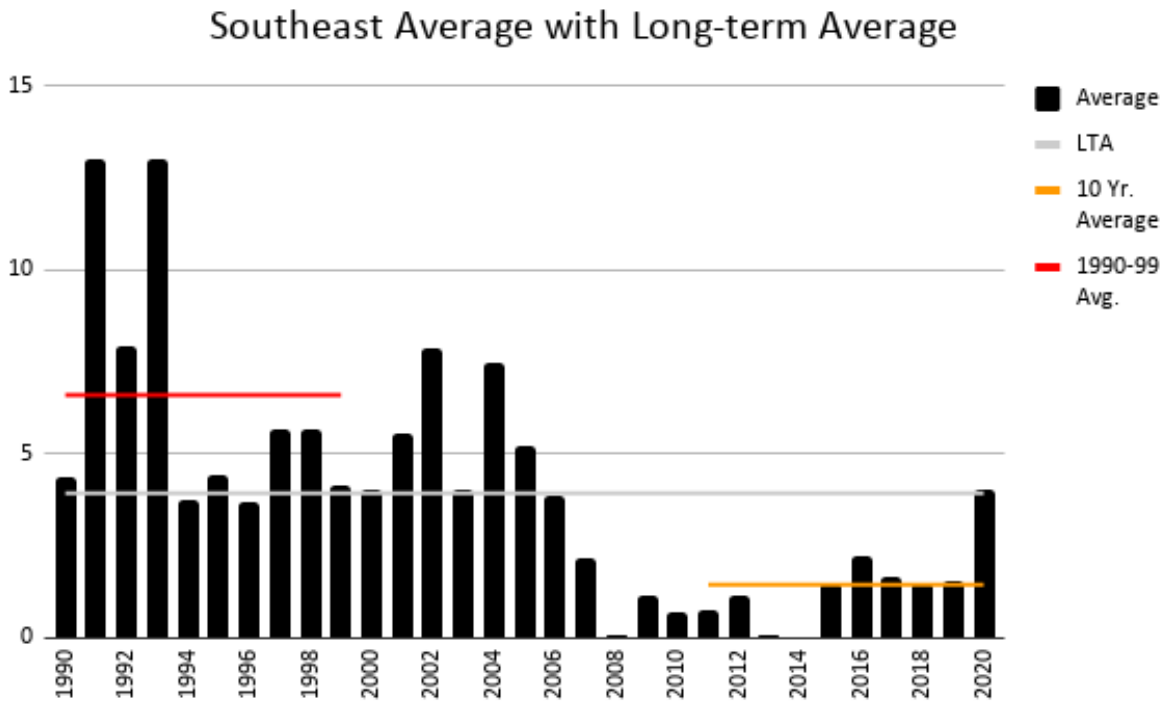

Figure 8. Long-term average of bobwhites in southcentral Oklahoma.

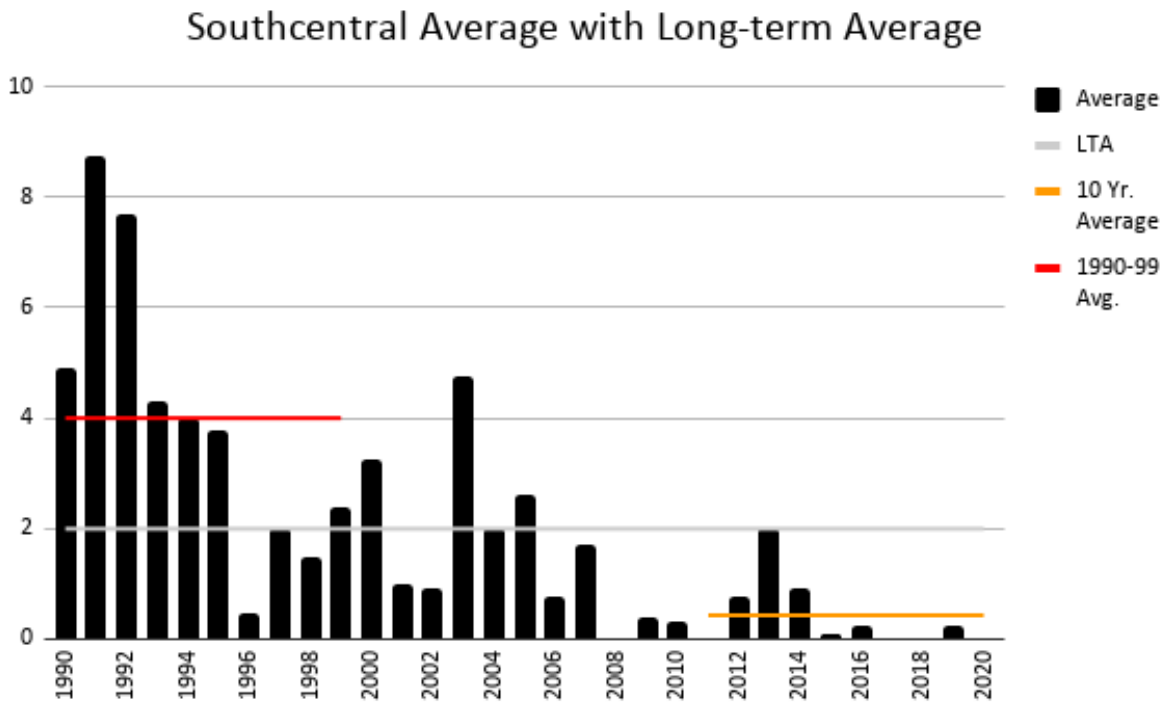

Figure 9. Drought Comparison from June 2nd, 2020 to September 1st, 2020 (Source: droughtmonitor.unl.edu/)

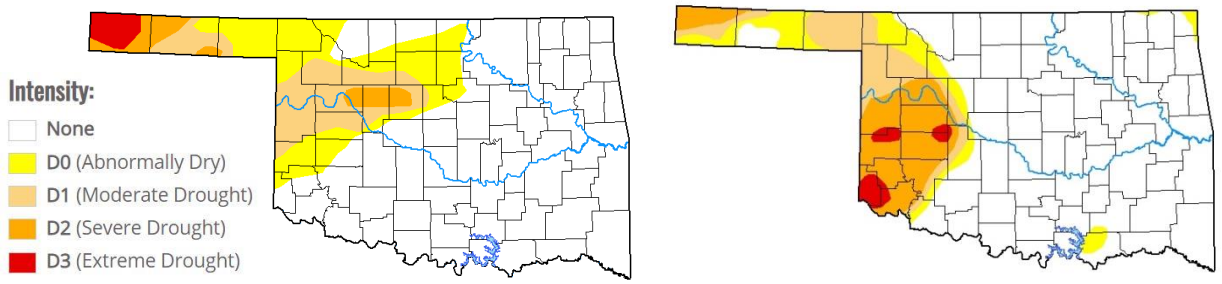

Figure 10. Departure from normal rainfall in inches - March 12–September 7, 2020 (Source: mesonet.org)

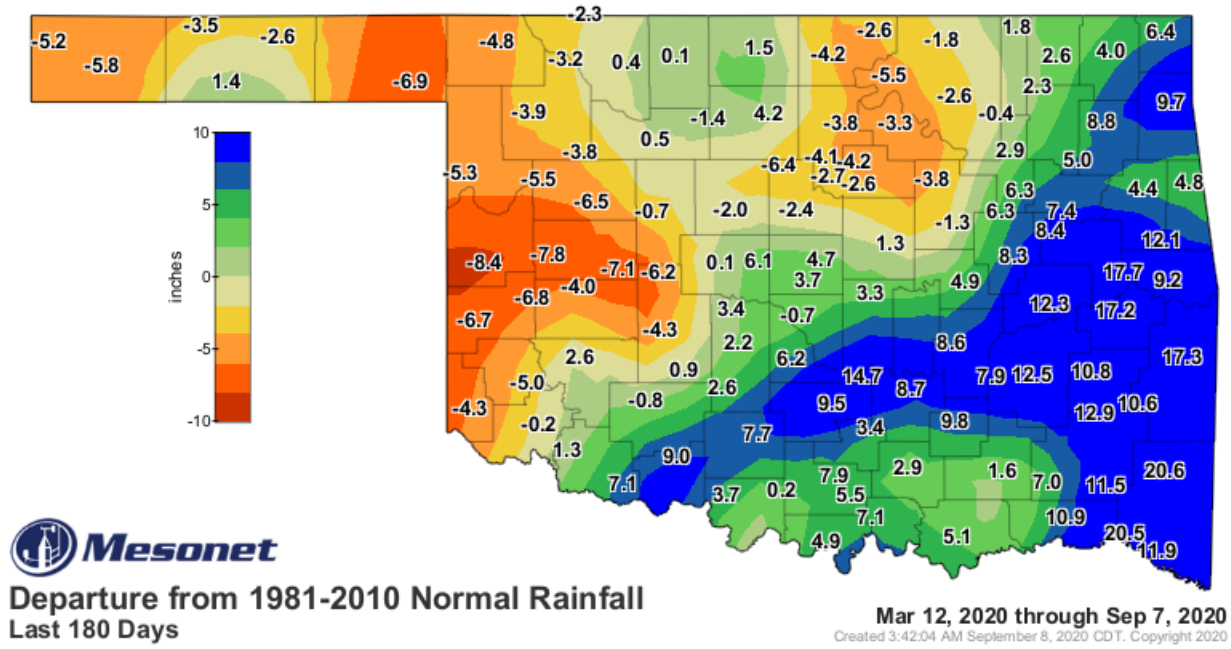

Figure 11. Ecoregions of Oklahoma

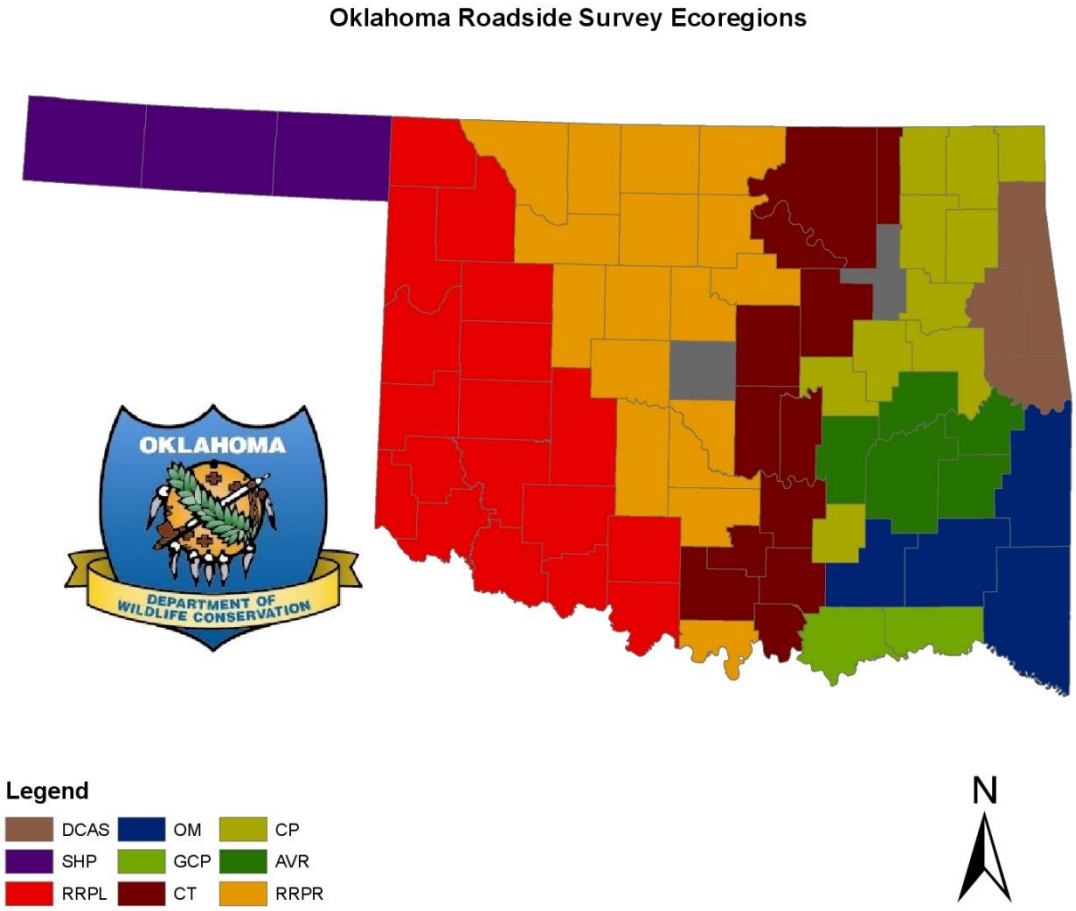

Table 2. Bobwhite quail numbers/20 mile route in the 9 geographic ecoregions of Oklahoma

Ecoregion		2019	2020	% Change
Arkansas Valley & Ridges	AVR	0.4	2.2	↑ 450%
Cherokee Prairie	CP	1.1	1.22	↑ 10.91%
Cross Timbers	CT	2	0.75	↓ 62.5%
Ozark Highlands	DCAS	0.66	1.25	↑ 89.39%
Gulf Coastal Plain	GCP	0	0	0.00%
Ouachita Mountains	OM	3	5.25	↑ 75%
Rolling Red Prairie	RRPR	5.37	2.813	↓ 47.62%
Rolling Red Plain	RRPL	0.35	0.7	↑ 100%
Southern High Plain	SHP	3.25	3	↓ 7.69%