



Outdoor Oklahoma

SEPTEMBER/OCTOBER 2021 – ONLY \$10 A YEAR

In This Issue:

2020-21 Big Game Harvest Report

State Science
Academy's
First Century

Unraveling
Mysteries of
Gator Gar

A PUBLICATION OF THE DEPARTMENT OF WILDLIFE CONSERVATION



Panoramas

Oklahoma's wild turkey populations have had some rough years lately. Bird numbers were noticeably lower — sometimes alarmingly lower — in many parts of southwestern Oklahoma this past winter and spring. Turkey numbers in most areas of the state were down as well.

Wildlife Department biologists have monitored the state's wild turkey populations for many decades, since restoration efforts peaked in the 1960s. In 2017, biologists noted the beginnings of a downward trend in bird populations in western Oklahoma. They have also tracked hunter numbers and total birds harvested. In 2019, the number of turkey hunters increased, but the number of birds harvested dropped. When the hunter/harvest gap widened in 2020, it was an obvious red flag that changes in managing Oklahoma's wild turkeys were needed. Regulations were passed last year to reduce the limit to one tom per county.

Then, this June, the Wildlife Conservation Commission made substantial changes in turkey hunting rules, which will start this fall. The changes were based on scientific data, but hunter input and opportunity were also part of the equation.

Research shows the three primary factors driving turkey populations are weather, habitat, and mammalian predators. Our biologists are concerned with the effects of weather and habitat, but those factors are outside of ODWC's control. Thus, hunting regulations were proposed to reduce the bag limit and delay the spring season opener, the most viable options in our effort to stop the declining turkey populations.

Under the new turkey regulations, hunters are:

- Limited to one tom in the fall, and one tom in the spring, regardless of method of take.
- Allowed a statewide spring season from April 16 to May 16.
- Restricted to using shotguns only during the fall gun turkey hunting season in open counties.

To help us better understand our hunters' viewpoints before recommending any changes, we decided to seek public opinion. We received more than 5,000 responses — the highest number of comments on any one rule proposal in the Department's history — which

overwhelmingly indicated that ODWC needs to do something to help stabilize turkey populations. Many respondents even suggested more restrictive actions than what ODWC originally proposed.

The new rules have drawn great support from hunters and the National Wild Turkey Federation.

We believe the changes strike an acceptable balance between protecting the natural resource now and for future generations, and giving today's hunters an opportunity to continue enjoying the activity they are passionate about. And most hunters we've

heard from seem to agree this is a good first step.

Biologists will continue to monitor turkey populations and harvest data to see if the new rules have their intended effects. In addition, we have mapped out a new \$1.5 million plan for research into Oklahoma's wild turkey populations, looking into such things as survival rates for poults and hens, nesting ecology, seasonal movement, and genetic diversity.

We are hopeful that weather conditions will improve and thus provide optimum nesting conditions across the state. Additionally, the delayed opener in the spring season will allow early undisturbed breeding/nesting attempts. If that all happens, turkey populations can rebound over time and return to a suitable level that will allow even more opportunities in the future. We thank you for your support as we continue to work together for the wild turkeys in Oklahoma.



Bill Dinkines

A handwritten signature in black ink that reads "Bill Dinkines". The signature is stylized with a large, looped "B" and "D".

Bill Dinkines,
Chief of Wildlife, ODWC

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ON THE COVER: A magnificent bull elk surveys the surroundings as several cows browse nearby. Added opportunities for elk hunters in Oklahoma this past season yielded an unprecedented increase in harvest of more than 150 from the previous year. For more results from the most recent big-game hunting seasons, see the annual Big Game Report starting on page 12. (Photo by Ryan Hagerty, U.S. Fish and Wildlife Service)



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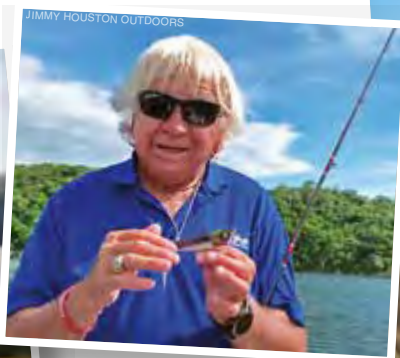
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Off the Beaten Path

NOTES ON WILDLIFE • OUTDOOR TIPS • READERS' LETTERS • ENVIRONMENTAL NEWS
COMPILED BY DON P. BROWN



OUTDOOR OKLAHOMA ADVENTURES RAFFLES BOOST CONSERVATION FUNDING

The first round of the Outdoor Oklahoma Adventures raffle series wrapped up in early August, and the big winners are fish and wildlife management and conservation in Oklahoma!

The raffle campaign raised \$224,410, and all proceeds go directly to the Oklahoma Department of Wildlife Conservation to fund fish and wildlife conservation, and public hunting and fishing opportunities for everyone to enjoy.

For each \$1 spent on raffle tickets, the Wildlife Department can access \$3 in federal Wildlife and Sport Fish Restoration funding. That means the first Outdoor Oklahoma Adventures campaign will result in nearly **\$1 million in funding** for projects such as fishing and boating access, habitat management, wildlife education, public land acquisition and maintenance, and fish and wildlife conservation.

Drawings were held for 14 prizes, many of which will be once-in-a-lifetime experiences for the lucky winners. Congratulations to:

- Guided Fishing Trip with Pro Angler Jimmy Houston: Sheri K. of Lawton.
- Guided Youth Dove Hunt with Crash Landing Outdoors: Christopher M. of Coweta.
- Snagging for a World Record Paddlefish with Reel Good Time Guide Service: Bradley A. of Joplin, Mo.
- Guided Youth Duck Hunt with MLB Pitcher Archie Bradley: Linda B. of Jenks.
- Stream Snorkel Trip with ODWC Biologist: Joshua L. of Eufaula.
- Become a Bear Biologist for a Day: Pamela H. of Norman.
- Guided Spring Turkey Hunt With HiRoost Outfitters: Henry W. of Ada.
- Southwestern Oklahoma Private Land Hunt for a Cow Elk: Lesley S. of Tulsa.
- Get Up Close to Alligators in Southeastern Oklahoma: Jason C. of Cleveland, Okla.
- Guided Birding Trip to Red Slough with ODWC Experts: Laveta B. of Hominy.
- All-inclusive Spring Turkey Hunt in Central Oklahoma: Dustin W. of Durant.
- Private Land Youth Deer Hunt: Eli Y. of Pocola.
- Spend a Day With Any ODWC Employee: Max M. of Edmond.
- Lifetime Combination Hunting and Fishing License: Chad C. of Broken Arrow.

Stay tuned for information about the second round of Outdoor Oklahoma Adventures raffle opportunities coming up for 2022! ••✕

KEYSTONE YIELDS YET **ANOTHER WORLD-RECORD** PADDLEFISH

PROVIDED



Holding the newest world-record paddlefish is, from right, angler Grant Rader, fishing guide Jeremiah Mefford, and previous world-record holder Cory Watters. The 164-pound behemoth was snagged at Keystone Lake on June 22, 2021.

Keystone Lake has again yielded a new world record paddlefish, the third time in the past 14 months.

The monster fish weighing 164 pounds was snagged by Grant Rader of Wichita, Kan., on June 22, 2021. He was on a guided fishing trip with Jeremiah Mefford of Reel Good Time Guide Service. Mefford was also involved in guiding or catching the previous two world records and one previous state record.

Cory Watters of Ochelata, the previous paddlefish world record holder, was present for the certification of Rader's fish and stepped in to help hold the fish for a photograph. It was 81.75 inches in length and 43 inches in girth.

Keystone Lake, a reservoir on the Arkansas River northeast

of Tulsa, has proved itself over and over as the location of the world's most robust American paddlefish population. In 2018, Oklahoma fisheries biologists netted a 135-pound paddlefish during a survey mission at Keystone. At the time, that fish was 2.5 pounds heavier than the existing state record.

On June 28, 2020, James Lukehart of Edmond snagged a 146-pound-11-ounce paddlefish from Keystone. Only about a month later, on July 23, 2020, Cory Watters snagged a behemoth weighing 151 pounds 14 ounces, also at Keystone.

Both of these fish were weighed and measured by ODWC and certified as sequential new state and world records, exceeding the previous state record of 143 pounds set on May 23, 2020, by Jeremiah Mefford. ♦♦×



Wild Turkey Hunting Regulations — The Oklahoma Wildlife Conservation Commission voted June 28, 2021, to change the statewide season dates and bag limits for wild turkey. Wildlife Department biologists presented survey results and research confirming the decline of wild turkey populations in the state. Commissioners voted to reduce the statewide bag limit to one tom turkey for both fall and spring seasons, and to limit method of take to shotguns only for the fall season in those counties that allow turkey hunting with a gun. Also, the spring season dates were set at April 16 to May 16 statewide, including the southeastern turkey hunting zone. ♦♦×

— Smokey Solis, Communication Specialist



Game Warden's Journal

ACCOUNTS FROM THE FIELD BY THE PUBLIC
SERVANTS WHO ENFORCE THE FISH AND
WILDLIFE LAWS OF OKLAHOMA



Oklahoma Game Wardens **Jay Harvey** and **Jim Gillham**, both based in Atoka County, and **Andrew Potter**, based in Choctaw County, made a “shocking discovery” while patrolling the Kiamichi and Red Rivers by boat in McCurtain County in southeastern Oklahoma during the July Fourth weekend. They saw a jon boat on the riverbank, connected to a tractor stuck in the sand. Onboard the boat in plain view was only a cooler and four dip nets.

Moments later, a second tractor appeared from the woods with two jet skis. One of these jet skis was rigged with illegal fish electro-shocking equipment. Wardens interviewed suspects, issued citations, and seized the illegal equipment.



Game Warden **John Grellner**, based in Canadian County, recently participated in a Lanterns for Literacy family reading event at Gilmour Elementary School in Kingfisher. Students and their families gathered on the school lawn to listen to Grellner read stories and share information about some of Oklahoma's wildlife.



Game Warden **Josey Branch**, based in Tulsa County, is investigating an event that occurred the evening of July 4 or early hours of July 5. Several dead Canada geese were found laid out on the 11th Street bridge over the Arkansas River in Tulsa.

Branch received an anonymous phone call about the birds. It is suspected the geese were purposely hit with a vehicle. This area is not normally a high activity area for geese.

Anyone with information about this event is asked to contact Branch at (918) 857-5557. Callers can remain anonymous and could receive a cash reward.



(Reports from the Oklahoma Game Wardens Facebook page.)

EDITOR'S NOTE: Please help make a difference! When violators break the law, they steal fish and wildlife from you! Report violations anonymously by calling Operation Game Thief at (800) 522-8039. You could earn a cash reward. ✂

UPDATED STATE AMPHIBIAN, REPTILE GUIDE AVAILABLE NOW

From rare salamanders found only in southeastern Oklahoma to turtles commonly seen across the state, the recently updated “A Field Guide to Oklahoma’s Amphibians and Reptiles” profiles Oklahoma’s 140 species of salamanders, frogs, turtles, lizards, snakes and alligator.

Each profile shares a photo of the animal along with a physical description, information about food and habitat preferences, and notes on the life cycle and habits of the species. The book’s spiral binding makes it easy to flip through and make comparisons of different species when identifying animals at home or in the field.

This new Fourth Edition, published earlier this year by the Oklahoma Department of Wildlife Conservation, includes six additional species profiles: three species were recently reclassified as full species, two species were previously undocumented in Oklahoma, and one species is thought to be new to science.

In addition to these new profiles, range maps and scientific names have been updated throughout the guide to best reflect our current understanding of the animals.

The guide is available through the Wildlife Department’s Outdoor Store at www.tinyurl.com/GetOutdoorOklahoma or at select ODWC offices for \$20 (a \$3 convenience fee applies to online purchases).

Hunting and fishing licenses, required for collecting or taking amphibians and reptiles that have open seasons, are also available through Go Outdoors Oklahoma. License requirements and daily limits can be found in the current Oklahoma Fishing and Hunting Guide. **X

A Field Guide to Oklahoma's Amphibians and Reptiles

A publication of the Oklahoma Department of Wildlife Conservation



WEEKLY SOCIAL MEDIA EDITOR'S CHOICE

Each week, the Wildlife Department welcomes viewers of its social media outlets to submit their fine outdoor photography for a fun feature called the Weekly Editor's Choice Photo Lineup. Of all the great photos sent to ODWC pages on Facebook, Instagram and Twitter, we select our top three favorites (and maybe an honorable mention or two) for the week, and share the winners on our social channels for all to see.

Now, the cream of the crop can be seen here in Outdoor Oklahoma magazine. So, be sure to check out ODWC social media, and post your photos for the weekly contest. The image you share might end up in Outdoor Oklahoma! **X



MARY ELLIS



JERRY SPEARS



MARY PHILLIPS

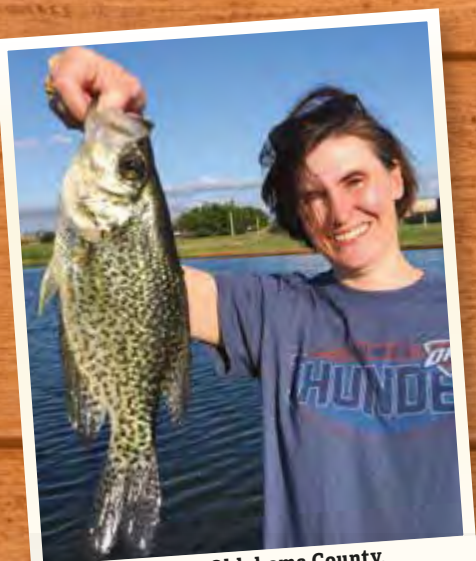


JEREMIAH ZURENDA



Welcome to the Dock!

Are the fish biting? You bet! Step onto The Dock and take a gander at some remarkable catches made recently by Oklahoma anglers. Here's a few we thought you would enjoy! To see more or submit a photo of your catch, go to www.wildlifedepartment.com/fishing/the_dock.



Amy W., crappie, Oklahoma County, May 17, 2021.



Shawn Forbis, catfish, Medicine Creek, July 1, 2021.



Alex Wilhite, other, Grand Lake O' the Cherokees, July 3, 2021.



Dayton Weber, largemouth bass, Sooner Lake, June 10, 2021.



Ron Miller, largemouth bass, Kay County, July 20, 2021.



John B., paddlefish, Keystone Lake, June 12, 2021.



Game Bag

A COLLECTION OF LETTERS TO THE WILDLIFE DEPARTMENT

We'd like to hear from you! Send your letters to Outdoor Oklahoma Letters, P.O. Box 53465, Oklahoma City, OK 73152, or send e-mail to donald.brown@odwc.ok.gov.

Dear Wildlife Biologist Matt Mattioda,

From myself and on behalf of my team, I would like to thank you for your effort in the recovery of the Conservation Commission's work truck (that was stolen and later found at Heyburn Wildlife Management Area). You made an effort early on to contact me and then receive and forward information to the local Game Wardens and staff. You could have easily dismissed this and maintained your focus only on your assigned responsibilities.



Wildlife Biologist
Matt Mattioda

Although we're not certain on the full damage to the truck, we are entering the busiest season for our field staff, and we were going to be down a vehicle. We were unable to locate a replacement vehicle and were facing a 16-week waiting period, which would have taken us through summer. So, as long as we can get the truck repaired, it is a blessing and we're appreciative.

The staff member responsible for the truck was able to recover some additional information that could lead to the suspect and this was turned over to the Creek County Sheriff's Office.

Brooks Tramell, director of monitoring, assessment and wetlands programs, Oklahoma Conservation Commission



Dear Wildlife Department,

Please extend thanks to Migratory Bird Biologist **James Morel** and everyone on staff for having us today. It was a great experience. Nice to do something other than the policy and politics occasionally. The Speaker's leadership team had a blast, too. I appreciate how patient they all were with how clueless we can be. It's good for us to see what the agencies do.

Caitlin Lee, legislative assistant to state Reps. Dick Lowe and Kenton Patzkowsky, Oklahoma House of Representatives



Outdoor Calendar

FOR THE LATEST UPDATES, GO ONLINE TO LICENSE.
GoOUTDOORSOKLAHOMA.COM/Event/Events.ASPX

NOTICE: Events listed were scheduled at press time; events are subject to change.

SEPTEMBER 2021

4	Oklahoma City free fishing day; no city permit required.
4-5	Oklahoma Free Hunting Days; no license required for residents.
5	"Outdoor Oklahoma" TV, 8 a.m. and 2:30 p.m., OETA.
6	Labor Day; state offices closed.
7	Oklahoma Wildlife Conservation Commission meeting, 9 a.m., Oklahoma City.
10	Open house, H.B. Parsons Fish Hatchery, 10 a.m.-2 p.m., Lake Hefner. Register: www.okc.gov/departments/parks-recreation .
12	"Outdoor Oklahoma" TV, 8 a.m. and 2:30 p.m., OETA.
18	Fly fishing class for beginners, ages 16 and older, Oklahoma City South Lakes Park, 9 a.m.-noon, \$20 fee. Register: www.okc.gov/departments/parks-recreation .
19	"Outdoor Oklahoma" TV, 8 a.m. and 2:30 p.m., OETA.
21	Okla. Striped Bass Assn. meeting, 7 p.m., Zebco, Tulsa, (918) 639-8114.
26	"Outdoor Oklahoma" TV, 8 a.m. and 2:30 p.m., OETA.

- **Hunter Education Classes:** Sept. 11 in Guymon, Antlers, Poteau, Wagoner, Okmulgee, Sallisaw, Woodward, Shawnee; Sept. 18 in Granite, Elk City, Enid, Tahlequah, Stillwater, Skiatook. Register: license.gooutdoorsoklahoma.com/Event/EventsHome.aspx.
- **Ducks Unlimited** events set in Stillwater, Sept. 3; Deer Creek, Sept. 9; Newcastle, Sept. 30; Poteau, Sept. 30. Info: www.ducks.org/Oklahoma/events.
- **Friends of NRA** events set in El Reno, Sept. 16; Stillwater, Sept. 23; Enid, Sept. 25; Tahlequah, Sept. 30. Info: www.FriendsOfNRA.org.
- **National Wild Turkey Federation** event set in Altus, Sept. 18. Info: www.nwtf.org/events.

OCTOBER 2021

2	Oklahoma City free fishing day; no city permit required.
3	"Outdoor Oklahoma" TV, 8 a.m. and 2:30 p.m., OETA.
4	Oklahoma Wildlife Conservation Commission meeting, 9 a.m., Oklahoma City.
10	"Outdoor Oklahoma" TV, 8 a.m. and 2:30 p.m., OETA.
16	Bass Pro Shops U.S. Open National Bass Fishing Amateur Team Championship, regional qualifying tournament, Grand Lake O' the Cherokees, www.basspro.com/shop/en/usopen .
17	"Outdoor Oklahoma" TV, 8 a.m. and 2:30 p.m., OETA.
19	Okla. Striped Bass Assn. meeting, 7 p.m., Zebco, Tulsa, (918) 639-8114.
24	"Outdoor Oklahoma" TV, 8 a.m. and 2:30 p.m., OETA.
29	Oklahoma Wildlife Conservation Hall of Fame Inaugural Induction and Banquet, hosted by Oklahoma Wildlife Conservation Foundation, 6 p.m., Omni Convention Center Hotel, Oklahoma City. Honoring John D. Groendyke. Sponsorships, tickets: www.OKwildlifeconservation.org . Youth Hooked on Fishing, ages 5-15, 8-10 a.m., Route 66 Park, Oklahoma City, free. Register: www.okc.gov/departments/parks-recreation .
31	"Outdoor Oklahoma" TV, 8 a.m. and 2:30 p.m., OETA.

- **Hunter Education Classes:** Oct. 2 in Colony, Wayne; Oct. 9 in Fort Gibson. Register: license.gooutdoorsoklahoma.com/Event/EventsHome.aspx.
- **Ducks Unlimited** events set in Durant, Oct. 14; . Info: www.ducks.org/Oklahoma/events.
- **Friends of NRA** events set in Dewey, Oct. 2; Oklahoma City, Oct. 31; Info: www.FriendsOfNRA.org.
- **National Wild Turkey Federation** event info: www.nwtf.org/events.

** FOR HUNTING SEASON DATES, GO TO
www.wildlifedepartment.com/hunting/seasons **

Wild About

◆ COOKING ◆



By Smokey Solis, Communication and Education Specialist

With this recipe, we will be diving into the world of rough fish. So-called rough fish, including carps, gars and buffalofish, have historically been considered in some cultures as less-desirable for catching or eating. But they generally make fine table fare.

Some rough fish, including buffalofish, drums and gars, are native to Oklahoma and play vital roles in their ecosystems. Other types, including silver carp and bighead carp, are invasive species.

Common carp is intended to be used in this recipe. Anglers who catch other species of carp in Oklahoma are reminded to abide by state regulations, which require that any invasive bighead or silver carp be reported to the Wildlife Department by calling (918) 683-1031. Anglers must not return these invasive species to the water, and they may possess dead bighead or silver carp after reporting them.

Common carp are notoriously boney. We suggest searching for a “how-to” video on the Internet to learn how to process a boneless common carp filets.

Ingredients

1 cup cooked, flaked common carp
3 cups stiff mashed potatoes, plain
1 egg, beaten
1/2 cup diced onion
2 jalapeno peppers, diced (optional)
1 cup breadcrumbs
2 Tbsp bacon grease
1/2 Tbsp butter
1/2 tsp pepper
1/2 tsp salt
1/8 tsp paprika
Cajun seasoning to taste

Directions

- Cook (fry, steam or bake) boneless common carp filets until the meat becomes flaky; allow to cool.
- In a bowl, mix cooked carp, potatoes, onion, peppers, bacon grease, butter, salt, pepper, paprika and half the breadcrumbs.
- Form mixture into cakes 1/4-inch thick, then roll cakes in remaining breadcrumbs. Pan fry in hot grease until golden brown.
- While still hot, season with Cajun seasoning as desired. Enjoy!

(The Oklahoma Department of Environmental Quality conducts food safety testing and issues guidance for consuming fish from the state's lakes and rivers. For more information, visit tinyurl.com/leatfishOK.)



OKLAHOMA

DEPARTMENT OF WILDLIFE CONSERVATION

FALL 2021 - SPRING 2022 STATEWIDE HUNTING SEASONS

BIG GAME



Barry Bolton

	DEER & ELK*	BEAR*	ANTELOPE
ARCHERY	Oct. 1-Jan. 15	Oct. 1-17	Oct. 1-14
YOUTH GUN	Oct. 15-17		
MUZZLELOADER	Oct. 23-31	Oct. 23-31	
GUN	Nov. 20-Dec. 5		Drawing Only
HOLIDAY ANTLERLESS	Dec. 18-31		

BIRDS



David Thompson

	PANHANDLE	ZONES 1 & 2
DUCKS (REGULAR SEASON)	Oct. 9-Jan. 5	Nov. 13-28 & Dec. 4-Jan. 30
DUCKS (YOUTH, VETERAN, ACTIVE MILITARY)	Oct. 2 & Feb. 5	Nov. 6 and Feb. 5
	YOUTH SPRING	SPRING
TURKEY	April 9-10	April 16-May 16
	FALL ARCHERY	FALL GUN
	Oct. 1-Jan. 15	Oct. 30-Nov. 19
DOVE	Sept. 1-Oct. 31 & Dec. 1-29	
QUAIL	Nov. 13-Feb. 15	
PHEASANT	Dec. 1-Jan. 31	

SMALL GAME



SQUIRREL	May 15 - Jan. 31
RABBIT	Oct. 1 - March 15
FURBEARER	Dec. 1 - Feb. 28

* Deer Muzzleloader and all statewide elk seasons are quota hunts. Check quotas at wildlidedepartment.com before hunting. The Special Southwest Zone for elk has season dates that vary from the regular statewide season dates listed above. Consult the most current Oklahoma Hunting Regulations Guidebook for the Special Southwest Zone dates.

DISCLAIMER: This poster is not a legal document. This poster is an interpretive summary of the Titles 29 and 30 of Oklahoma Statutes governing fish and wildlife laws as established by the Oklahoma Wildlife Conservation Commission. For a complete listing of official regulations, you can obtain copies of current Oklahoma Statutes through your local library.

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Lake Carl Etling at Black Mesa State Park in Cimarron County.



Lake Carl Etling Is a

By Michael Bergin, Senior Communications Specialist

If you are drawn to unique fishing destinations, then look to Lake Carl Etling in the far reaches of the Oklahoma Panhandle. Situated near the New Mexico and Colorado borders within Black Mesa State Park, Carl Etling marks the westernmost point of the Oklahoma Fishing Trail, a joint initiative of the Wildlife Department and the Oklahoma Tourism and Recreation Department to promote fishing tourism statewide.

This lake offers fishing opportunities for largemouth bass, channel catfish, walleye and — like any Oklahoma lake worthy as a fishing spot — sunfish.

Fisheries Division personnel with the Oklahoma Department of Wildlife Conservation actively manage the lake for fishing, most recently stocking hybrid striped bass fingerlings to provide even more fishing diversity.



KELLY ADAMS/ODWC

The area around Lake Carl Etling boasts some rugged and remarkable landscape.



KELLY ADAMS/ODWC

Black Mesa State Park adds interest for Lake Carl Etling anglers looking for additional outdoor recreation.



Unique Destination for Fishing Trail Fun

Typically, hybrid striped bass fingerlings reach catchable size after about two years of growth.

"This stocking of hybrids should provide great angling opportunities to lake visitors as these fish grow," said state Sen. Casey Murdock, R-Felt. "In the meantime, Lake Carl Etling still provides great fishing opportunity as well as access to an important public fishing destination in this part of the state. Not only that, but the surrounding area offers stunning landscapes and great attractions for outdoor lovers and adventure seekers."

With bank access, two boat ramps, and good options for picnicking, camping and state park cabin rentals, Carl Etling certainly stacks up as a fishing destination. And the adjacent Black Mesa State Park and Nature Preserve provide additional outdoor recreation opportunities that Oklahoma

has come to be known for, such as hiking, kayaking and wildlife viewing. The state park, 26 miles northwest of Boise City in Cimarron County, offers guests a chance to hike to Oklahoma's highest point above sea level at 4,973 feet.

Lake Carl Etling was built by the Wildlife Department in 1958. Today, as part of the Oklahoma Fishing Trail, the lake helps showcase the best of Oklahoma fishing. The Fishing Trail is organized into six loops across the state, organized by lake and species. Anglers can use the interactive website at FishinOK.com to help navigate the various loops as they endeavor to complete the Oklahoma Fishing Trail Grand Slam Challenge, which entails catching each of several designated species along the trail and documenting the catches through the website. Successful Grand Slam finishers receive an exclusive decal. Learn more at FishinOK.com. 🌿

A large buck deer with impressive antlers stands in a field of dry grass, looking directly at the camera. The antlers are large and multi-tined, with some moss or lichen growing on them. The deer has a white throat patch and a brown body.

2020-21 Big Game Harvest Report

A Season For The Record Books

Deer Hunters Surge Past Previous Marks for Participation and Harvest

**By Dallas Barber, ODWC Big-Game Biologist
and Emily Clark, Big-Game Technician**

The 2020-21 Oklahoma big-game hunting seasons were an exceptional success, providing hunters abundant opportunities with great habitat along with healthy and robust herds. And Oklahoma hunters took advantage of the opportunities, breaking many harvest records across the state, in more ways than one.

Deer season resulted in record-shattering numbers for hunter participation and harvest. Elk hunting saw a substantial increase in harvest. And pronghorn hunting remains a highly sought-after and successful quarry to hunt.

These are good times for a big-game hunter in Oklahoma!

Deer Hunting Seasons

A total of 126,290 deer were harvested during the 2020-21 seasons, the most ever. More importantly, antlerless harvest made up 43 percent of the total harvest, the highest since 2010 and a 5 percent increase from the 2019-20 season. **Figure 1** shows the total number of deer harvested for each year from 2004 to the present.

Gun season continued as the most popular deer hunting season. Gun hunters took 73,542 deer with a

modern firearm, setting a new harvest record. This figure includes the holiday antlerless season and the youth season.

Muzzleloader hunters bumped up their harvest from the 2019-20 season by almost 1,000, reporting a total 17,411 deer taken.

And it was no surprise that archery hunters set another season harvest record with 35,337 deer taken. Archery hunting has been on an upward trend over the past handful of years. **Figure 2** shows success rates among the various hunting methods, while **Figure 3** represents individual seasons and their respective harvests.

Oklahoma deer hunters are able to try their luck across a wide diversity of habitat types. Along with the diversity comes varying levels of deer habitat quality. While some counties enjoy large tracts of public land that is rich with wildlife, others do not. To even the playing field, **Table 1** shows deer harvest totals by county without including the deer taken on public hunting areas including ODWC's wildlife management areas (WMAs).

Due to their large size, the top three counties for deer harvest came in as

Figure 2: Success Rates by Method 2004–Current

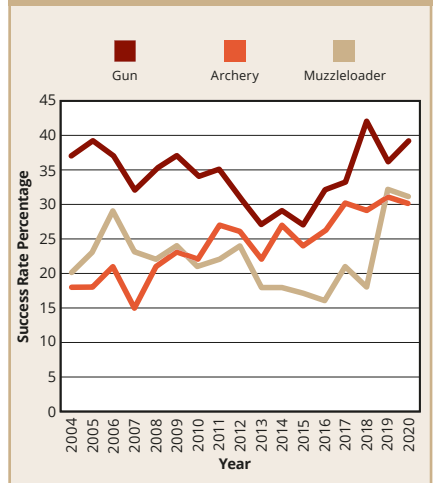


Figure 3: 2020-2021 Percent Harvest by Season Type

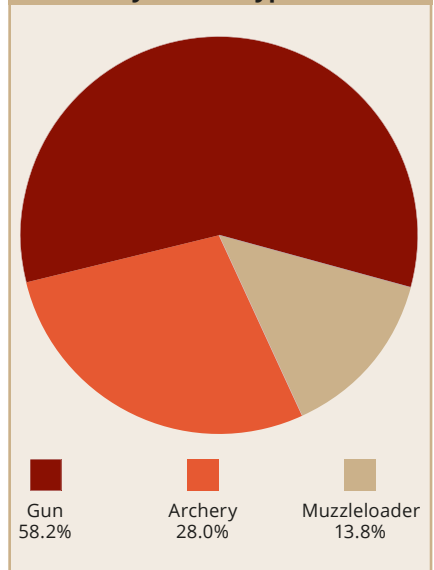


Figure 1: Total Harvest from 2004 to Current

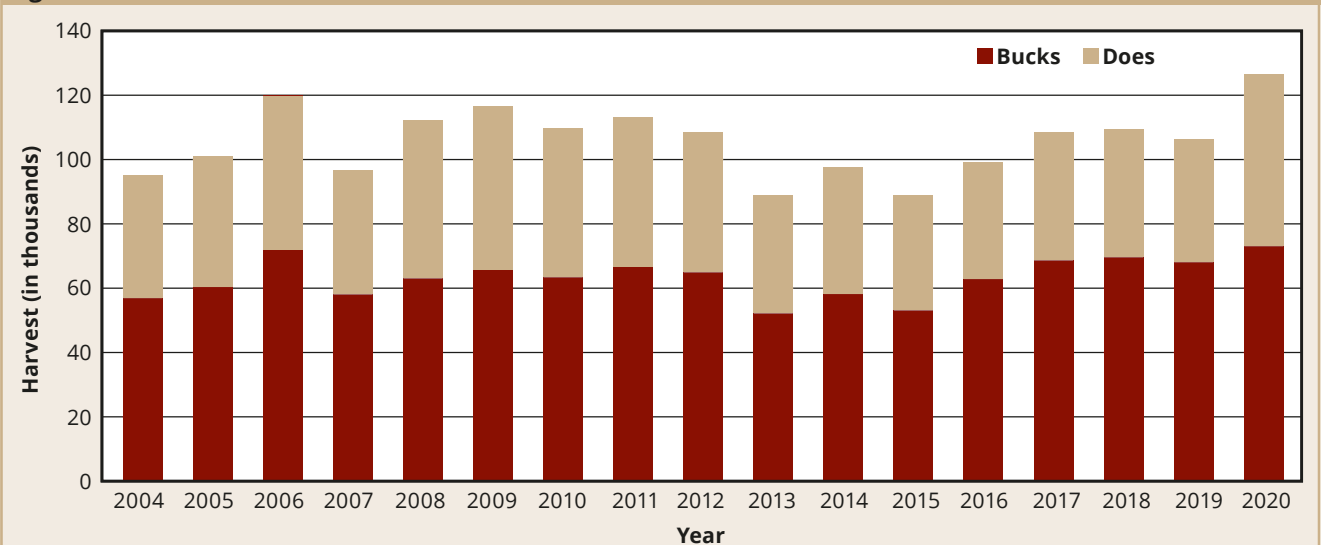


Table 1: Harvest by County, Method, and Sex

County	Archery		Gun		Muzzleloader		Total
	Female	Male	Female	Male	Female	Male	
Adair	158	217	479	438	106	273	1,671
Alfalfa	131	167	416	456	50	85	1,305
Atoka	509	524	647	937	169	457	3,243
Beaver	28	53	113	312	16	30	552
Beckham	136	242	564	776	71	88	1,877
Blaine	49	74	200	412	16	28	779
Bryan	278	301	384	629	63	143	1,798
Caddo	178	253	454	843	66	77	1,871
Canadian	177	139	328	346	22	48	1,060
Carter	150	281	322	626	51	104	1,534
Cherokee	341	349	743	656	166	391	2,646
Choctaw	251	314	338	658	96	209	1,866
Cimarron	5	10	10	88	0	10	123
Cleveland	228	235	266	357	54	107	1,247
Coal	219	314	441	566	76	175	1,791
Comanche	96	171	159	310	33	51	820
Cotton	40	79	157	239	25	23	563
Craig	203	228	497	697	67	162	1,854
Creek	377	450	759	772	136	225	2,719
Custer	57	89	203	481	16	45	891
Delaware	347	330	588	539	109	201	2,114
Dewey	62	122	311	584	30	62	1,171
Ellis	46	122	311	544	19	52	1,094
Garfield	79	127	288	362	39	54	949
Garvin	141	198	247	498	52	109	1,245
Grady	194	244	406	673	48	98	1,663
Grant	146	167	530	541	65	94	1,543
Greer	77	129	223	346	19	29	823
Harmon	108	94	266	270	36	32	806
Harper	21	49	95	304	6	41	516
Haskell	201	281	420	499	72	248	1,721
Hughes	227	340	432	698	69	254	2,020
Jackson	105	140	248	328	18	29	868
Jefferson	115	180	301	389	19	50	1,054
Johnston	202	215	374	444	59	114	1,408
Kay	131	160	375	473	49	60	1,248
Kingfisher	98	125	322	389	27	40	1,001
Kiowa	41	69	177	305	25	28	645
Latimer	164	250	211	399	65	275	1,364
LeFlore	333	403	512	669	174	458	2,549
Lincoln	240	296	660	755	87	144	2,182
Logan	267	268	590	583	68	101	1,877
Love	138	161	182	290	23	48	842
Major	79	131	400	508	30	51	1,199
Marshall	65	74	113	182	24	27	485
Mayes	251	237	459	395	123	203	1,668
McClain	110	143	235	305	37	65	895
McCurtain	489	476	808	964	255	453	3,445
McIntosh	134	188	283	426	63	167	1,261
Murray	60	101	180	289	21	54	705
Muskogee	239	269	329	406	66	189	1,498
Noble	125	145	411	459	49	54	1,243
Nowata	167	185	440	558	68	103	1,521
Okfuskee	119	214	288	452	69	149	1,291
Oklahoma	278	323	284	317	20	52	1,274
Okmulgee	165	224	291	451	75	136	1,342
Osage	547	527	1,193	1,666	188	277	4,398
Ottawa	193	257	398	473	63	172	1,556
Pawnee	188	212	542	602	74	109	1,727
Payne	266	267	731	668	87	109	2,128
Pittsburg	725	855	686	1,322	175	684	4,447
Pontotoc	208	273	426	599	66	172	1,744
Pottawatomie	253	336	553	645	108	206	2,101
Pushmataha	516	515	592	821	146	472	3,062
Roger Mills	103	203	549	811	24	72	1,762
Rogers	448	462	686	664	122	164	2,546
Seminole	151	224	367	478	70	186	1,476
Sequoyah	381	428	669	689	160	424	2,751
Stephens	193	293	366	635	53	101	1,641
Texas	2	19	17	101	0	12	151
Tillman	90	120	236	285	15	37	783
Tulsa	214	251	205	216	27	68	981
Wagoner	271	225	389	402	92	132	1,511
Washington	150	172	345	466	37	67	1,237
Washita	33	62	159	318	14	33	619
Woods	116	223	342	562	34	71	1,348
Woodward	136	162	372	630	36	60	1,396
County Total	14,559	17,756	29,893	40,246	4,968	10,683	118,105
WMA Total	1,591	1,431	1,544	1,856	861	902	8,185
Grand Total	16,150	19,187	31,437	42,102	5,829	11,585	126,290

Table 2: Public Lands Harvest by County, Method, and Sex

County	Archery		Gun		Muzzleloader		Total
	Female	Male	Female	Male	Female	Male	
Arcadia Lake WMA	29	13	0	0	0	0	42
Altus-Lugert WMA	28	20	0	4	9	10	71
Arbuckle Springs WMA	13	15	5	3	0	0	36
Atoka PHA	1	5	15	19	3	14	57
Atoka WMA	16	26	10	23	2	2	79
Bamberger WMA	0	0	4	3	0	2	9
Beaver River (McFarland Unit)	2	8	0	6	1	1	18
Beaver River WMA	3	4	0	10	3	13	33
Beavers Bend SP (Golf Course)	2	1	1	0	0	1	5
Beavers Bend SP (River Bend)	0	0	0	1	0	0	1
Black Kettle WMA	34	18	163	189	51	29	484
Blue River Blue River Public Hunting & Fishing Area	9	6	2	2	0	0	19
Broken Bow WMA	2	4	8	9	8	10	41
Burtschi PFA	2	1	0	0	0	0	3
Camp Gruber Cantonment	0	1	0	7	17	12	37
Candy Creek WMA	7	2	0	1	0	1	11
Canton WMA	36	15	6	32	21	5	115
Canton WRP	0	0	0	1	0	0	1
Cherokee WMA (GMA Portion)	20	12	13	34	0	1	80
Cherokee WMA (PHA Portion)	15	20	2	33	24	22	116
Chickasaw National Recreation Area	18	20	26	19	10	2	95
Cimarron Bluff MA	0	4	0	1	0	0	5
Cimarron Hills WMA	0	5	0	0	0	0	5
Cookson Hills WMA	12	24	6	15	0	3	60
Cooper WMA	3	8	2	28	1	0	42
Copan COE Parks	5	0	6	2	0	0	13
Copan WMA	24	24	28	26	16	11	129
Cross Timbers WMA	54	50	27	13	0	0	144
Deep Fork NWR	10	22	2	5	6	7	52
Deep Fork WMA	12	17	23	21	9	14	96
Dewey County WMA	1	1	0	0	0	0	2
Drummond Flats WMA	6	5	0	0	0	0	11
Ellis County WMA	5	1	5	24	8	4	47
Eufaula WMA	39	44	64	36	21	37	241
Fobb Bottom WMA	11	2	7	7	3	2	32
Fort Cobb State Park	2	1	1	1	6	1	12
Fort Cobb WMA	32	13	10	16	0	0	71
Fort Gibson Waterfowl Refuge	9	3	0	3	23	4	42
Fort Gibson WMA	111	69	17	61	47	41	346
Fort Sill	43	58	54	49	30	15	249
Fort Supply WMA	12	10	5	23	8	6	64
Four Canyon	0	0	0	0	0	1	1
Gary Sherrer WMA (Bolen Hollow)	0	0	1	2	2	3	8
Gist WMA	0	3	0	0	0	0	3
Grady Co. WMA	3	1	1	2	0	0	7
Grassy Slough WMA	0	2	0	0	0	0	2
Great Salt Plains State Park	3	0	2	0	0	0	5
Gruber (CGTC)	11	12	7	44	26	31	131
Hackberry Flat WMA	2	4	0	0	1	2	9
Hall PFA	0	1	0	0	0	0	1
Heyburn COE	0	2	2	0	0	0	4
Heyburn WMA	13	11	15	21	14	13	87
Hickory Creek WMA	2	0	5	10	0	2	19
Honobia WMA	26	22	38	40	29	39	194
Hugo Lake COE	24	21	13	16	4	5	83
Hugo WMA	65	33	55	47	27	48	275
Hulah WMA	27	21	55	88	38	26	255
James Collins WMA	70	73	5	21	1	1	171
Jap Beaver PFA	1	1	0	0	0	0	2
John Dahl WMA (Osage)	0	1	6	7	1	0	15
Kaw Lake COE	9	6	11	10	5	4	45
Kaw WMA	60	45	53	65	32	26	281
Keystone COE	18	12	8	7	1	2	48
Keystone WMA	37	26	15	25	15	13	131
Lake Thunderbird State Park	34	33	0	0	0	0	67
Lexington WMA	22	18	40	5	9	22	116
Little River NWR	5	5	17	13	1	3	44
Love Valley WMA	7	8	23	18	8	7	71
Lower Illinois River WMA	0	2	5	2	0	0	9
Major County WMA	0	0	1	2	0	0	3
McAlester Army Ammunition Plant	72	40	21	2	0	0	135
McClellan-Kerr WMA	21	8	18	1	3	12	63
McCurtain Co. WA	1	6	13	30	5	9	64
McGee Creek WMA	17	12	11	8	7	5	60
Mountain Park WMA	6	7	0	0	4	2	19
Neosho WMA	10	14	2	4	2	2	34
Okmulgee WMA (GMA Portion)	15	10	7	13	0	0	45
Okmulgee WMA (PHA Portion)	8	4	8	12	2	9	43
Oologah Lake COE	11	15	24	20	5	3	78
Oologah WMA	43	40	58	59	22	23	245
Optima National Wildlife Refuge	1	1	0	0	0	0	2
Optima WMA	4	3	0	14	0	2	23
Osage WMA — Rock Creek	0	4	1	9	3	10	27
Osage WMA — Western Wall	30	32	0	1	0	0	63
Ouachita WMA (Cucumber Creek)	2	0	0	3	0	3	8
Ouachita WMA (McCurtain Unit)	9	17	40	41	21	36	164
Ouachita WMA LeFlore	11	13	48	62	27	43	204
Ozark Plateau WMA	1	0	2	0	0	1	4
Packsaddle WMA	8	6	17	64	20	5	120
Pine Creek COE	2	0	0	1	1	5	9
Pine Creek WMA	7	4	9	10	3	8	41

Table 2: Public Lands Harvest by County, Method, and Sex (continued)

Pontotoc Ridge Preserve	0	0	3	0	0	0	3
Pushmataha WMA	13	31	11	16	5	7	83
Red Slough WMA	16	16	2	5	0	0	39
Rita Blanca WMA	0	0	0	5	0	0	5
Robbers Cave WMA	0	4	0	0	0	0	4
Salt Plains National Wildlife Refuge	3	1	37	17	16	5	79
Salt Plains NWR Wilderness Area	0	0	5	3	2	0	10
San Bois WMA	0	1	3	4	1	1	10
Sandhills WMA	3	3	1	3	0	3	13
Sandy Sanders WMA	10	28	10	6	1	4	59
Schultz WMA	0	0	0	0	0	1	1
Sequoyah NWR	9	15	4	0	36	4	68
Sequoyah NWR (Refuge Island)	0	1	0	0	0	1	2
Sequoyah Resort Park	2	1	1	0	2	2	8
Skiatook COE	1	4	6	1	1	0	13
Skiatook WMA	1	4	18	15	3	4	45
Sparrow Hawk WMA	0	2	0	2	0	1	5
Spavinaw WMA (GMA Portion)	22	16	14	9	2	5	68
Spavinaw WMA (PHA Portion)	2	1	4	4	2	5	18
Stringtown WMA	0	1	0	5	0	2	8
Tenkiller COE	5	10	4	4	6	5	34
Tenkiller-B-Cabin WMA	0	0	0	3	1	0	4
Texoma COE	13	9	8	4	0	0	34
Texoma COE (Burns Run)	3	0	2	0	0	0	5
Texoma COE (Lakeside)	4	1	1	1	0	0	7
Texoma/Washita ARM WMA	1	13	11	15	2	0	42
Three Rivers WMA	64	54	130	155	72	101	576
Tishomingo National Wildlife Refuge	2	0	21	5	0	0	28
Tishomingo WMA	0	6	8	6	1	1	22
USDA Grazinglands RL	0	0	2	0	0	0	2
Washita County WMA	1	0	0	1	0	0	2
Washita NWR	0	0	21	4	0	0	25
Waurika Lake COE	3	2	3	0	0	0	8
Waurika WMA	40	31	2	1	10	2	86
Webbers Fall WMA	1	3	8	0	7	0	19
Wichita MTS NWR	0	1	0	1	0	2	4
Wister WMA	18	18	27	29	20	40	152
Wister WRP	5	2	4	4	3	5	23
Yourman WMA	3	1	4	3	2	4	17
WMA Total	1,591	1,431	1,544	1,856	861	902	8,185
County Total	14,559	17,756	29,893	40,246	4,968	10,683	118,105
Grand Total	16,150	19,187	31,437	42,102	5,829	11,585	126,290

expected. Pittsburg County landed in first place with 4,447 deer harvested. Osage County was closely behind with 4,398 deer harvested. McCurtain County landed in third place with 3,445 deer taken.

WMAs and other ODWC-managed public lands make up a small percentage (about 3 percent) of Oklahoma's land area. But these areas accounted for 6.5 percent of the overall deer harvest. Details of harvest on public lands are compiled in **Table 2**.

Archery Season

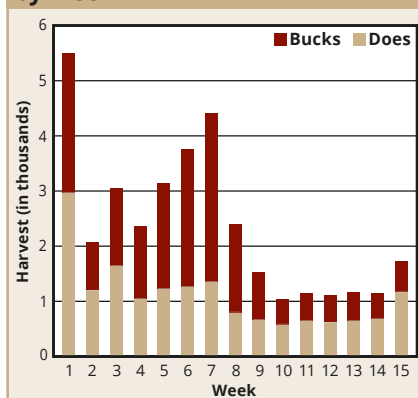
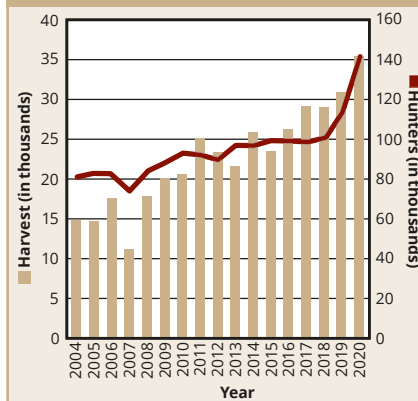
The 2020-21 archery season set another harvest record of 35,337 deer, which was almost 5,000 more than the previous record set during the 2019-20 season. These 35,337 deer made up for 28 percent of total deer harvest for all seasons. Bucks accounted for 54.3 percent of total archery harvest, with antlerless deer making up the other 45.7 percent.

Also notable is that archery hunting continues to grow in popularity. The annual Game Harvest Survey (GHS), a long-standing ODWC scientific survey that tracks hunter participation and success, estimated a new record in archery participation of 141,472 hunters who chased deer in 2020-21 with some form of archery gear.

Regulations continued to be unchanged for archery season, which was open from Oct. 1, 2020, through Jan. 15, 2021. The bag limit was six deer, but no more than two of those could be antlered. A breakdown of harvest numbers by sex and by week can be seen in **Figure 4**. Archery hunter participation and harvest from years past is represented in **Figure 5**.

Muzzleloader Season

Muzzleloader hunters were in the field from Oct. 24 through Nov. 1, attempting to fill a bag limit of

Figure 4: 2020-21 Archery Harvest by Week**Figure 5: Archery Hunter Numbers and Harvest**

four deer, of which no more than one could be antlered. Additional antlerless harvest was encouraged by the liberalization of antlerless bag limits offered in specific Deer Antlerless Zones as shown in **Figure 11**.

Estimates from the GHS show that about 97,000 hunters took advantage of the under-utilized muzzleloader hunting method. But

participation was the highest since 2009. The result was 17,414 deer harvested, the most for muzzleloaders since 2012. Antlered deer totaled for 67 percent of harvest, while antlerless made up the remaining 33 percent. A breakdown of harvest by day can be seen in **Figure 6**, while hunter harvest and numbers from previous years are displayed in **Figure 7**.

Gun Season

Hunters aiming to harvest deer with a gun could go afield from Nov. 21 through Dec. 6, 2020. The gun season brought some small changes to the bag limit structure. The bag limit was changed to four, but only one of those could be antlered. There were also some antlerless harvest changes within Antlerless Deer Zones, which can be seen in **Figure 11**.

Figure 6: 2020 Muzzleloader Harvest by Day

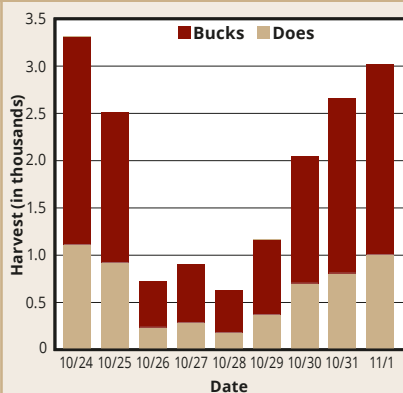


Figure 7: Muzzleloader Season Harvest and Hunter Numbers

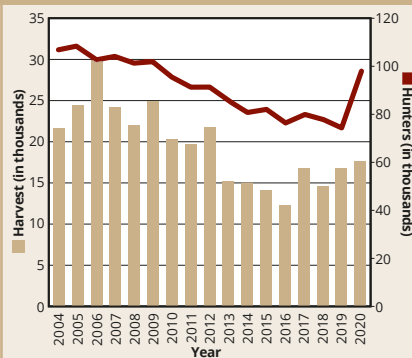
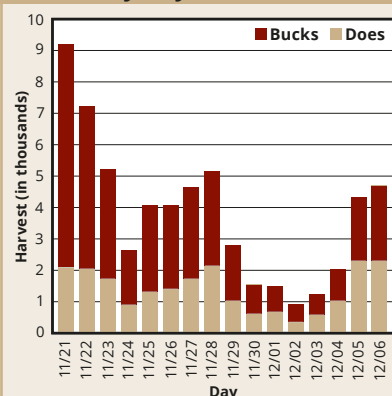
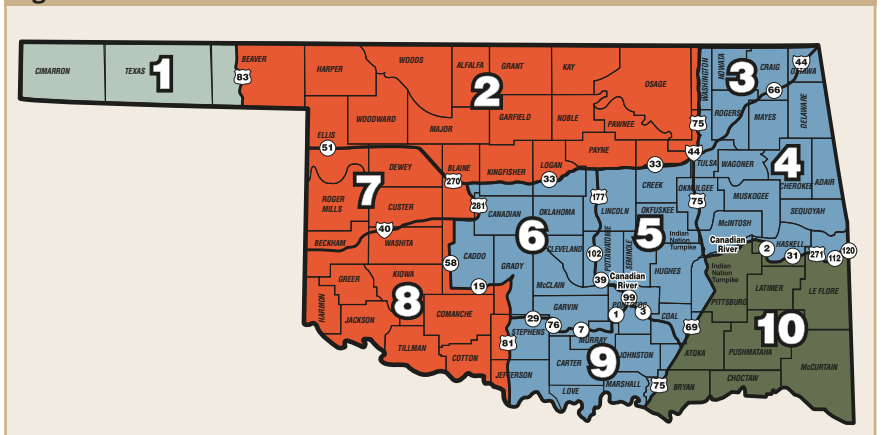


Figure 8: 2020 Gun Season Harvest by Day



CARRION MERRIMAN BRIGGS/READERS' PHOTO SHOWCASE 2020

Figure 11: Deer Antlerless Zones





DATTEN BRUSHHEADERS PHOTO SHOWCASE 2020

An estimated 218,548 hunters managed to harvest 73,542 deer with a gun. These are record-setting numbers in both categories. **Figure 8** and **Figure 9** show harvest by sex and day, along with harvest and participation from years past.

The holiday antlerless gun season saw an expansion of season dates, running from Dec. 18 through Dec. 31, 2020. Harvest during this expanded season increased to 6,786 deer, almost doubling last year's total. **Figure 10** shows holiday antlerless gun season harvest totals from 2015 to the present.

The youth deer gun season ran for three days from Oct. 16 through Oct. 18, 2020 and resulted in the harvest of 4,465 deer. Antlered harvest made up 57 percent of the total.

Figure 9: Gun Season Harvest and Hunter Numbers

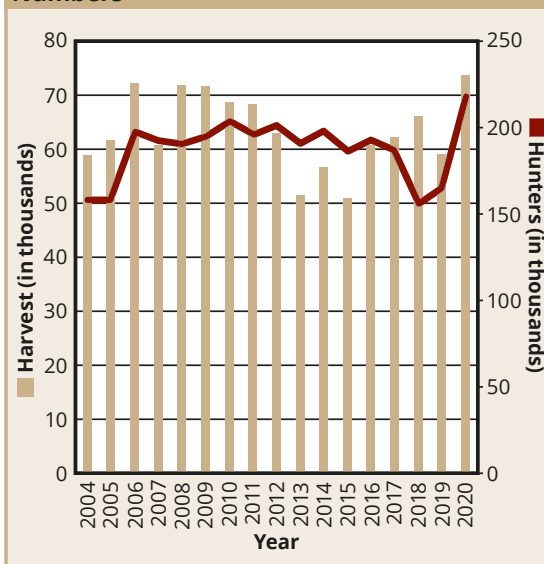
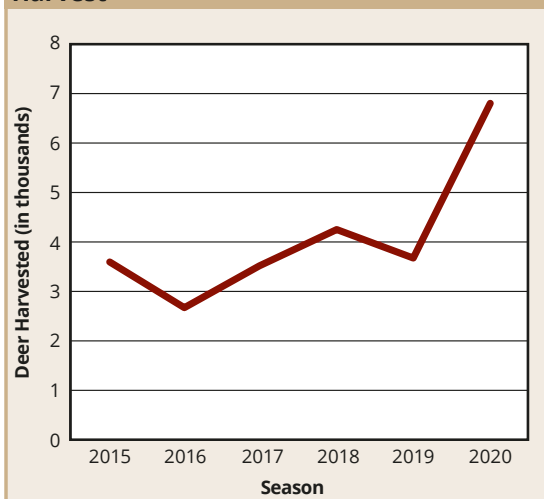


Figure 10: Holiday Antlerless Gun Season Harvest





Deer Herd Age Structure

The Wildlife Department gathers age data from the Deer Management Assistance Program (DMAP), local deer processors, taxidermists, and the "Age My Deer" program at wildlifedepartment.com. Typically the Department would enlist students to assist in collecting deer jaws from various processors and taxidermists. With 2020's COVID-19 restrictions, this year's data consists of only DMAP, controlled hunts, and "Age My Deer" information.

The data provide information regarding age structure within the herd, a key component when looking at overall herd health. **Figure 12** and **Figure 13** display age at harvest for antlered and antlerless deer.

Conclusions

2020 was a year to remember. As a pandemic swept around the globe and left many people frightened and homebound, the outdoors awaited with open arms. Many hunters used Oklahoma's plentiful resources to put clean, organic protein on the table for their families.

The state's deer hunters set re-

cords for total harvest, archery harvest, gun harvest, and participation for both archery and gun seasons.

More importantly for the health of the state's deer herd, hunters reached the Wildlife Department's antlerless harvest goal of 40 to 45 percent of total harvest for the first time since 2015. The ball was placed in the hunters' court, and they answered the rally call of "Hunters in the Know ... Take a Doe!"

The quality of bucks being harvested continues to impress hunters not only in this state but across the country. This has all been accomplished through voluntary restraint. Using science-based regulations and enlisting hunters as boots-on-the-ground deer managers, ODWC continues to strive toward the goal of a balanced deer herd based on available habitat and healthy age structures.

I wish all of you good health and good luck during the upcoming 2021-22 seasons. And remember this: Every time you decide to pull the trigger or release an arrow, you're making a deer management decision that impacts your local populations. So, keep in mind that "Hunters in the Know ... Let Young Bucks Grow — and Take a Doe!"

Figure 12: 2020-21 Antlerless Age at Harvest

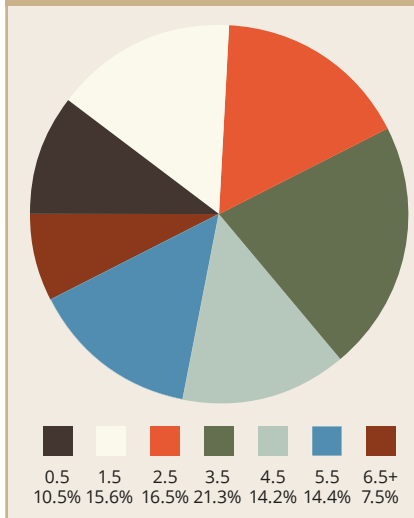
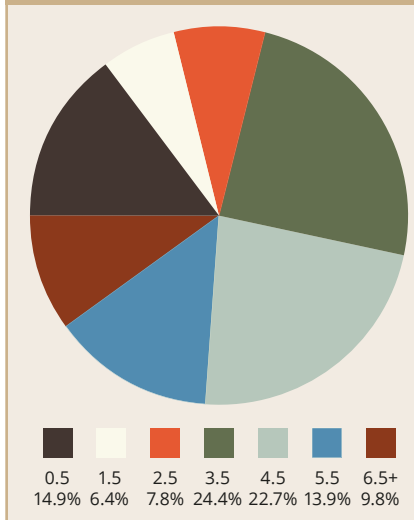


Figure 13: 2020-21 Antlered Age at Harvest





Hunters Must Follow Oklahoma Import Rules to Prevent CWD

Chronic wasting disease (CWD) affects cervid species including deer, elk and moose. This always fatal, contagious, neurological disease continues to spread across much of the United States and Canada. It causes emaciation, loss of control of bodily functions, abnormal behavior, and ultimately death.

CWD has yet to be found in Oklahoma's wild deer or elk herds. Still, the Wildlife Department is being proactive to prevent CWD. Every state surrounding Oklahoma has found CWD in their wild populations. Last year, ODWC implemented a carcass import ban to prevent high-risk cervid parts from entering this state.

CWD is caused by a misfolded prion, or abnormal intracellular protein, most commonly found in the central nervous system and lymph tissue. Once these prions are on the landscape, science shows they can exist for decades and infect other animals. The carcass import ban prevents cervids from crossing state lines after having been harvested unless they meet certain criteria. The regulation states:

"No one shall import, transport, or possess any cervid carcass or part of a cervid carcass from outside Oklahoma's boundaries, except for antlers, or antlers attached to clean skull plate, or cleaned skulls (all tissue removed); animal quarters containing no spinal material, or meat with all parts of the spinal column removed; cleaned teeth; finished taxidermy products; hides or tanned products."

— Dallas Barber, ODWC Big-Game Biologist

Elk Hunting Season

Hunting opportunity for those wishing to pursue elk in Oklahoma presents itself in two ways: private land hunting with written landowner permission during the state's private land elk hunting seasons, or draw hunts through the Oklahoma Department of Wildlife Conservation's controlled hunts program.

Private land seasons run concurrently with open deer seasons except in the Special Southwest Elk Zone, which has separate season dates. Hunters had a banner year during the 2020-21 seasons, harvesting a total of 559 elk, an increase of more than 150 over the previous year. The large increase in

Table 4: 2020-21 Elk Harvest by County, Sex and Method

County	Archery		Gun		Muzzleloader		Grand Total
	Antlerless	Antlered	Antlerless	Antlered	Antlerless	Antlered	
Adair	1	0	0	0	0	0	1
Beckham	0	1	1	2	0	1	5
Caddo	0	2	17	11	0	0	30
Carter	0	1	0	0	0	0	1
Cherokee	0	0	2	2	0	0	4
Cimarron	1	4	6	4	0	1	16
Coal	0	2	0	0	0	0	2
Comanche	8	9	267	136	1	1	422
Creek	0	0	0	0	0	1	1
Dewey	0	3	0	0	0	0	3
Greer	0	1	0	0	0	0	1
Hughes	0	1	0	0	0	0	1
Kiowa	0	2	32	28	0	0	62
Muskogee	1	0	0	2	0	0	3
Pushmataha	0	1	0	0	0	0	1
Sequoyah	0	1	1	0	0	0	2
Texas	0	0	2	1	0	1	4
Grand Total	11	29	328	174	1	5	559

harvest came from additional controlled hunt opportunities at the Wichita Mountains Wildlife Refuge.

To see a breakdown of elk harvest by county, sex, and method, refer to **Table 4.**



USFWS



Pronghorn Hunting

Oklahoma's pronghorn herd is relatively small compared to what is found in other western states. The state is on the eastern fringes of the pronghorn's native range. However, Oklahoma's herd is able to sustain a limited harvest in the fragile ecosystem that these one-of-a-kind creatures inhabit.

Pronghorn harvest opportunities include an over-the-counter archery license, once-in-a-lifetime controlled hunt permit, and landowner drawn permits.

Hunters managed to harvest 169 pronghorns from the open hunting area of Cimarron County and the portion of Texas County west of State Highway 136. Cimarron

Table 5: 2020-21 Pronghorn Harvest by County, Method and Sex

County	Archery		Gun		Grand Total
	Female	Male	Female	Male	
Cimarron	0	28	46	43	117
Texas	0	8	25	19	52
Grand Total	0	36	71	62	169

County, having much better habitat with a greater proportion of native shortgrass prairies than Texas County, led harvest with 117 animals, 71 of those being bucks. Texas County hunters harvested 52 total, which included 27 bucks. **Table 5** shows a breakdown of harvest by county, sex and method.





Archery Success Drives Solid Bear Harvest

2020 turned out to be one of the best years overall for bear hunters, who harvested 72 bears combined during the archery and muzzleloader seasons.

Archery hunters harvested a total of 68 bears (41 males and 27 females) while the muzzleloader portion only saw four bears harvested (two males and two females).

"Hunters checked in some very impressive bears in 2020. I saw at least four that would easily go over 500 pounds, and several that were in the 300-pound range," said Jeff Ford, Wildlife Biologist in the Southeastern Region. "Most successful archery hunters have become very patient waiting on the bigger bears before letting their arrows fly."

Oklahoma had its first bear harvested in Bryan County, one of the counties that had its first open bear season in 2019. Since the first bear season in 2009, hunting had been restricted to only the four counties in the extreme southeastern corner of the state. In 2019, the open area for bear season expanded to all or portions of 12 counties.

"I've seen a lot of trail camera photos from hunters in some the newly opened portions of the state and expect to see the harvest increase in those areas as hunters learn more about hunting bears," Ford said.

The 2018 bear season set the bar for the most harvest suc-

cess, with a total of 85 bears taken that year.

The 2021 season will be Oklahoma's 13th for bear hunting. During the first 12 bear seasons, Oklahoma bear hunters have harvested 589 bears in total. Some Oklahoma bears have been very large, with several qualifying for Boone and Crockett listings, and many scoring more than enough for the state's Cy Curtis big game record book. Ford said the heaviest bear he recalls being taken in Oklahoma tipped the scales at 638 pounds.

"We have had some very old bears harvested, one male around 20 years old. If you hold out and maybe let the younger bears walk by, you could end up with a trophy of a lifetime."

Ford expects 2021 to be another banner year for bear hunters. "We have had plenty of rain, and the mast crop in the portions of the open counties that weren't hit by the late freeze in April are looking exceptional. Bear hunters who can take advantage of hunting near the season opener of archery season seem to be the most successful. The bears are really trying to put on the pounds before winter and unlike deer seem to move around more on warmer days.

"The best advice I can give to a hunter looking to fill a bear license on public land would be to look for acorns on the ground. If they can scout right before the Oct. 1 opener and find acorns with fresh bear scat around, they might start looking for a place to hang a stand. The bears tend to stay with a good food source until it's gone that time of year. And be patient; the bears seem to show up at all times of the day."

All bear hunters must get either an archery or muzzleloader bear license before the opening dates of each season. Archery bear season dates are defined by statute, running from Oct. 1 until the third Sunday in October. Bear archery season has no harvest quota.

Bear muzzleloader season will be Oct. 26-Nov. 3, 2021, but the season will close as soon as a quota of 20 bears has been reached. Before hunting, muzzleloader hunters must call (888) 901-3256 for the latest bear quota information. 🐾

2020 Black Bear Archery Harvest by County and Sex

County	Archery		Total
	Male	Female	
Le Flore	17	16	33
Latimer	1	0	1
Pushmataha	14	3	17
McCurain	6	7	13
Atoka	1	0	1
Bryan	1	0	1
Haskell	1	1	2
Grand Total	41	27	68

2020 Black Bear Muzzleloader Harvest by County and Sex

County	Archery		Grand Total
	Male	Female	
Le Flore	2	2	4

Conservation

Get Outdoors!

Besides going hunting and fishing, you and your family can take advantage of autumn's cooler temperatures by going camping! Fewer folks go camping this time of year, so you might have the area mostly to yourself. Plan outdoor activities like hiking, birdwatching, stargazing, campfire storytelling, and smores of course! Sounds great!

Hunting Tip

Sept. 1 is when dove hunting season opens! Make sure you are ready to go by cleaning your shotgun and getting your Hunter Education Course finished. Other hunting seasons that open during September and October are teal, resident Canada goose, several deer and elk seasons, deer gun youth season, fall turkey archery, black bear archery and muzzleloader, and pronghorn archery. Ask someone to take you hunting this fall!

Fishing Tip

The water starts to cool off in the fall, and bass slow down. They hang out in shallower areas. And they don't have as much energy to strike a lure as they do during the summer. Improve your chances by downsizing your lure, and slowing your retrieve. Fish closer to the bank, and use brighter lure colors. A topwater buzz bait might annoy a big bass enough to entice a strike.

for Kids!

Word Search: Game Birds in Oklahoma

F	S	W	J	I	T	W	U	Y	H	U	T	A	O	I	L
S	V	B	Z	W	K	N	M	P	S	M	D	Y	R	L	N
W	N	W	N	U	G	Z	C	B	C	V	G	I	O	Q	U
H	U	M	E	E	V	O	D	G	N	I	N	R	U	O	M
I	M	P	O	G	A	D	W	A	L	L	C	N	T	L	G
Y	W	A	L	D	E	E	B	O	B	W	H	I	T	E	S
T	K	C	O	C	D	O	O	W	C	D	A	B	M	N	T
K	O	L	I	A	U	Q	D	E	L	A	C	S	O	H	N
L	Z	P	X	K	N	T	L	E	T	Y	M	W	N	F	A
V	S	R	I	J	W	U	E	P	B	Z	G	E	I	V	S
L	S	I	A	X	N	R	K	I	V	O	N	S	B	B	A
E	O	O	K	I	N	K	P	N	O	U	P	K	I	N	E
B	Y	C	L	O	D	E	H	S	J	D	F	P	S	G	H
C	O	L	E	B	P	Y	E	K	I	X	M	H	J	N	P
C	A	B	G	G	M	S	D	R	A	L	L	A	M	N	A
G	K	D	W	S	N	L	K	T	O	O	C	I	K	Y	C

Circle the names of these birds that are hunted in Oklahoma:

Bobwhite
Gallinule
Pheasant
Snow Goose

Coot
Mallard
Scaled Quail
Turkey

Gadwall
Mourning Dove
Snipe
Woodcock

Some COOL FACTS about the Mourning Dove:

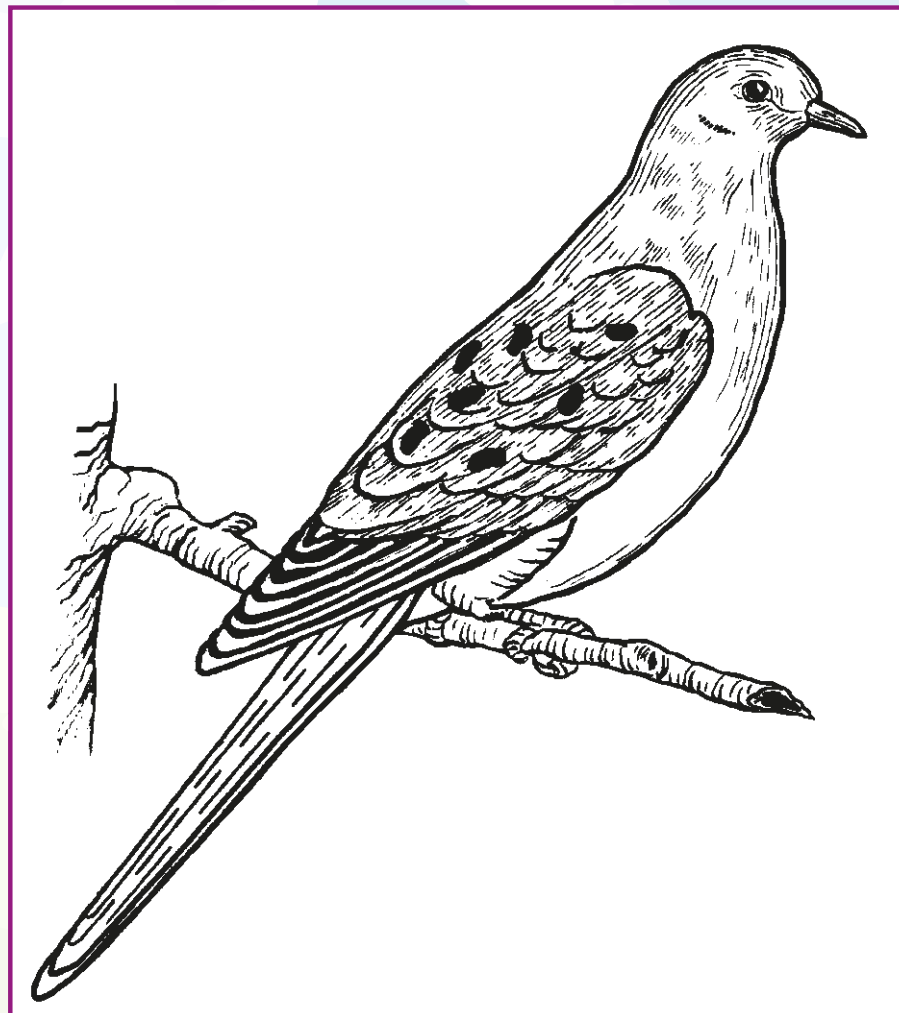
- They have light brown, buff or tan bodies, with black spots on their grayish wings.
- They fly fast with strong wing beats, often zig-zagging through the air.
- They have long pointed tail feathers are unique among all American dove species.
- These birds can be seen in almost any habitat except the deep woods.
- They are among the most abundant bird species in North America.



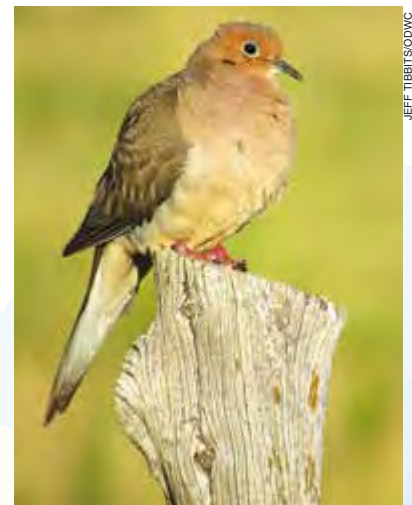
JOHN THORNTON/READERS' PHOTO SHOWCASE 2015

- In 2019, about 70,000 dove hunters harvested about 1.2 million doves in Oklahoma.
- Oklahoma's dove hunting season traditionally starts Sept. 1.
- Hunters harvest more mourning doves than all other migratory game birds combined.
- The Wildlife Department traps mourning doves in summer to put a metal band on one leg as part of research.
- The average lifespan of a mourning dove in the wild is 1.5 years.
- Seeds and grains on the ground make up nearly all of their diet.

Color a Critter: Mourning Dove



AMANDA THOMAS/ODWC




JEFF TIBBIS/ODWC



Just as many animals such as elk browse the transition areas between forest and field, many also become most active at the daily transition between day and night.



WILDLIFE SILHOUETTES



Unlike the ripples, eddies and backwashes in the flow of a meandering stream, the light of sunrise and sunset washes over the land in an unbending and precise current. There is no middle ground; no compromise. That which stands to face the sun is bestowed by a golden touch as if by a fabled king. Everything else is left to darkness.

The sun's glow turns the illuminated world into a complex pattern of bold relief against the shadows. Objects, in turn appear as shadows against the colorful horizon.

Moving like apparitions amid this illusionary puzzle are the creatures that make it their home.

Some of these inhabitants are returning to their shelters with appetites satisfied and thirsts quenched. Others are only beginning to awaken and move about in preparation for their turn at survival, filling niches left vacant by those headed for rest. Still others refuse to keep the rigid schedules of the strictly nocturnal and diurnal, and choose to feed when they are hungry, bed when they are fatigued, and become active when it is comfortable. These crepuscular animals make their living when the sun's offering is only a golden glow.

Since comfort and security are important factors for animal movement, the cool temperatures and low light levels of dawn and dusk are tailor-made for wildlife activity. These activities add even more spellbinding enchantment to the moments made magic by the sun and its gallery of color. Every wild creature, from the most frequent visitor to backyard birdfeeders to the secretive and rarely seen species such as bats and ringtails, may be observed during the first and last minutes of each day.

While human senses may be attuned to, and overwhelmed by, the beauty of flaming skies, wildlife's abilities to smell, hear and see are showcased by sunrise and sunset's other amenities. Winds are typically calm at dawn and dusk, allowing most species to better hear the clues of an approaching predator — or nearby prey. The moist air at sunrise holds scent well for those that use their noses to avoid danger or track food. But most impressive is the vision of many wild species, which has been



DAVID HILL/LOOKS



Songbirds are out and about at the crack of dawn in their daily quest for sustenance. Deer are often seen at twilight, traveling between secure daytime resting spots and nighttime feeding areas.

adapted to make the best use of the low and changing light levels of early and late day. Some animals such as foxes and bobcats have vertical pupils that can close tight or open wide to operate effectively under a tremendous variety of lighting conditions.

Most wild species are blessed with the ability to see in dim light. Cones within the eyes of people have evolved to give them perhaps the best color picture on Earth — all the better for enjoying the beauty of a sunset. But the cells in the eyes of animals are geared to see detail more than color. From 1,200 feet away, a person can discern objects

the size of a grapefruit; at the same distance, a hawk can spot objects as small as a dime.

Low-light vision is controlled by vision cells called rods, which people are comparatively lacking. Owls are the masters of night vision. They are able to see and hunt prey in light so dim that people would require 100 times more light just to see a hand in front of their face.

Some fish, such as walleye and saugeye, have opaque pupils that are so sensitive to light that these fish generally retreat to the darkest depths when the sun is high in the sky.

Almost all wildlife has some combination of rods and cones that enable them to function even at the very fringes of dawn and dusk — an important reason why animal activity increases at those times. If people could totally eliminate their scent, remain motionless, blend perfectly with their surroundings and were gifted with the sensory



DOUG KUEVER/2014 READERS' PHOTO SHOWCASE

perception of the wildlife around them, they could observe some of nature's finest performances.

As nighttime chases the last flicker of sunlight to the western edge of the sky, the visionary limitations of people cheat them from seeing another low-light show given by animals. The resonant bass call of a bullfrog blends with the brassy verbiage of crickets to compose an evening sonata. A blue heron makes a short flight to roost on an overhead snag. A raccoon puzzles over a mussel it has found in the shallows. A flittering bat silently catches a mosquito just a few feet above the water.

The time that ticks away between these first-light and last-light shows is a midday break in the action, but it also plays an important part in dictating how wild species behave. Changing day length or photoperiod stimulates hormonal activity among animals and is widely accepted as the most important factor affecting the

seasonal activities and patterns of wildlife. The magic moments of dawn and dusk herald the period of light that influences our ecosystem in many ways.

Photo-period tells waterfowl when to migrate, tells deer when to rut, and tells songbirds when to sing their mate-attracting melodies. Nearly all wild species in temperate regions of the world have reproductive, migratory and other cycles closely linked to changing day lengths.

But twice each day, the natural world is bathed in the golden glow that cascades from the sun. Azure skies turn flaxen. Golden to scarlet. Sanguine to orchid. Violet to black.

And as the Earth spins, the sky returns to azure all over again.

But this gallery of color is no more wild or free than the creatures below, who are as much a part of the magic of dawn and dusk as the sun itself. 🌿

HUNTERS AGAINST HUNGER

DONATION RECORD

At One Shop Driven by Doe Limit Increase

Story and Photos by Kelly Bostian, KJB Outdoors



Helpers take meat-cutting orders from hunters lined up outside Wild Country Meats on opening morning of deer rifle season in November 2020.

A NEW KIND OF LINE FORMED OUTSIDE the old movie house on Cleveland, Okla.'s main drive on opening day of deer rifle season last November. It was a line that Wild Country Meats owner Chris Gabriel anticipated, and one that people of the area sorely needed.

It was a scene not unlike many others across the state in a time when the public desire to put venison in the freezer was as high as anyone could remember.

The big show at the back of the building was a space officially reborn as a state-of-the-art spot for meat processing. Up front, the doors were still locked to the public as work continued on a dusty construction space, a haphazard jumble with a future floor plan apparent only to the owners.


It was a fitting atmosphere to talk with the longtime Hominy-based family butcher shop owners, Bob and

Vicki Thompson of Escape Ministries, and their friends.

A lasting, steady increase in the impact of the COVID-19 pandemic through the winter had many more Oklahomans than usual in a jumble, uncertain of their future and in need of some help.

The story of the Thompsons' ministry and the Gabriels' butcher shop provides an example of how the Oklahoma Department of Wildlife Conservation's Hunters Against Hunger program team hunters, meat processors and charity operations to put venison where it is most needed.

The Department also launched a new program in 2020 called Deer Share. Deer hunters posted their contact information to the Department's web page before they hunted. Then, anyone interested in fresh venison reached out via email and arranged to collect the hunter's harvest if they found success.

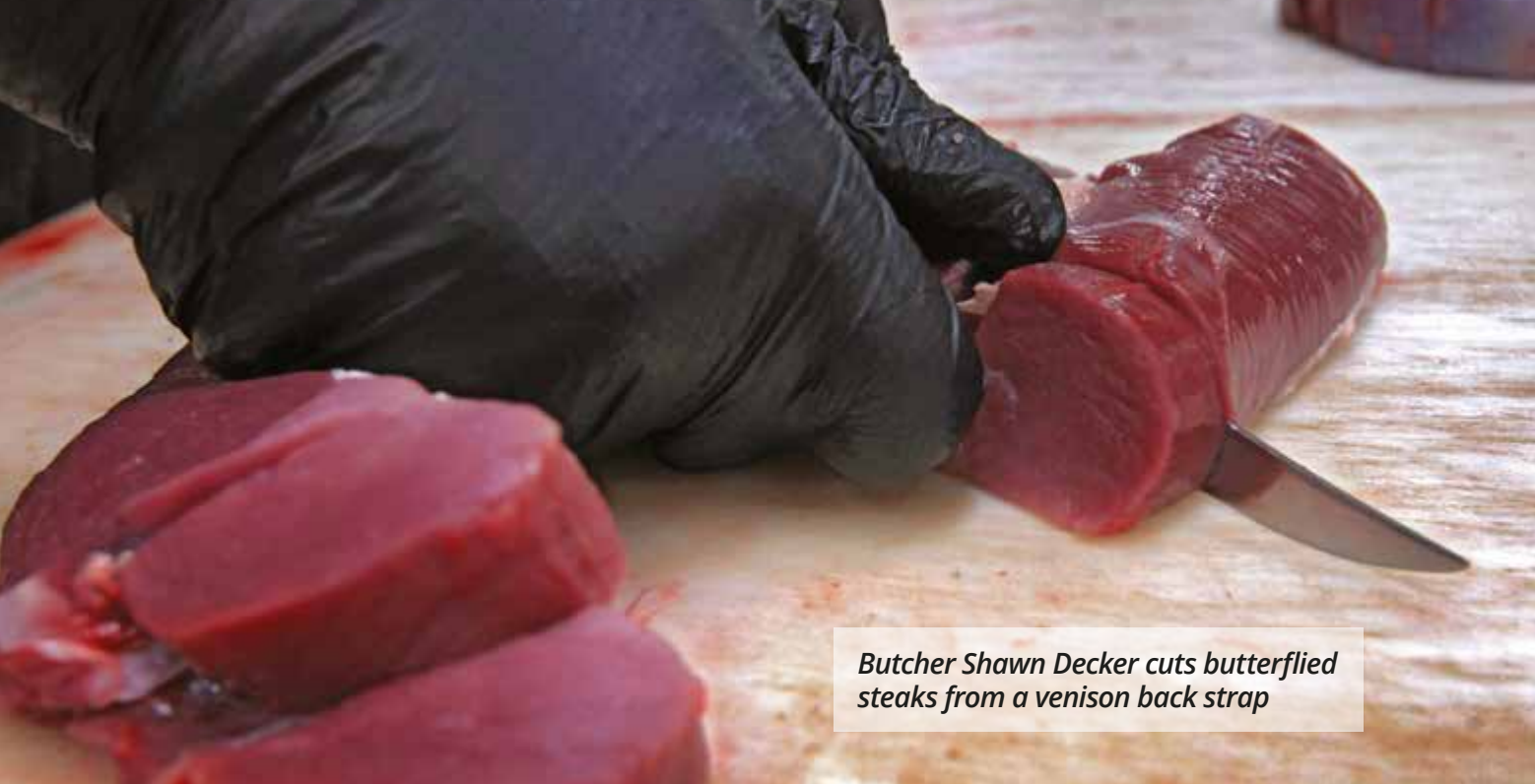


Bucks are lined up separately to be caped for taxidermy work at Wild Country Meats opening morning of the deer rifle season in November 2020.

"We want it to be as easy as possible for people if they want to donate"



Butcher Shawn Decker cuts butterflyed steaks from a venison back strap



Butcher Shawn Decker cuts butterflied steaks from a venison back strap

The fledgling program had a solid start. At season's end, all 83 of the hunters who responded to a Deer Share survey said they would do it again. Eighty percent said the sharing program gave them incentive to continue hunting specifically to harvest game for people in need.

In the Hunters Against Hunger program, the Wildlife Department reimburses a portion of the basic fee for processors across the state. Hunters are asked to donate \$10 to the processor in addition to what the state provides, but Gabriel said Wild Country and many other processors choose not to take the donations. In most cases, all a hunter has to do to donate meat is drop off the deer and sign the legal paperwork to transfer the wild game, Chris Gabriel said.

"We want it to be as easy as possible for people if they want to donate," he said.

Opening day intake at the new site set a record for the longtime family business, but the initial harvest showed the need for venison was twofold.

National market forces saw local commercial meat processors across the state — including Wild Country's shop at Hominy — dealing with unprecedented local demand for pork and beef early in 2020. Completely overbooked, some simply could not take on the extra work to process deer.

Seeing the crunch ahead, the Gabriel family expedited an idea to expand and quickly leapt into the purchase and remodel the old Cleveland movie house. Chris

"A lot of it is people who didn't want to have to come in, who never have needed something in their whole lives. But all of a sudden, they were in hard times because of the pandemic."

Gabriel said it was designed to be the deer processing facility he had always dreamed of building.

"If we had not built, we wouldn't have been able to do deer for at least two years, maybe more," Gabriel said. "We were booked out that far ahead, right after the pandemic first hit."

Meat prices at grocery stores increased as supplies decreased. And deer hunters looked to their own harvests for red meat more than ever in 2020. That meant donations during the early bow season and through muzzleloader were relatively low at the Cleveland charity, even though harvest numbers appeared to be up.

Bob Thompson watched pickups line up off Cleveland's Main Street behind Wild Country's "Deer Processing" banner that opening morning of the rifle season and spoke with worry in his voice.

"This year, it just doesn't look good," he said about meat donations. "Normally by this time we have quite a

bit, and so far we don't have anything. I think people are just needing to keep their deer for themselves."

Vicki Thompson echoed that worry and said demand for food boxes was up about 30 percent among the dozen or so rural communities they serve.

"We are in definite need of people who want to shoot deer and donate them," she said that November day. "I hope people will fill out all their tags and donate, because right now we are completely out of meat."

But by late January, it was a very different picture. Vicki Thompson's voice carried a work-weary but celebratory tone. Prayers were answered, she said.

"We have taken in a lot more venison this year than any in the past," she said. "In fact, Wild Country just called today and they have some more boxes for us."

Bob Thompson said, on average, the charity takes in roughly 1,500 to 2,000 pounds of venison in a season.

Gabriel said the new Wild Country facility handled the most deer during the 2020 season that the family business has seen in its 20-plus-year history. More than 7,500 pounds went out the door for Hunters Against Hunger, about 5,000 of which went to Escape Ministries, he said.

An added week for the holiday antlerless season and more liberal doe seasons made a difference, Gabriel said. "I had a lot of hunters who told me to be ready because they were going to hunt the (antlerless) season and bring in those deer all for charity," he said.

Vicki Thompson struggled to choose any one story that might best illustrate what she saw at the mission

MORE ONLINE

- Find out which meat processors across the state are part of the Hunters Against Hunger program: www.wildlifedepartment.com/hunting/processors/hah.
- Watch a video of butcher Shawn Decker in action at Wild Country Meats: <https://youtu.be/0FC1HdpQUcl>.

in winter 2020-21. The single moms trying to make ends meet, the fathers constantly searching for new jobs, the families stretching every single dime, and people who'd never put out their hand for a dime now needing to ask for food for their family — there were just too many, and any one was just as important as the next, she said.

"There are so many stories this year. Lots of people were so grateful, very grateful, just to have something to help them get through a couple more weeks," she said. "A lot of it is people who didn't want to have to come in, who never have needed something in their whole lives. But all of a sudden, they were in hard times because of the pandemic." 🌿

(Kelly Bostian has been an outdoor editor and writer for 35 years at newspapers in Fairbanks, Alaska, and Tulsa, Okla. He now operates KJB Outdoors, sharing articles about outdoor recreation and nature.)

Bob Thompson of Escape Ministries sorts through venison donated through the Hunters Against Hunger program at Wild Country Meats in Cleveland, Okla.



Girl Cooks Up Heroic Hunt Plan In Short Order

EDITOR'S NOTE: Amid the lockdowns of the Coronavirus pandemic this past winter, an Omega, Okla., youth learned for herself that Outdoor Oklahoma is Always Open! She set out to make herself a hunting hero by tapping into the state's natural resources to put food on the table. Here's Kate's story in her own words.

By Kate Myers

Between pandemics and winter storms, I've been finding myself at home quite a bit these days. For my family of six, being at home means that we eat a lot of delicious, home-cooked meals, and plenty of PB&J sandwiches, of course. Some of my favorites include homemade chili with Fritos, hamburger stew with rich gravy, and spaghetti with meatballs.

But this last year, I was surprised to learn about the shortage of fresh meat products, as a result of the Covid-19 crisis. Beef and other meats were difficult to find and even harder to afford. The crisis left Americans everywhere asking, "Where's the Meat?"

One day, as I was doing homework for my agricultural education class, I came across an article in the Outdoor Oklahoma Journal (on the Oklahoma Wildlife Department's website) about maintaining a healthy buck-to-doe ratio when considering deer hunting. Since my dad is an avid hunter, this article caught my attention, and a light bulb went off! Pan-fried backstrap, venison tacos ... and I could be a hero for my family!

From what I learned, hunters who are conscious of population health are wise to take a doe. Too many does means that a large number will not get bred during the primary rut. This extends the rut and causes stress on bucks. It also results in fawns being born



later in the spring, which is more difficult for both fawns and mothers.

Then I read through the Wildlife Department's Big Game Report and discovered that hunters in my county were harvesting more bucks than does. During the 2018-2019 season, 513 bucks were taken versus only 338 does in my county.

With venison tacos on my mind, and providing meat for my family on my heart, I resolved that I, Kate Myers, would harvest a doe this season.

There was only one problem: I didn't know how to hunt. In fact, I'd never even shot a rifle. To make matters worse, the season had already begun, so I'd have to act fast.

Lucky for me, I have always been a Daddy's girl, and I knew my hunter dad would jump at the opportunity to teach me. He had even purchased a .243 caliber gun in hopes that one of his daughters would want to learn the sport.

Step One:

Learn how to safely shoot a rifle. The next weekend, my dad and I went to my grandad's pasture, where I learned how to load a cartridge and shoulder a rifle. Next, we measured off 100 yards. Boom! I hit the old rusty piece of metal that served as our target. By the end of the day, I was shooting 3-inch groups.

Step Two:

Get a license. The Wildlife Department offers an apprentice-designated hunting license. An adult, would have to accompany me and be within arm's length of the gun, or close enough to take control of the weapon if needed. I purchased a deer tag and was now legal to hunt. I was hunting the holiday antlerless season, and I

Kate Myers gets some target practice with a rifle in preparation for her first deer hunt.





PROVIDED

Kate Myers, along with father, Mike, wait for a chance to harvest a doe during last December's holiday antlerless deer season.

wanted to be conscious of what I had learned, so I knew what I was after: a doe.

Step Three:

Find a place to hunt. A short conversation at church, and we had the perfect spot to go. (Perks of living in the country!)

Step Four:

Wake up very early. This step may have been the most difficult. "What's going on?" I wondered. It was the middle of the night, and my dad was giving me a gentle shaking to get me out of bed. He said, "Dress warm, it's 18 degrees outside," and then left to start the truck. "Venison tacos," I thought to myself. "I can do this."

Step Five:

The big hunt. It was pitch black and frigid outside. I proudly slipped into my hunter orange best and quietly closed the pickup door. We hiked to our spot and waited. The sky soon began to fill with shades of blue and pink.

I double-checked the safety and practiced in my mind what I would do when I saw a deer, where I would aim,

even pulling back the trigger. Wait ... how was I going to pull the trigger? My fingers were numb! Dad to the rescue. He pulled out hand warmers. I gave them a good shake and stuffed them into my gloves.

Step Six:

The shot. I think my dad is asleep, so I elbow him. I see a brown shape in the trees. My dad whispers, "Wait 'til they step out into the open."

Three deer slowly move from the woods out into the pasture. One was a great big buck. The second was a smaller buck, and the third was a big doe. I slowly raised my gun, clicked off the safety, and ...

"Don't shoot," my dad whispered in my ear. "Look at the doe," he said. When I looked closely, I saw tiny antlers. Three deer, all within 40 yards of me, and none legal to shoot.

That day, we saw nothing else. On the drive home, I thought about the adventure we'd just had. The excitement of watching deer up close, how cold my hands were, and how I couldn't wait to go hunting again.

In only a few weeks, I learned about deer population management, hunting laws, how to shoot ... and venison tacos. I just can't stop thinking about venison tacos! 🍖

A CENTURY OF SCIENCE



Oklahoma Academy's Archives Holds 100 Years of Local Research

By Jena Donnell, Communication and Education Specialist

Oklahoma is a land of diversity, not only in its natural resources but also in its opportunities for scientific exploration. That journey of exploration has been documented for the past century, in part, by the Oklahoma Academy of Science.

Created in 1909, when the state had 11 fledgling higher-education institutions, the academy sought to bring the scientists of the state together for an exchange of ideas, and later to promote the scope and relevance of science to Oklahomans. The mission became value-added the following decade in 1921, when the scientific papers presented at the annual meetings began to be compiled and published.

The volumes help define 100 years of local scientific research.

The first "Proceedings of the Oklahoma Academy of Science" shared 37 papers, ranging from an interest in goats for the milk supply, to the stomach contents of three screech owls, to the linguistic creativeness of a child.

Many of these early issues included simple observations made by members, leading to a history about

Oklahoma that may not exist elsewhere. More recent collections still include a variety of scientific topics, but manuscripts are now peer-reviewed, often with requests for additional data and revisions, before acceptance into the publication.

Even before its first publication, the Oklahoma Academy of Science has fostered an exchange of knowledge of the state's fish, wildlife and plant communities. Observations and research findings from naturalists, academic researchers, Wildlife Department biologists and many others have been shared at the annual meetings and through the proceedings. A review of the archives has yielded interesting observations and findings about Oklahoma's natural communities from the past 100 volumes.



Oklahoma Geological Survey's C.W. Shannon initially shared his 1916 observations on the habits of the butcher shrike, or loggerhead shrike, at an earlier annual meeting, but his notes were also shared in the very first "Proceedings of the Oklahoma Academy of Science." Because this songbird relies on animal food for its chief subsistence, he noted, "Their life is one of continual warfare."

In addition to documenting a shrike carrying a "cow blackbird" near Durant on Oct. 24, 1916, as it passed over the road and stopped in a nearby apple tree, Shannon also described watching a shrike impale a live grasshopper on a barbed-wire fence. This tendency of impaling prey on thorns or barbed wire makes "quite an array of small birds, beetles, and other food, reminding one of a butcher's rack filled with meats."



Spadefoot toads are curious species, emerging from their underground hideouts only a few months of the year to feed and mate. Oklahoma Biological Survey's Arthur Bragg speculated on the reasons for this behavior but admitted "no one knows which of these possibilities, if not some other, is the answer." As scientists still do today, Bragg made a plea for others to help fill in the "Puzzles in the Life History of Scaphiopus Hurterii Streker."

"I would much appreciate the receipt of specimens with

data as full as possible ... from any locality in Oklahoma or other regions." Bragg's interest in the Hurter's spadefoot, then known as the savannah spadefoot, continued with at least three other notes in the "Proceedings of the Oklahoma Academy of Science" in 1946, 1949, and 1950.

Technology and information-sharing have come a long way since 1945! You can help the "modern-day Arthur Bragg of Oklahoma" learn about Hurter's spadefoots and other fish and wildlife by sharing photographs along with the "who, what, when and where" details of your sightings with the Wildlife Department or via online platforms such as iNaturalist, or eBird!



Prairie dog towns aren't just for prairie dogs! To show the ecological importance of prairie dog towns, Cameron State College's Jack Tyler documented the vertebrates at a town north and east of Duke during 15 visits.

Fifty-three vertebrate species were documented at the Duke prairie dog town between August 1966 and January 1970, including golden eagles, long-billed curlews, ground squirrels, collared lizards, and a barred tiger salamander. Tyler also noted the bodies of six Texas horned lizards at a hole occupied by a burrowing owl on his first visit in 1966. His highest species count of 23 vertebrate species, which included three amphibians, seven reptiles, seven birds and six mammals, occurred in May 1967.



Jimmie Pigg, high school science teacher turned Oklahoma Department of Environmental Quality ichthyologist, authored or co-authored 42 articles in the “Proceedings of the Oklahoma Academy of Science,” including the results of a 17-year survey of the North Canadian River basin.

In that report, he paired data collected at 10 long-term sampling sites with more historic data to describe the distribution and abundance of catostomid fishes, or suckers. Seven sucker species were documented from the long-term sampling sites between 1976 and 1992, including 635 individual smallmouth buffalo. Two other species, the spotted sucker and golden redhorse, were added to the river basin’s sucker diversity from historic data. For each of the nine documented species, Pigg detailed the first known collection in the drainage, notes from past surveys, and a summary of his collections.



On July 7, 2020, a catfish angler reported catching a large blue crab in the tailwaters below Lake Overholser in Oklahoma City. Biologists with the Wildlife Department collected the 0.4-pound crab and documented the record in the centennial volume of the “Proceedings of the Oklahoma Academy of Science.”

Blue crabs are native to the Atlantic and Gulf coasts, and this female was a surprising find in an Oklahoma waterway.

As unique and unexpected as this 2020 record was, invasive species have become a relentless challenge that biologists face across the nation. Non-native plants and animals can get their start in Oklahoma through a variety of intentional and accidental ways, and they are difficult to eradicate once they gain a foothold. Their invasion can have dire consequences for our native communities and infrastructures.

Oklahomans can help limit the spread of non-native plants and animals by cleaning, draining and drying watercraft; disposing of bait and unwanted pets properly; and reporting sightings to the Wildlife Department and Oklahoma Invasive Plant Council.

Want more historical fish and wildlife observations and findings? It was impossible to share the full impact of a century’s worth of fish and wildlife information sharing in one article. Browse the Oklahoma Academy of Science’s online catalog at www.oklahomaacademyofscience.org/publications.html for an archive of local science. 🌿

State Research Dives Deep Into Alligator Gar Mysteries

By Craig Springer, U.S. Fish and Wildlife Service



LYNN CHAN/FELICKR CC-BY2



LAKE TEXOMA COVERS A PORTION of the Oklahoma-Texas state line. This boundary water is enormous. Denison Dam backs up the Red and Washita rivers for miles. The swollen arms of several tributary streams form massive lake coves that shoulder into the main water body. Consequently, there is much open water and ample shoreline for anglers seeking to catch black bass, crappie, sunfish, blue catfish and white bass.

The striped bass fishery is of good repute. And there is something to be said for the alligator gar fishery as well: Alligator gar are under-studied.

For anyone with even a perfunctory knowledge of alligator gar, this may seem counter-intuitive that not a great deal is known about one of the largest freshwater fishes in North America.

Alligator gar can reach more than 8 feet long and can fatten to a plump 300 pounds. It's a long-lived leviathan; some of the oldest individuals swimming this very moment hatched when Apollo 10 navigated around the moon in May 1969.



The business end of an alligator gar. No need to be afraid unless you are a carp or buffalofish.



Wildlife Department Fisheries Intern Mathew Thomas Lyons holds one of the research study's subjects.

These giant fish have a growing, almost cult-like following of anglers, and for good reason. Hook one and hang on. An 8-foot-long alligator gar can take you for a ride. You will see a tail dance in a glistening spray of water akin to a silvery tarpon over turquoise flats in nearshore salt water — except alligator gar potentially have more heft. Get a gator gar to the boat, and with a parting flick of its round tailfin, its sinuous form slips into the murk to perhaps be caught again.

Or will it?

That's a question that Oklahoma Department of Wildlife Conservation (ODWC) Fisheries Research Supervisor **Richard Snow** seeks to answer.

"Virtually any information we glean from ongoing research is new information," said Snow from his office at the Oklahoma Fisheries Research Laboratory in Norman. Snow is eight years into research into the alligator gar's life history and has most recently embarked to learn more on a how the fish fares after being caught and released.

The answer to this question is central to sport fishery management and has applicability well beyond the bounds of the Oklahoma state line.

The U.S. Fish and Wildlife Service's Wildlife and Sport Fish Restoration Program has helped to fund Snow's research. Those funds are derived from excise taxes paid by tackle manufacturers which are then apportioned to state wildlife agencies for essential conservation work such as this alligator gar project.

Snow, an Oklahoma native, has had a years-long person-

al and professional interest in the fish. He has long enjoyed fishing for alligator gar. He earned a graduate degree in natural resource ecology and management at Oklahoma State University, where he researched how to age the fish through its ear bones. The bones, called otoliths, lay down age rings much like the cross section of a tree.

Snow said he also earned something else in graduate school. “I have a greater respect for the species. They’re a primitive fish, a swimming fossil that survives from long ago,” Snow said. “They are a remarkable fish, heavily armored on the outside like a tank because their insides are sensitive.”

As an ODWC research biologist, Snow has waded deeper into questions associated with catch-and-release mortality, food preference studies, and growth rates.

Snow set up a hooking study with hefty captive alligator gar held in large ponds at the Tishomingo National Fish Hatchery. He catches alligator gar just as anglers do at



Fisheries Biologist Richard Snow holds a tagged alligator gar.

Lake Texoma and elsewhere, fishing with carp or buffalofish heads. In his experiments, Snow allows gar to run with bait, played for 30 minutes and brought ashore, examined for noticeable internal injuries such as bleeding or air loss from the vent.

The controlled environment allows him to monitor the well-being of the fish over a long period to detect effects of hooking that would not otherwise be noted in wild fish. The

work is ongoing.

About May of the year, mature alligator gar move into shallow weedy coves of Lake Texoma and broadcast their eggs that adhere to vegetation. That act is replicated in tanks at the national fish hatchery, where Snow and hatchery staff monitor the young gar.

“Alligator gar have explosive growth in their first year of life,” he said. “In the span of only nine days, they go from an egg to a larvae with a sucker-disc on its head,



Paul Easley caught the Oklahoma record alligator gar from Lake Texoma on April 23, 2015. The monster weighed 254 pounds 12 ounces and measured 8 feet 1.75 inches long.



and then to a predator. They pack on weight, and by the end of the first growing season, they're a foot and half long."

Alligator gar eat other fish. In examining stomach contents of adult gar, Snow determined that sportfish species make up very little of their diet. Usual foods include common carp, river carpsucker, buffalofish species, gizzard shad and white bass.

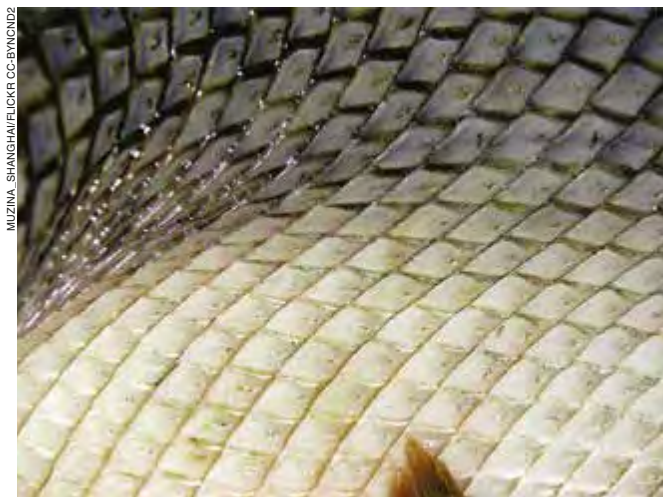
"These predators typically ambush their prey, but they also actively forage or scavenge their food," Snow said. "In the heat of the summer, when oxygen is low, they gulp air into a highly vascularized swim bladder to 'breathe.' Bowfishers and anglers take advantage of these habits to locate alligator gar."

Snow said the ongoing research will help ODWC steer alligator gar fisheries toward sustainability.

Cliff Schleusner, Southwest Region chief of the Wildlife and Sport Fish Restoration Program, agrees.

"These Holocene hold-overs have been under-studied, and the angler-funded work underway by the Oklahoma Department of Wildlife Conservation adds to a woefully scant body of knowledge," he said. "Alligator gar, an apex predator, provide an ecological balance that regulate the populations of other fish species, not to mention an angling experience unequaled." 🌿

Craig Springer is a fish biologist with the U.S. Fish and Wildlife Service-External Affairs Division, stationed in New Mexico. From his home, he can see where Spaniards documented the first trout in the New World in 1541 in the Sangre de Cristo Mountains. Springer can't wait each spring to catch cutthroats in the high country with his children. His conservation articles have been featured by the New York Times, ESPN and Farmers' Almanac.



Closeup of the scales of an alligator gar.

"They're a primitive fish, a swimming fossil that survives from long ago," Snow said. "They are a remarkable fish, heavily armored on the outside like a tank because their insides are sensitive."



An alligator gar leaps out of the water beside an ODWC research boat on Lake Texoma.



OWCF Sets State Conservation Hall of Fame Inaugural Event

The inaugural Oklahoma Wildlife Conservation Foundation Hall of Fame Induction Celebration and Banquet is set for 6 p.m. Oct. 29, 2021, at the new Omni Convention Center Hotel in Oklahoma City.

The event will honor John D. Groendyke of Enid as the Hall of Fame's first inductee. Groendyke is a founding member of the OWCF Board of Directors and served as an Oklahoma Wildlife Conservation Commissioner for a record 44 years.

OWCF Executive Director Rick Grundman said this will be the first major event since the onset of the COVID-19 pandemic. "It's an opportunity to recognize one of Oklahoma's leading conservationists and longest serving Wildlife Commissioners, John D. Groendyke."

The Oklahoma Wildlife Conservation Hall of Fame recognizes conservation leaders in Oklahoma, one of the most ecologically diverse states in nation. Oklahoma is home to a wide variety of habitats for than 760 different species of wildlife.

OWCF is working with the Oklahoma Department of Wildlife Conservation to bring more wildlife and wild spaces projects to Oklahoma in a more rapid manner. Since ODWC doesn't receive appropriated state tax dollars, donating to OWCF is one of the best ways to help positively impact Oklahoma wildlife and wild spaces.

Sponsorships are available for the Hall of Fame event through Sept. 30. For more information, go to www.OKwildlifefoundation.org, email Grundman at rgrundman@okwildlifefoundation.org, or call (918) 323-5566.

NOTE: This event is subject to cancellation due to future COVID-19 concerns.



John D. Groendyke

Jean Kates, Member OWCF Board of Directors

Jean Kates is one of the founding directors of the Oklahoma Wildlife Conservation Foundation. She joined the Foundation's Board in 2018.

Kates said she heard about OWCF while visiting with Oklahoma Wildlife Conservation Commissioner James V. Barwick, who worked to assemble the Foundation's initial Board of Directors. After hearing Barwick's vision for OWCF and how it could support the Oklahoma Department of Wildlife Conservation, Kates said she was eager to sign on.

"I was excited to help create opportunities, especially for fellow Oklahomans, to enjoy Oklahoma's wild spaces and to increase their involvement in hunting, fishing and conservation."



OWCF Director Jean Kates enjoys horseback riding with the girls.

PROVIDED

OKLAHOMA WILDLIFE CONSERVATION FOUNDATION SPOTLIGHT

Kates, from Canute, has always been an outdoors enthusiast. She grew up on a cattle ranch, and being outdoors was pretty much all she knew. She showed horses, cattle and pigs, and "had every animal you could imagine while growing up," she said.

Most of her family members were avid hunters, so holidays included many hunting adventures with them.

She said deer hunting is her favorite outdoor activity. "I can sit in a stand all day," she said.

Kates earned a bachelor's degree in business administration in finance from the University of Central Oklahoma. She also completed the Certified Trust and Financial Adviser (CTFA) designation from the Institute of Certified Bankers.

She is client services manager for Full Sail Capital, an investment company based in Oklahoma City. "I had a co-worker purchase a sign for my office which stated, 'Business hours subject to change during hunting season,' so I guess you

could say hunting and outdoor pursuits are pretty darn important to me!"

Her husband, Chris Kates, is a co-owner of Midwest Wrecking and Demolition of Oklahoma City.

Kates said she's focused on OWCF's mission and working with ODWC on the goals and tasks that are presented. She is particularly interested in helping children become more educated about, and getting them more active in, the outdoors.

She encourages everyone to support the Oklahoma Wildlife Conservation Foundation because it can, in return, provide all outdoor enthusiasts with opportunities to enjoy Outdoor Oklahoma and all it has to offer. 🌿



Jean Kates after harvesting a white-tailed buck.



Turkey hunting is among Jean Kates' many outdoor pursuits.

OWCF
www.okwildlifefoundation.org

THE OKLAHOMA WILDLIFE CONSERVATION FOUNDATION (OWCF) is the nonprofit organization formed to work exclusively alongside and provide added financial support to the Oklahoma Department of Wildlife Conservation and its activities in managing the state's fish and wildlife resources and habitats. The Wildlife Department receives no general state tax appropriations; ODWC operates primarily with license sales and federal matching grants. OWCF provides supporters an outlet to show their passion for the outdoors by investing their time and money in projects that will make a difference for generations to come.

All donations are tax-deductible. For more information, go to www.OKwildlifefoundation.org or www.facebook.com/OKWildlifeFoundation.

amazonsmile

SEPTEMBER/OCTOBER 2021

The Oklahoma Wildlife Conservation Foundation is now set up as a charitable organization through AmazonSmile.

AmazonSmile is a program that donates 0.5 percent of your eligible purchases on Amazon to a charity of your choice. All you need to do is start your shopping at smile.amazon.com. The donation will be made at no extra cost to you, and you can choose from nearly a million public charitable organizations.

PROVIDED

45

The Outdoor Store

OUTDOOR STORE items are sold in person at the Oklahoma City headquarters, 1801 N. Lincoln Blvd., or online at license.GoOutdoorsOklahoma.com. Create or sign into your account, or just click on “Shop.”



Get Your Durable Collectible Card

Upgrade your license to this durable card on custom art by a local artist and support the next generation of conservationists.

Buy online at License.GoOutdoorsOklahoma.com — \$5



Oklahoma Habitat Donor Window Decals

Show your support of the Wildlife Department's Land Acquisition Fund with these striking window decals. All proceeds are earmarked to help provide hunting and fishing access to the public. — \$10 each



Outdoor Oklahoma Caps

These sharp, colorful fabric caps feature the “Outdoor Oklahoma” logo. Available selections may vary from those shown here (subject to availability). — \$20



Oklahoma Waterfowl Hunting Stamp

Oklahoma “duck stamps” are always popular with collectors and hunters. While each year's stamp features a different handsome design sure to add appeal to any stamp collection, funds from stamp sales are used for many kinds of waterfowl management projects. Specify year when ordering. — \$10

***Prices listed on these pages do not include \$3 online ordering convenience fee.*



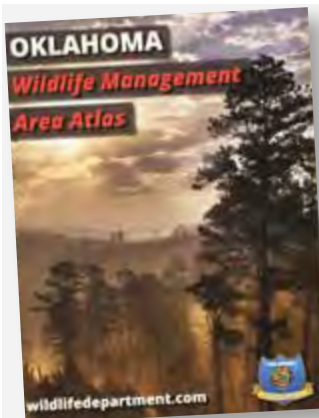
Wildlife License Plates

Dress up your vehicle while showing your support of our great state's wildlife resources by getting a wildlife license plate. Nine Wildlife Conservation Plates are available to serve as your regular, rear-bumper license plate. The plates cost just \$40 (original or replacement) or \$36.55 (renewals) above your regular annual registration fee with proceeds going to Oklahoma's Wildlife Diversity Program. The forms are available at local tag agencies, or online at tinyurl.com/WildTags.



Habitat Donor Caps

Top-quality, American-made caps display the Habitat Donor Patch of your choice, which designates you as a contributor to the Department's Land Acquisition Fund. Wearing this hat means you care about future generations and the great hunting and fishing tradition. Specify hat style on order form. — \$20



Oklahoma Wildlife Management Area Atlas

This updated edition has topographical maps of Wildlife Management Areas and now includes Department-owned fishing lakes across Oklahoma. At almost 100 pages, the atlas presents maps showing where to access areas, adds lands that have been acquired since 2010, and shows special features at each area such as parking sites,

camping areas and food plots. Your atlas purchase comes with a bonus one-year subscription to the award-winning "Outdoor Oklahoma" magazine. — \$25

A Field Guide to Oklahoma's Amphibians and Reptiles

Get an introduction to Oklahoma's 140 species of salamanders, frogs, turtles, lizards, snakes and alligator in the 4th edition of our guide to the state's amphibians and reptiles. Six species accounts have been added and range maps have been updated throughout the guide. — \$20



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Watchable Wildlife

AMERICAN CROW

BY JUSTIN VEACH, EDUCATION INTERN

The American crow is a common sight year-round in Oklahoma. This fairly large bird is covered in black feathers and is known for its distinctive “caw caw” sound.

American crows range from the Pacific to the Atlantic coasts, from southern Canada into northern Mexico. There are five subspecies of American crows within their range. Oklahoma primarily hosts the southern crow (*Corvus brachyrhynchos paulus*), which is generally smaller and has a smaller bill than the other subspecies.

Still, some crows weigh more than a pound and have a wingspan of nearly three feet. They prefer to forage in open areas such as agricultural land and grasslands, but they will roost in large numbers in clumps of trees.

Crows are omnivorous, which means they will eat just about anything they find in the realm of plants and animals. Their diets can include small rodents, fish, frogs, insects, fruit and agricultural crops such as corn and peanuts.

Outside of nesting season, crows will sometimes congregate in the thousands around a large food source. A flock of crows is called a murder. During much of the early and mid-20th century, the practice of “crow bombing” to eliminate roosts was widespread in areas where crows were causing great damage to crops.

With a brain-to-body-size ratio nearly identical to that of people, the American crow is a highly intelligent bird. They

are among only a few species of birds that can use objects as tools to retrieve food. They have been observed dropping nuts onto roadways so that vehicles will crack them open. And when a crow dies, other crows will often gather around the carcass to seemingly investigate what happened.

Crows have a wide range of vocalizations in addition to the well-known “caw caw.” They will often mimic noises made by other animals

When a crow identifies a threat, it will warn other crows of the potential danger. In fact, crows can recognize and

remember threatening people, and they can hold grudges against them!

Crows mate for life. The female will lay three to five eggs in spring, and the incubation period lasts two to three weeks. The chicks can fly after about a month but will normally stay near the nest for a few years and even help their parents with future clutch-

es. After two years, they are able to mate but usually won't leave the nest until after four years. Their lifespan in the wild is about eight years.

The population of American crows is estimated at 31 million. They are protected under the Migratory Bird Treaty Act of 1918, and many states including Oklahoma offer a crow hunting season. In recent years, Oklahoma has had a split season for crow hunting, which usually begins in mid-October and ends the first week of March. There are no daily or possession limits. 🌿

Crows are among only a few species of birds that can use objects as tools to retrieve food. They have been observed dropping nuts onto roadways so that vehicles will crack them open.





In just a few short weeks, the youth deer gun season will open. Start preparing now by reviewing hunter safety rules or becoming hunter education-certified. And don't wait to sight in that rifle so those shots will hit the mark! Good luck to all youth hunters during their deer season Oct. 15-17, 2021.

Outdoor Oklahoma

A PUBLICATION OF THE DEPARTMENT OF WILDLIFE CONSERVATION

