

TURTLES CROSSING



Short essays by Joseph C. Neal
2001 (revised 2009)

This is a collection of feature stories and essays, mostly prepared during my time as a wildlife biologist for the USDA Forest Service. Since the 1960s, I have lived in Fayetteville, Arkansas. I had already established my home and family there prior to my work with the Forest Service beginning in 1991. This necessitated a weekly commute of about 110 miles from Fayetteville to the Poteau Ranger District, Ouachita National Forest, at Waldron in Scott County, Arkansas.



The communities are connected by a more or less straight shot along old US 71 and now I-540 between Fayetteville and Alma.



Commuting is no joy, but at least I was never far from home, whether in Fayetteville or Waldron. Both are communities in western Arkansas and primarily northwest Arkansas. My family has lived in western Arkansas since the early 1800s, including both my mother and father's sides. My father's family came up the Arkansas River in the 1820s, with Cherokee immigrants. They settled in what is now the area between Van Buren and Alma. My mother's family immigrated into Arkansas after the Civil War, settling in the Ouachita Mountains. I have more family in the region's adjoining counties in the Ozark Mountains, Arkansas River Valley, and Ouachita Mountains. So while these essays primarily involve the 200,000+ acres of my career

on the Ouachita NF, Fayetteville, family history, and the highways inbetween are never far from my mind.

Coming south from Fayetteville, I pass through towns like Van Buren, Fort Smith, Greenwood, etc. All of them have played a role in my family's history. Old houses, old cemeteries, and vanished communities—all bring me to my own time and to the sense of land and people represented in the following essays.



Most essays involve aspects of Forest Service activity, but broader ecological themes also appear, since these have formed the essential framework of my thinking for decades, including two decades before I joined up with the women and men of the Forest Service. While not obviously biological in nature, the piece entitled "Silk purses from sow's ears" is from a family history I wrote *A western Arkansas scrapbook*. I've included it because it gives a feeling and a sense of northwest Arkansas off the main highways.

Birds are a key theme in the essays.

This is not because birds are more important than other aspects of the biota, say more important than a small non-game fish called the pale-backed darter or a common and popular game species like white-tailed deer. Birds are central

because they are both a personal as well as a professional interest.

Red-cockaded Woodpeckers (RCW) make numerous appearances in these essays. It is a very rare bird with a fascinating life history. Its rarity is due to the way pine forests have been managed in past years throughout the southeastern United States. They once lived in pine forests in



the Ozarks as well as the Ouachitas. They were extirpated by around 1910 from the Ozarks due to the rapid removal of pine forests there and, importantly to these essays, the subsequent failure to regenerate them. Most of the older homes and buildings in Fayetteville (including Old Main on the UA campus and my own house) and surrounding communities were constructed from the pines that once supported RCWs. The birds hung on in the more extensive pine forests of the Ouachitas, where I worked with them and supported the regeneration programs that provide growing pines habitat for an expanding population of RCWs. The recovery of Red-cockaded Woodpeckers, its habitat, and numerous related species of plants and animals was at the core of my work as a Forest Service biologist.

During my career Warren Montague and Keith Piles, both of Poteau Ranger District, Ouachita NF, shared many of the adventures recounted in these essays. Nelva Bohannon and Dan Brown also joined the team effort, as well as Frances Rothwein and others from the Cold Springs Ranger District. Harold Johnson and John Strom, experts on pine regeneration, became good friends and technical advisers during these years. I appreciate the professionalism, endurance, patience and forbearance of all my coworkers as I pursued my interests in bird watching, bird listening, and turtle relocations. Thanks for your support and for your hard work toward recovery of Red-cockaded Woodpeckers and many other species of plants and animals forming the rich biota of the Ouachitas.



For two decades now, my friend and artist Richard Stauffacher has shared many of the non-Ouachita NF natural history explorations. His work as an artist captures much of the look and rich spirit of natural history in the western Ozarks. I appreciate Richard's interest in hosting these essays book on his web site.

These essays first went up on Richard's website, etchings.org, in 2001. I have made a few modest changes to correct minor things (like email addresses) and added a few images, but what's below is essentially the same as in 2001. I retired from my work as a Forest Service biologist in June 2008. However, I did not retire from working as a biologist, nor did I retire from an interest in birds and habitat restoration that benefits all kinds of wild creatures and the human community, too. If you have comments to share, you email me at joeneal@uark.edu or jocneal@att.net



Silk purses from sow's ears



We remember the way people talked in the past, but mostly we just remember bits and pieces. These memories are like so many pieces of brightly colored cloth, patched together into a quilt. I'm starting these essays with a collection of sayings that are firmly lodged in my own mind and in my own voice. This collection of sayings heard from my folks are just such a quilt.

Hazel Ruth Kennedy Neal (1917-1994) and Grover Ray Neal (1918-1972) were both natives of the mountain country of western Arkansas. She was from the Ouachita Mountains of Magazine in Logan County, he from the Ozarks above the Arkansas River at Van Buren in Crawford County. Both families had been in western Arkansas for generations.

Hazel's family had moved from Texas and Alabama after the Civil War. Grover's Neal family immigrated into Arkansas Territory during the period of the Indian removals of the 1830s. The Kennedy's immediate family settled in Lick Creek valley and became modestly prosperous farmers around the tiny community of Magazine. In rural Arkansas, the depression started after WW I. Her family stuck it out through the 1920s, but by the end of that decade they'd had enough and moved into Ft. Smith in 1929 where her father Ernest took a factory job.

For several generations, the Neals had run small businesses in Van Buren, just across the Arkansas River from Ft. Smith. Grover's father ran a grocery among other jobs; he worked until the bombing of Pearl Harbor in 1941, when he enlisted in the Navy.

Grover was an avid reader of all kinds of books especially histories and the Bible. His language was colorful, constantly sprinkled with wisdom and irony. His own father must have been much like this because of his grocery business--always talking to people, hearing their stories, absorbing patterns of speech.

Hazel loved to talk, sit at a table and play cards--a social type. Her speech retained much of what she heard growing up on a farm, but she was very particular not to sound like, or to be taken for, a "hick". That was a major crime in her home. Her children were required to say the "g" at the end of "ing" words. One didn't say "ain't." Crude words like "nigger" and cussing in general were absolutely forbidden. Folks who talked like that were likely to be compared to a certain cousin who was such a hick and so dirty that he was given newspapers to sit on when he visited the Kennedy household.

In their speech and sayings, Hazel and Grover were typical educated and intelligent Arkies who had "seen the world" (Navy during WWII and Korea), but emotionally and philosophically were never far from home, retaining a strong sense in the value of their roots.

With the passage of time it is hard to remember just who said what, though some particular sayings stand out in memory. Since they had been married almost 30 years when he died, there was obvious interweaving of expressions.

Grover was probably the biggest spinner of odd words and traditional sayings, but Hazel wasn't far behind. Her contributions to this can be heard in things she heard from her folks. These are old time things like "Dad gum it" or "Dad burn it" or "con sorn it" all ways of saying "damn it" in a relatively polite way. I can hear her father Ernest Kennedy saying things that must have been common around Magazine of his youth. If things really got out of hand, one might "fly off the handle" and have a "conniption fit."

Family sayings are a neat legacy imbedded in our own memories and speech. Many of these sayings are still in common use in western Arkansas, but others are original. Like a fine old heirloom quilt, all hang in the gallery of memory.

Okie-dokie

A friendly and playful way of signifying agreement. This comes from Hazel's side.

Hissy fit

Getting pretty mad. Hazel would likely have a hissy fit if you tracked mud in her house.

No slouch

Hazel's way of paying someone a compliment. Slouchy or slovenly people were not admired.

Not long for this world.

An old country way of saying someone was near death translated into Grover's very typical kind of irony. It was his way of stating that he was tired and about ready for sleep.

Living high on the hog

This is a variant of "The life of Riley," good living (literally from country days--getting the choice meats from a butchered hog).

"Tickled to death" and "tickled pink"

Very, very pleased.

Bright as a new penny

A well washed face, a new car, fresh coat of paint on the house.

A bird in the hand is worth two in the bush

Whatever you have in hand (actual possession) is better than the potential profitability of what you may have at some point (birds in the bush).

"Shake a leg" and "look lively"

Get busy, don't goof off.

Flew the coop

Literally, a chicken flew out of the coop. It was used to mean that something or someone got away.

Don't amount to a hill of beans

One hears Hazel in this phrase. She deliberately used "don't" instead of the proper "doesn't." A single hill of beans (in a garden, beans can be planted in a small "hill" or mound) isn't worth much. Something of so little value is of little concern.

Don't make a mountain out of a molehill

Hazel talking. It's a way of saying that little things ought not be viewed as big things. Keep things in reasonable perspective.

By hook or by crook

Means to accomplish something by whatever means it takes.

Barkin' up the wrong tree

From coon hunting with dogs that bark "up the tree," but not the tree where the coon is holed up. A mistake. Figuratively speaking, you've gone in the wrong direction.

Can't teach an old dog new tricks

This phrase was used in reference to an older person who didn't want to accept a new idea or learn a new way to do something.

Keep the home fires burning

Said upon going away from some place special, it means to keep things going until we get home. Statements like this were especially important to Grover (shown here as a boy in Van Buren) since he was gone aboard Navy ships for many years.

Bunch of rigmarole

The word itself is actually in the dictionary and it means confused or meaningless talk or idiotic ritual. Hazel used this term in reference to a bunch of bull----.

Tangled up

Hazel's term of frustration for lots of different things that involved complicated or even semi-complicated coordination or arrangements with other people or events. Things would get tangled-up, for example, if there was a plan to go at 5 PM, but someone was late. Once things got tangled up, there could be "mass confusion."

Par for the course

From golf. Hazel and Grover both used this to mean, "it's about what you would expect."

Keep your nose clean

Grover's advice to stay out of trouble. He was concerned about things like this especially when I

was in high school, drinking beer, dating, etc. See just below:

Keep your head screwed on tight

Stay out of trouble; use your brain and common sense.

"Sashaying around" or "bustling around"

Busy. Moving around with vigor and energy. Grover would use then when Hazel was dressed up for some kind of occasion, with lots of clicking back and forth in heels and commands to hurry up, etc.

Don't go off half-cocked

From old days when a gun had to be cocked before it could be fired--if you went off half-cocked, it meant you weren't ready to shoot--that is, you weren't prepared to do whatever you needed to do.

Look before you leap

An admonition to be prepared before undertaking an activity.

If you gonna dance, you gotta pay the fiddler

Every activity in life has a price or cost that must be paid (such as in the Bible often quoted in the Grover & Hazel household: "The wages of sin are death").

Madder 'n a wet hen

Pretty mad. I've never seen a wet hen, but it's easy to imagine.

Lord help

Hazel's term of disgust said with her head wagging back and forth about a situation or a person so hopeless that only the Lord could help fix things up. She is pictured here as a young woman, probably in the late 1930s.

You win some, you lose some, some are called on account of rain

From baseball, and used as an admonition take the philosophical approach to life's reverses.

Life of Riley

Relaxation, as in a hammock, a casual afternoon nap, a full belly and no work to do for the rest of the day. From the 1950s TV program about a working class family with Riley as the patriarch who lived to relax.

Don't put all your eggs in one basket

There are many examples of how this phrase was used. For example, you need several skills in life, not just one. It's best to have several friends, not just one. It's best to be willing to try different things, study a variety of subjects, rather than just narrowly focus on one thing. If the one very special thing doesn't work out, you have something to fall back on "in a rainy day."

Stump water

Weak coffee--weak and thin looking, like hot water poured over a tree stump. Grover was a big coffee drinker.

"Young man" or "young lady" or "young sprout"

Hazel scolding to correct "bad" behavior like talking back, or complaining about having to dress up for church.

Blood is thicker than water

Families are direct relations, like children, of one marriage, or indirect, like stepchildren from previous marriages. Hazel and Grover both had their first children in earlier marriages. This phrase was used when there was an argument. Basically it meant one seemed closer and seemed to side unfairly with their blood kin as opposed to non-blood kin (like your husband).

Money doesn't grow on trees

Well, duh, as people say in the 1990s. It means that we need to be more careful about what we do with our \$\$\$\$. The answer is no, we can't buy that.

As long as you plant your feet under my table, you'll abide by my rules

Said to the children when they were getting a "too big for our britches. Hazel also threatened to "tan my hide," and did so on several occasions.

Rocks in your head

Whereas most people have brain matter and use it for thinking, other people don't seem to think, probably because they have rocks in their "noggin" (a word used by Hazel and Grover for the head).

If it's sauce for the goose, it's sauce for the gander

In a marriage, as in a friendship, what affects one also affects the other.

Visiting firemen

Professional colleagues from the job, visiting/inspecting on-the-job. Does not refer to visiting family members.

Frost on the pumpkins

The first blasts of cool with frosts in the fall (Oct-Nov). Generically--cold outside.

The chickens have come home to roost

Activities of the past, usually things one is not proud of, have finally caught up.

Rubber necking

Like being a tourist, specifically or generically, head flopping around this way and that.

Lollygag

Hang out, loaf, and putter along aimlessly. Grover teased Hazel about hanging his arm out the

window of the car (a habit she associated with "hicks") by asking her if it was OK if he lollygagged.

Tough row to hoe

Hazel's phrase. It's derived from those long farm days of hoeing row crops. Hard jobs, tough situations in life and love--these can all be tough rows we have to hoe.

Ignorant stick

Grover's words for hand tools like shovels, bars, rakes, etc. People without formal and training education are pretty limited in the job market. Grover did not look down on people who used these tools; he just didn't want to join their ranks.

Deader than a doornail

A doornail is a large headed nail, obviously without life. Something that dead (including ideas, plans, etc.) is beyond recovery.

All hands on deck

From Grover's Navy days--meant the kids were suppose to all be ready for something, like chores, leaving in the car, etc.

Swab the deck

Also from the Navy--mopping the floor, or generically, cleaning up in general.

Ship shape

From the Navy--means everything is neat, put away, in good order (a house, a car, etc.).

Trim your sails

Old Navy--slow down.

Home James, and don't spare the horses

Let's go home. Head to the house without delay.

Cash on the barrel head

Derived from times **before** credit cards and e-mail. Means paid for with cash rather than credit. From pioneer times, when storekeepers used barrels as countertops. This was a natural phrase for Grover, who grew up in a family of storekeepers.

Toy

Whimsical name given Hazel and Grover's white Chihuahua.

The guilty dog always barks first

Students of dog behavior have always noticed this.

Crooked as a dog's hind leg

A good way to categorize the world's cheats and dishonesty in general.

Let a sleeping dog lie

A less colorful phrase that means the same is "let well enough alone"; that is, "if it ain't broke, don't fix it," etc.).

Get all your ducks in a row

Get everything lined up before you take off or start out on whatever task is ahead.

Marble orchard

Grover's word for a cemetery (tombstones are frequently made from marble). For years after his medical retirement from the Navy, Grover was a superintendent in National Cemeteries.

Sawing logs

Snoring.

Hit the nail on the head

Got it exactly right.

Beauty rest

This is what Grover called Hazel's naps.

Hezekiah

Grover's take-off on Hazel; also, a king mentioned in the Bible. Hazel also became "Hazel lolly," etc. Grover did things like this frequently--slightly alter a word or name to fit it for other uses. He turned Van Buren into "Van Buetrin."

If the shoe fits...

About accepting responsibility. For example, if you've told a lie and someone calls you a liar, you might as well just admit it (the "shoe" fits you).

A pig in a poke

Making commitments without realizing what you may be getting into. When a pig is in a poke (a kind of box or pen) you can't see it. If you buy a pig in a poke, there's no telling what it is you're really getting.

Cut you off like a ripe banana

For example, if you don't pay your bills on time, the business will cut off your credit, that is, cut you off "like a ripe banana." This certainly from Grover's years of working in his father's Van Buren grocery.

Scarce as hen's teeth

Means great rarity. Of course chickens don't have teeth; Grover was saying that some things are rare. A warm day in January, for example, is scarce as hen's teeth.

Can't make a silk purse out of a sow's ear

One of Grover's favorites. If you are going to do something worthwhile or of value, you've got to start out with good material, not something cheap, common or low grade. In this computer age, people sometimes say, "garbage in, garbage out."

You can lead a horse to water, but you can't make it drink

Based upon the sage observation that teaching and other learning activities are potentially difficult processes and generally occur, not when the teacher/parent/boss is ready, but when the student/child/worker themselves have the desire themselves (that is, when they are ready to drink).

Flatter'n a fritter

A fritter is flat like a pancake, like a dead dog on the highway. A once good idea that has gone terminally sour would be flatter 'n a fritter.

Queen bee

Most exalted female, especially Hazel, but basically any kind of matriarchal figure obviously in charge of the folks (male and female) around her.

Apple of his father's eye

The favored person, originally a favored son, but really any very favored person.

Rounder

Grover used this term for people who partied, drank, etc.; such as, "He was a rounder." I suspect it is derived from the Navy years, when the guys liked to drink "rounds"--that is everyone drinking all around. Several members of the earlier Neal's (including Grover Cleveland and various relatives) also drank "rounds."

Rise and shine

The way he told folks it was time to get up.

Early bird gets the worm

Grover was a BIG TIME early riser (4:30 AM pretty typical) perhaps dating to his Navy years. Anyway, the first bird to "rise and shine" is likely to get the first worm. Lay-a-bed types take note!

Pitch 'til you win

This must be something from carnivals or card games. It was usually employed on Sunday evening when Hazel didn't cook and the kids just got something to eat someway--leftovers, sandwiches, etc.--you had to pitch 'til you won. And don't mess up the kitchen!

Strike while the iron is hot

In other words, do it NOW. This must be from the old days when blacksmiths heated iron. Grab a red-hot poker from the fireplace to defend yourself. At any rate, Grover used it in the context of doing things at the best time to get the job done (when the iron is hot). If someone is offering you a good deal on a car you want, or perhaps think you want, take it NOW.

Keep your powder dry

In pioneer times soldiers and hunters used flintlock rifles with black powder that wouldn't fire if it got damp. Grover used this saying to encourage Joe not to make mistakes that would haunt him in the future.

Catnap

A short, quick nap. Catnaps are an acceptable form of leisure, rather than obvious laziness.

Spit bath

This is Hazel, and it's not really spit. Usually it meant a quick cleanup with a wash cloth and a little water. Spit baths were necessary in Ft. Smith in the 1950s during summer since there were constant water shortages. A spit bath would cool you off at night before bed. I'll bet the term came from the country days before houses had running water--simplest thing to do stay clean and refreshed was a little water and a fresh cloth.

I'll swear

Hazel said this a lot. She used it as an exclamation or surprise and in a positive way. For instance, when she received a nice present that was something of a surprise, her response would be "I'll swear" with a smile on her face.

Doctor it up

Hazel said this when she was cooking--add some sauce or spice or something to make it a little more interesting. Her turnip greens were really good because she doctored them up a lot.

Simple-minded

Hazel--a put-down of something or someone doing a something so silly or useless that only a lame brain (Grover?) would do it.

Bunch of malarkey

Misleading words, statements, phrases, etc. "That's a bunch of malarkey." Alternative: a bunch of baloney.

Lunk head

Hazel and Grover used this in reference to a not-so-smart person, including themselves if they did something truly silly.

Keep a good eye out

Be alert.

Didn't make any bones about it or**Didn't beat around the bush**

Straight talk, honesty, right to the point.

Rookey-doe

Cheated. "Got rookey-does out of it" or "Got beat out of it."

Bright-eyed and bushy-tailed

Alert like a squirrel. A person who is bright-eyed and bushy-tailed is ready to get out and get after it!

Clear sailing

There are no obstacles to whatever you want to do--you have clear sailing--not like the Titanic!

Just resting my eyes

They would say this when they'd nodded off and were surprised--wouldn't say, "I fell asleep," but would say humorously, "I was just resting my eyes."

First B

Their term for a First Baptist church, wherever it was.

Don't beat a dead horse or can't beat a dead horse

This phrase was used about situations that were obviously lost, or ended, or over. If you keep messing with them it's like beating a dead horse; that is, it's useless to try to get a dead horse to trot.

Nobody's here but us chickens

I think this might be from the Amos and Andy radio show. Grover would say this in reference to being at home with just he and Hazel or maybe just family members. It was simple and friendly statement about being at home.

Beats me

Means, "I don't know." Someone asked a question they didn't know the answer to.

Tough sledding

Difficult. A hard job would require tough sledding before it was done.

Smarter 'n whip

Very intelligent, said admiringly. The "smart" of a whip is how it feels when used!

Sharper 'n meatball

Meatballs aren't very sharp. This can be ironic (to mean a person isn't smart) or merely a humorous observation of a person's intelligence.

Isn't this a fine how do you do!

Hazel referring to something that is messed up

All that glitters isn't gold

Grover's cautionary statement about not being blinded by the surface shine on things or events.

Running around like a chicken with its head cut off

Another one of those farm phrases referring to confused or disorganized activity.

Cleaner ‘n a hound’s tooth

Something that is really clean looking.

Can’t cut the mustard

May refer to older folks who can no longer do certain kinds of work. Mustard greens were a favorite garden vegetable from Hazel’s growing up.

Don’t get your bowels in an uproar

This means “stay calm,” or “don’t get so upset.”

Defugalty

This is a polite word for farting. Granny (Jessie) Neal saying.

That’s using your head for something besides a hat rack.

This is Grover’s ironic way of paying a compliment. Sure, a head is a good place to park a hat, but a head can be a lot more than that...is what he meant.



Thurman’s stone



In Thurman Jordan's front yard in Fort Smith is a hay bale-sized stone, actually a boulder, earth tones and mass amid shrubbery and suburban order. What catches the eye is a mysterious flowing lumpiness on the stone's upper surface. The huge stone is composed of sand grains, readily apparent with a 10-power magnifying glass. With waves soft and rounded, it's like sand poured from a soft-serve ice cream machine. Is it from Mars? Colorado?

The patterns on this stone explain a great deal about western

Arkansas, both its ancient past and its present. An auto tour of the antique Ouachita Mountains in the Ouachita National Forest south of Fort Smith helps tell the story.

Let's start with the Landstat satellite view 580 miles above earth. Fort Smith is a dot in the bend of a string that is the mighty Arkansas River. The Ouachita Mountains are artistic patterns of roughly parallel and softly looping lines. Within the Ouachitas south of Fort Smith, mighty Poteau,

Fourche and Rich Mountains reduce to folds trending east and west, from Oklahoma to Little Rock.

On our auto tour south from Fort Smith, we encounter ridges where the highway folks cut 4-lane paths. Laid bare are sandstones and shales in neat beds or strata tilted upwards at an angle. As with the flowing pattern on Thurman's stone, these uptilted rocks seem like freaks of nature, except we keep seeing them in every road cut. In some we find sandstone fragments with flowing patterns like Thurman's.

Continuing south, mountains dominate. We pass through Mansfield just north of Poteau Mountain. Highway 71 then swings east around Poteau Mountain to Waldron in the valley of the Poteau River, which in turn skirts the south base of the mountain. From Waldron, highway 71 swings west, then east, avoiding hills and ridges toward Y City at the base of Fourche Mountain. Travelers to Hot Springs turn east, onto highway 270.

Just as 71 skirts Poteau Mountain, 270 runs east and west skirting Fourche's north slope. Southbound travelers continuing on 71 enter Foran Gap, a pass eroded from the Ouachitas by Gap Creek, Johnson Creek and other streams rising from the boulder-strewn, pine and hardwood clad slopes of Fourche Mountain. Foran Gap is the pathway south, toward Mena and the Rich Mountain country.

This was not always mountain country. In the distant geological past, what we call western Arkansas was lower in elevation and periodically covered by seas. Marine fossils provide the evidence. Then as now, these organisms lived only in seas.

Continents drift and change. Sand that became Thurman's stone derived from now eroded mountains atop the continent Llanoria, then located south of modern North America. Sands from Llanoria flowed northward, much like sands eroded from modern Poteau, Fourche and Rich Mountains eventually flow southward, reaching the Gulf via the Mississippi River.

Patterns on Thurman's stone are evidence or fossils of fast-moving water in a big river as it moved sand, rocks, and woody debris from Llanoria. Similar patterns can be seen in fresh sandy silts left behind by flooding on major rivers like the Arkansas.

Sediments accumulating in the ancient Ouachitas region were compressed and folded upwards as continental Llanoria drifted northward, squeezing the infant Ouachitas into long east-west folds. Geologists believe the process occurred gradually over a period of perhaps 200 million years. This compression explains the curious upward tilt of rock beds in the Ouachitas, visible in road cuts along highway 71.

In our time, mountains like Poteau, Fourche, and Rich dominate the landscape of western Arkansas. Streams, highways, and towns do their best to get around them. Wildlife on National Forest lands, including all kinds of plants and animals, are also affected. North-facing and south-facing slopes on east-west trending ridges control where hardwoods grow best (cool north slopes) and where pines grow best (sunny south-facing slopes). Neotropical migrant birds like scarlet tanagers are common in hardwoods, but rare in the pines, where pine warblers are common.

Thurman's stone explains how this came to be, how the modern Ouachitas have been shaped by its geological history.

Signs of the pioneers

Less than one hour's drive south of Fort Smith is a huge area of public land. Poteau Ranger District of the Ouachita NF comprises 190,000 acres of public lands, about 70% of Scott County. Public forests comprise high percentages of land in many western Arkansas counties, both north and south of Fort Smith.

In the growing season, these lands seem great swatches of rolling green, blankets of pine and hardwood trees. Seen from space the area looks pretty uniform, but out there on-the-ground, apparent uniformities dissolve. Uniqueness in this country comes into view. Pine warbler song fills the woods; scarlet tanagers flash through hardwoods.



Public lands in western Arkansas are not the result of magic bursting full-blown on the scene. Conservation-minded politicians of a century ago saw the country growing and knew without mechanisms in place to serve the varied needs Americans had then, and have today, average folks of the future would have no forests and what comes with forests: clean water, timber, hunting and recreation, homes for wild plants and animals.

To use the contemporary term, much of western Arkansas was "clearcut" by settlers and private timber operations in the early days of this century. Settlers from the eastern US tried to farm the cleared lands, ridge tops and all, but had little success except in the river valleys. Timber companies and discouraged settlers either abandoned their lands or sold them cheaply.

Government wound up with the rough land. Presto: you got your National Forest, reclaiming abused land, making it available for future varied uses. Your National Forest is still being created. Exhausted and cutover lands are being added to public lands today as in the past.

I'm fascinated by monuments left by settlers of earlier generations when I'm out working in that vast rolling green forest. An old "tram" or logging railroad is the bed for a Forest Service and Scott County road between Parks and Waldron. Walls and mounds remain that were made by families who tried to de-stone lands; that is to convert rocky hillsides into productive farms.

Early springs in the Ouachitas where these stone monuments remain often feature daffodils, now gone back to the wild, mute but powerful testimony that folks of earlier generations tried to make mountain cabins seem a little more like old homes they left behind. There are also japonica bushes with bright red flowers, Chinaberry trees with great clusters of fruit, Osage orange trees in

old fencerows.

Even though the settlers have passed on, their plants and their legacy remains a distinctive character within what are today public forestlands.

Signs and paradigms

With letters bold yellow against earth brown, signs outside our office along US 71 in Waldron announce POTEAU RANGER STATION and OUACHITA NATIONAL FOREST. Rising to an elevation of over 2,600 feet, Poteau is the highest mountain between Waldron and Fort Smith. Poteau River at its base gathers small tributaries near Waldron and flows westerly into Oklahoma then to its confluence with the Arkansas River near the old military post at Fort Smith.

Poteau is French signifying post or station. Ouachita is from Native Americans. The mountainous region notable for the Ouachita River was known as "Wachita" for the people who lived along its banks.

Several years ago, the signs were replaced after many years in service. Both were constructed at the same time with the same materials, but the south-facing sign had cracked and was peeling. By contrast, the north-facing sign showed little deterioration. The difference in weathering was natural. The cause was sunshine, not paint, wood, or manufacture.

In this country of the Wachitas, the sun traverses a southeasterly to southwesterly arc. That south-facing sign had done hard time in harsh sunlight. By contrast, the north sign had been protected from the baking summer sun. The same conditions affect forests in western Arkansas.

Since so much sunlight reaches ridge tops and south slopes, these are relatively hot and dry compared to cool north slopes. Moisture-loving hardwoods reach their best growing potential on north slopes. This is not the case on south slopes where vegetative differences are accentuated by fire. With thick, rough bark, pines tend to be fire resistant and therefore thrive on droughty, fire-prone south slopes.

For over 50 years, Smokey Bear has protected Ouachita National Forest lands by putting out all fires, whether natural wildfires or arson fires. Suppression has been our paradigm, our pattern of thinking about fire.

The botanist Thomas Nuttall visited western Arkansas in 1819. Writing about the recently established Fort Smith and "the prairies and mountains of the Pottoe," Nuttall saw "rocky pine ridges" and other areas "very rocky, and thinly scattered with pines and oaks." He stated that the country remained open because of "the annual conflagration" set by Native Americans. Their paradigm was that fire was beneficial. Landscape changes produced by fire resulted in good animal populations.

Western Arkansas has changed a great deal since Thomas Nuttall's time. Lands that would become the Ouachita National Forest were first logged, farmed, and abandoned. Government's purpose in acquiring these lands was rehabilitation. Control of erosion and protection of watersheds required reforestation. Reforestation required fire control. The paradigm of suppression of all fires was a natural sign of the times.

A comparatively nondescript bird, Bachman's sparrow, illustrates problems with this paradigm. Bachman's was common in Nuttall's time, but began a long decline throughout its range during this century. It disappeared from so many areas it was listed a threatened species and

considered endangered in many states, including Arkansas.

Causes of this decline were mysterious. Then in the 1970s, Max and Helen Parker of Malvern found numerous singing Bachman's sparrows in young pine clearcuts and adjoining mature pine woods that had been burned. Subsequently, Tom Haggerty from the U of A-Fayetteville demonstrated that Bachman's thrived in open, piney areas where its ground nests were protected from view by lush growths of bluestem-type grasses. Both the grass and the openness resulted from fire. Without fire, these habitats were overwhelmed and shaded-out by dense growths of hardwoods.

Uncontrolled wildfire still poses unacceptable threats to private and public property, but prescribed fire is now returning to the Ouachitas. Fire is especially useful in restoration of the pine-bluestem ecosystem in western Arkansas where many species of plants and animals once considered rare can thrive, species like Bachman's sparrow.

No longer so rare are habitats like those described by Thomas Nuttall and songs of birds like Bachman's sparrow. Like the replacement of the signs outside our office, the paradigm of suppression of all fire is being replaced by the return of an older paradigm. Once again, fire has a place in shaping the land.

Puttin' up some smoke

Atop Poteau Mountain, some 40 miles south of Fort Smith, visitors to the Ouachita National Forest pull off at lookouts and gaze south into the heart of the Ouachitas of western Arkansas. The valley of the Poteau River is there, and beyond, ridge after forested ridge, south to mighty Fourche and Rich Mountains. Without these monarchs, one could seemingly glimpse the Gulf of Mexico.

It's a grand scene, and from December through early April the scene is enlivened by fire. Puffs of smoke rise above lofty pines and hardwoods visible from Poteau Mountain. Smokey Bear, or some of his friends in local fire departments and the Arkansas Forestry Commission, are probably on the scene. Rugged pumper trucks, bulldozers, and fire rakes are standard tools. If things get too exciting, big planes like World War II era bombers lumber off the Fort Smith airport and run low over the fire, spreading pink flame retardant.

Like hats and hairdos, fires and the smokes rising from them come in various shapes and sizes. Some smokes rise from unplanned fires that consume private and public property. Smokey



cautions about campfires and carelessly discarded cigarettes. On dry windy days, trash burning may suddenly leap into nearby forest. Arsonists sometimes set the woods on fire.

These days, Smokey is also involved in planned or prescribed burning. Like prescription medicine from pharmacies, prescribed burns are carried out with specific goals in mind. Many puffs of smoke in the Ouachita National Forest this winter will rise from planned fires.

Fire was no stranger to the historical Ouachitas. From the 1820s on, settlers routinely opened the forest with fire. Within this open forest there was luxuriant growth of grasses and other plants beneficial to wildlife and livestock. Without fire's ability to prune smaller trees, grasses and other plants were shaded-out.

Native Americans also used fire. Research conducted on Poteau Ranger District in the Waldron area shed light on likely reasons. Stands of trees opened with a partial harvest and then subjected to prescribed burning produce 6-7 times as much of the food items preferred by white-tailed deer when compared to similar stands of trees without harvest and without prescribed

burning. Venison was a staple food of ancient Ouachita forest country people. They knew what they were buying with their burning program.

Today, prescribed burning on public lands in the Ouachitas accomplishes numerous objectives. It helps prepare a seedbed for seedling shortleaf pines. Under natural conditions, wildfire burned holes of various sizes in the forest, allowing seedlings enough sunlight to get started. Prescribed fire reduces loads of leaf and needle litter, limbs and other combustibles that make young stands of trees subject to devastation in an unplanned fire.

Biologists use fire to prepare suitable habitat for species that require open, park-like forest with grassy understories. A host of plants and animals like white-tailed deer, bobwhite quail, wild turkey, and some endangered species, require habitat conditions best produced by fire.

Fighting unplanned fires, including wildfire and arson, still requires skill and dedication from Smokey and his helpers. But as the ancient art is rediscovered, Smokey's people are returning fire to forests. Careful and hopeful smokes of this winter mark productive forests of future years.



Gateway bird to the Arkansas pine country

I've been seriously addicted to birding for 25 years. Over that time I've found lots of birds that interest me, but none so much as red-cockaded woodpecker (RCW). It was the first animal placed on the Endangered Species list when that law came into effect in 1970.

Thirty years ago, many thought RCWs were headed down the same extinction road as ivory-billed woodpeckers, passenger pigeons, and Carolina parakeets. In the year 2001, prospects look brighter.

Just every now and then someone calls me to report an RCW in the yard. I always ask the same question: did you see any red on the bird? They always did see red, usually a lot of red. I tell them it wasn't an RCW if they saw red. If the bird was at a feeder and if they saw lots of red, it was probably a red-bellied woodpecker. If they saw just a smattering of red, it was probably a downy woodpecker.

I get these calls at my home in Fayetteville, and even more at my office in Waldron, 110 miles south of Fayetteville in the Ouachita Mountains. I work there as a wildlife biologist for the US Forest Service. Waldron, and surrounding Scott County, include the 190,000 acres of the Poteau Ranger District, part of the Ouachita National Forest. It's pine country and home to a small population of RCWs.

Except for a few stuffed specimens in carefully tended drawers at the University Museum, there are no RCWs in Fayetteville. But set your millennial clock back to 1800 and I can show you RCWs in the Ozarks. Take a tour of the structural timbers in buildings like Old Main on the UA campus. You can see relics of the shortleaf pine forests that once covered large areas in northwest Arkansas, providing quality habitat for RCWs, plus other plants and animals requiring similar habitats.

When I first came to live in Fayetteville in the early 1960s, there was still much evidence of the logging industry that played a key role in the growth of Fayetteville in the late 19th and early 20th century. Big shortleaf pine timbers that went into Old Main and every other major building in 19th century Fayetteville had been cut from pine stands around today's Beaver Lake and Eureka Springs and hauled here in ox carts. There were no railroads here until 1881.

To get a feel for this era, take a look at [Railroads of Northwest Arkansas](#) by my old (now deceased) friend Bob Winn. It was like a gold rush. Railroads pushed in and out of Fayetteville in every direction. Long before there was an Ozark National Forest, vast stands of white oak, shortleaf pine, hickories, and etc. were cut (clearcut, to use a modern term) and fueled Fayetteville's developing economy. The family wealth and influence of one of Fayetteville's most revered citizens, Senator J. William Fulbright, was built by logging. Malls and Walmarts now reign where loggers, log trucks and railroad cars with logs were familiar sights.

Fayetteville residents who want to see an RCW must drive two hours away to Waldron. The busy logging activity that once was characteristic of Fayetteville still hums in Scott County. Alongside this traditional forest use has come the Endangered Species Act and what the US Congress has legislated as multiple use. That is, in the year 2001 our Forest Service is mandated to perform what amounts to a juggling act in which the forest is managed for a variety of uses, including RCWs, logging, clean water, hunting, hiking, protection of heritage resources, and the like.

Trying to balance the books of multiple use management is like trying to negotiate the traffic at Northwest Arkansas Mall on December 23. Deer hunters from all over western Arkansas think the forest should be managed only for deer and 4-wheelers. Loggers get to thinking their world is coming to an end because the Forest Service is reserving some older 3-log pines (that is, a tree from which you can cut three 16 foot long logs) for "red-headed peckerwoods". Some of my environmentalist friends allow that the Forest Service is in bed with loggers. One friend just can't

believe I cared about Neotropical migratory songbirds if I work for the Evil Empire (AKA, US Forest Service).

My first RCW fieldwork came in the late 1970s, when I helped with a project at Felsenthal National Wildlife Refuge in south Arkansas. In 1991, I was offered an opportunity to get a Masters of Science degree through the Arkansas Cooperative Wildlife and Fisheries program (Department of Biological Sciences) in Fayetteville, then to join the Forest Service's RCW effort on the Ouachita NF. I would guess, however, that most people with an interest and a concern with the environment and endangered birds in particular wouldn't want to go so far just for this rare woodpecker and its habitat.

In consideration of this fact, let me prescribe an alternative. Make one of your birding trips to Waldron. There is an interesting and easily accessible area just south of Waldron where you can see what your Forest Service is up to in regards to RCWs, logging, and other hot button issues.

Let's just head out there now, virtually-speaking. The following description is for the drive from Fayetteville to Waldron. With a few changes, it could describe basically any drive to Waldron and Scott County.

The journey carries us through two distinct and beautiful Arkansas ecosystems: the Ozarks Mountains and the Arkansas River Valley.

We take I-540 south and keep a good eye out for low flying vultures of both species: turkey vulture and black vulture. Both vulture species roost and nest in the Rudy area. Now we swing around Fort Smith, and keep a good eye out: a flock of four glossy ibises once flew low over my car near the Fort Smith airport. If we don't stop and do a bunch of birdwatching, this will take about one hour.

Signs say 71 S and Texarkana on the south end of Fort Smith. We'll be in Waldron in about 45 minutes. That's a third ecosystem, the Ouachita Mountains.

The Forest Service office is at the intersection of 71 and Arkansas 248. If we stop by the office, we can get a free copy of the Buffalo Road/pine-bluestem tour brochure. If you do go by the office, checkout the RCW display featuring two RCWs mounted on a section of an old RCW cavity tree that blew down in the storm. The exhibit was designed and built for the Forest Service by Fayetteville artist Richard Stauffacher. He is a skilled taxidermist. He is better known for his etchings featuring the natural history of the Ozarks. He also teaches the process at workshops held in Washington. (There's an interesting collection of his birds, flowers, Ozark landscapes, and more outdoor experiences at www.etchings.org).

The Buffalo Road tour commences seven miles south of Waldron at Needmore. We take a right (west) onto the Forest Service road marked with the brown Buffalo Creek Road sign. If we use the pine-bluestem tour folder, now is the time to zero the odometer.

The first two miles of this road consist of small, privately owned homes and farms. In summer this is a wonderful place for birdwatchers, because there are bluebirds, roadrunners, scissor-tailed flycatchers, painted buntings, and lark sparrows.

There's no big billboard announcing the Ouachita National Forest boundary. However, we can tell we've entered the rare woodpecker country because the open farms give way to mixed forests dominated by the native shortleaf pines, but including a good mixture of various hardwood species, especially post oaks. For the next several miles there are interpretive signs along the road providing information about how the public lands in this area are being managed.

The pine-bluestem project consists of 155,000 acres of land on the Poteau, Cold springs,

and Mena Ranger Districts. The Forest Service is attempting to restore a remnant population of RCWs to its former abundance, while also meeting other forest management objectives including timber harvest, recreation (including hunting), other kinds of wildlife management (restoration of bobwhite quail and wild turkeys, for example).

Clearcuts from the 1970s-early 1990s are common in this area. These regenerating stands of trees are being managed to provide maximum wildlife benefits as they regrow. When managed properly, they provide excellent nesting habitat for Neotropical migratory songbirds. For example, U of A student Chris Jenelle studied prairie warblers, field sparrows and other species that do well in these habitats. Eventually these old clearcuts will provide future RCW cavity trees, as well as high quality timbers for harvests compatible with RCW management needs.

Many of these regenerating areas were heavily damaged by the Christmas 2000 ice storm, whose effects are obvious throughout the forest—bent over younger trees and many older tree missing tops and large limbs

There are clusters of cavity trees used by RCWs along Buffalo Road. Some of these are natural cavities excavated by the RCWs, but others are artificial cavities put in trees by Forest Service personnel Warren Montague and Keith Piles as part of an effort to speed the bird's recovery.

When we visit Buffalo Road we notice bark char on some trees, a result of burning. Prescribed (or controlled) burning is a tool to restore this ecosystem to a condition that existed naturally throughout the Ouachita Mountains a century ago, when wildfires were common. The trees used by RCWs are highly resistant to fire. The destruction of some smaller trees by fire favors the natural development of other plants on the forest floor. Grasses like little bluestem, big bluestem, and flowers like pale-purple coneflower don't thrive in the dense forests that would develop in the absence of fire.

The best time to see the woodpeckers is at dawn or dusk, when the birds are exiting or entering their roost cavities. Otherwise, they are likely out ranging over tens of thousands of acres of habitat in the area. Please maintain a respectful distance from the roost trees and avoid close visits to the cavity trees during the nesting season (late April-early July).

Two other very interesting birds can be seen here: brown-headed nuthatch (all year) and Bachman's sparrow (summer). Neither bird can be guaranteed for our life list but both are present regularly somewhere in the area.

In the woodpecker country

Ouachita National Forest lands in western Arkansas are home to a rare bird in the Natural State. You head out to the Needmore Store on US 71, a few miles south of Waldron in Scott County. Just beyond the store look for the brown sign "Buffalo Creek Road". That's the turn off to Buffalo Road Demonstration Area. The location is four miles west of Needmore.

Along Buffalo Road, and on the ridges north and south of the road (and elsewhere on the Ouachita National Forest), Poteau Ranger District personnel manage the forested land for timber production, wildlife like deer and turkey, and red-cockaded woodpeckers.

This woodpecker is a Federally-listed Endangered Species. Forest Service biologists have considered present and future bird populations in evaluating the many potential uses for public

lands in the Needmore area.

Environmentalists in some places invoke the Endangered Species Act out of concern about logging, road construction, and other activities. Controversy over the spotted owl in the Pacific Northwest, for example, has caused some folks in western Arkansas to infer that saving red-cockaded woodpeckers from extinction is bound to hurt local people.

Management for red-cockaded woodpeckers has been underway in the Ouachita National



Forest, including the Needmore area, since the 1970s. However, an ambitious effort to save red-cockaded woodpeckers isn't obvious along Buffalo Road. For example, if all the Forest Service is doing in that area is trying to save rare birds, how to explain pick-up load after pick-up load of high-quality hardwood firewood rolling down Buffalo Road into private homes in western Arkansas?

Non-hunting visitors along Buffalo Road during the recent deer season might assume public lands were being managed, not for rare woodpeckers, but rather for hunters and their families. Deer camps spread up and down the forest, west out to Peanut Mountain and Henry Mountain, names familiar to the woodpecker biologists. One might infer woodpecker country is also deer country.

What about log trucks? If the country is for woodpeckers only, what about quality shortleaf pine being cut and hauled to mills? What about smaller pulpwood operations? What about all the harvest activity during southern pine beetle salvage operations?

Millions of board feet of pine are marked, sold, and sent to mills from public lands in woodpecker country. In coordination with efforts for red-cockaded woodpeckers, there are jobs in the woods, mills, service industries, and taxes for public schools.

Wildlife biologist Warren Montague is fond of pointing out that various timber harvest activities are cost-effective tools in restoration of habitat favored by the rare woodpecker. Thinning timber harvests, which remove certain trees and leave others, opens forested land. This is followed by other activities, including prescribed burning, that returns this part of the Ouachita Mountains to a more "natural state."



Today there are many acres open, park-like habitat and grassy understories like that in the Needmore area a century ago. This grassy forest is readily apparent along Buffalo Road.

Public lands in western Arkansas serve many additional purposes that directly benefit all citizens. How about the way protection of public and private property from wildfire, and reclamation and reforestation of land damaged by erosion, contribute to healthy economies?

Many species of wildlife not often in the headlines also benefit. Neotropical migratory songbirds, of concern in many parts of North America, find varied habitats on National Forest lands in western Arkansas. The extensive program of prescribed burning on Poteau Ranger District creates high-quality habitat for birds, like bobwhite quail, declining in many other areas. Diana's Fritillary, a butterfly otherwise rare through much of its range, is common in areas managed for RCWs because RCW management also leads to plant diversity necessary for Diana's as well as other native insect species.

The idea, ultimately, is that since these are public lands, as much of the public as possible should benefit from their management. That includes saving endangered species or stocking up on firewood for a cold winter—and a lot inbetween.

The greatest shortleaf pine forest in the world

Like Forest Service photographic archives, memories of our older citizens hold images of western Arkansas forests quite different than the typical forests we see today. There must have been many young trees earlier in the century, but what people recall are usually the big 'uns. The big 'uns were trees that two strong men sawed for a day before it fell. Big 'uns were monarchs--soaring, widely-spaced trees under which grew grasses that tickled a horse's belly.

The virgin shortleaf pine forest is gone: gone, that is, into homes, barns, and buildings all over America. That is the living legacy of the forest of old photos and memories of retirees. In his book Sawmill, Hot Springs native Kenneth L. Smith captured some of this old forest as he told the story of how it was logged by private companies between 1908 and 1950. Subsequently, cutover land was acquired by the Federal government so that it could be reforested and protected from

wildfire and further erosion.

There is a fellow who lives in the Scott County area who is actually recycling this legacy. He is frequently called upon to tear down barns, houses, and other buildings in western Arkansas. He demolishes these structures carefully, and the fine old wood he saves is neatly arranged and stacked. His farm is something of a shortleaf pine museum. Salvaged 2 X 4s under his shed exhibit tight growth rings characteristic of huge old trees that once covered the Ouachitas.



As a forester quoted by Ken Smith wrote about Ouachita pine in 1896, "the wood produced in these hills is of a lighter color, less resinous, and of a fine grain." It grew as the dominant tree over 5,000 of the Ouachita's 11,000 square miles making it, in Ken Smith's estimation, the greatest shortleaf pine forest in the world.

Reforestation of the cutover lands and control of wildfire was critical in the early years and remains an important job in 1999. Forest Service offices in small communities throughout the Ouachitas include trained foresters and silviculturists who specialize in regenerating stands of trees. On the Poteau district at Waldron, I work with three real professionals in this field. Harold Johnson, John Strom, and Henry Hicks are all experts in the fine art of regrowing a stand of trees. They are heroes in the battle to renew America's forests.

Many Forest Service employees are also trained fire fighters, combining this with other professional responsibilities.

As the land recovered from cutting of the virgin trees and a second growth pine forest

developed, it became possible to continue at a modest level the forest products industry of earlier times. Every community in the Ouachitas today has log trucks, mills large or small, and loggers adept with chainsaws.

In modern times this traditional use of forest resources has combined with recreational needs of growing urban populations and concerns about loss of biological diversity. Forest Service offices in the Ouachitas therefore also have biologists and recreational specialists, who work with the foresters and other professionals in planning public lands management.

Three ranger districts in western Arkansas (Mena, Poteau, Cold Springs) have combined efforts in a unique plan to restore more than 155,000 acres to habitat conditions much like that which existed around 1900. One motivation is cultural; that is, some folks concerned about logging on National Forest lands would like to see a forest with trees larger and older than is typical today. A forester who wrote about the Ouachitas in 1912 noted that trees typically ranged in age from 60 to 180, with some 200 years old. Under the restoration plan, many pines would eventually reach at least 120 years before consideration was given for harvest and planting a new stand.

Another motivation for restoring an old forest is biological. When the Endangered Species Act came into force in 1969, the first animal listed as endangered was the red-cockaded woodpecker. This bird had once inhabited the pine forests of both the Ozark and Ouachita Mountains, but by 1969 it existed in the Arkansas mountains only in the western Ouachitas, primarily National Forest lands in Scott County. It excavates its nest and roost cavity in pines whose heartwood centers have been softened by the red heart fungus. Based upon 1912 records, about two percent of trees at age 70 have red heart, but more than 20 percent have it by age 170. So not cutting trees until after age 120 should also help this rare woodpecker.



Henry of the pineywoods

In 2001 Henry Hicks is a 45-year veteran of the Ouachita National Forest. That's over four decades among ridges and valleys beneath mighty Poteau Mountain, in Waldron, where he was born. Forty-five years should make him a red hot candidate for fossilhood, but instead 2001 sees him honored by his coworkers for his continuing work on the cutting edge of modern forestry in western Arkansas.

Better known as "the chief" by his co-workers, Henry can do anything. In the early years he earned respect as a skillful supervisor of green young folks starting careers "hooked up" with a canvas bag of seedling trees, headed out for a day reforesting rocky hillsides. He has been mechanic, welder, plumber, and painter, run bulldozers and chainsaws, and computers in the

office. He has played Smokey the bear on numerous occasions. Up until 2000, he was a leading fire fighter and a burn boss in Poteau District's prescribed burning program. The core of his job, however, has always been timber production.

He was a forestry technician in the days when almost all logging on the Ouachita National Forest involved clear-cutting stands of shortleaf pine and the parallel practice of injecting many hardwoods in these stands with herbicides to make way for more pines. He was still "hooked up" when, in the 1980s that era ended in a well-publicized barrage of environmentalist appeals and lawsuits.

Shift now to 2001: in addition to other duties he's contract inspector for a 1990ish ecosystem management project conceived by biologist Warren Montague. More than a decade ago, Montague planned a rescue of endangered red-cockaded woodpeckers by renewing historic habitats otherwise known only by Ouachita Mountains oldtimers: open forest dominated by mature shortleaf pines and hardwoods with the ground covered by bluestem grasses and other plants. Once widespread in western Arkansas, pine-bluestem habitat then supported a healthy population of the now rare woodpeckers, plus popular game animals including white-tailed deer, bobwhite quail, and wild turkeys.

The stage for a shift in forest management had been set even before clearcutting landed in the courts. Passage of the National Forest Management Act (NFMA) in 1976 codified what many people in the Forest Service already tried to practice: use of the forest to satisfy many needs, including timber, wildlife (including endangered species), watershed protection, and recreation.

Montague's concept closely follows the spirit of NFMA, redirecting harvest to include biological goals. Henry Hicks makes sure these goals are met in a key part of this program, wildlife stand improvement (WSI).

Timber harvests in the pine-bluestem areas remove part of the commercially valuable pines, but leave most in place. After this harvest, crews with chainsaws perform WSI treatments by cutting certain small pine and hardwood trees that crowd below the dominant trees. Chief makes sure the WSI treatments meet contract specifications.

After WSI, big pines and hardwoods are still present, but with smaller trees cut, more sunlight reaches the forest floor. Grasses and other plants use this sunlight. Private citizens who need firewood for home use are allowed to remove wood already cut in the WSI process. Much of the remaining slash is reduced in prescribed burns.

A good place to view the process is Buffalo Road demonstration area south of Waldron. Here and there along the road visitors can see logging slash on the ground. In areas with recent logging and WSI treatments, it doesn't look like the historic pine-bluestem habitat, at least not yet. Don't let it throw you off.

Logging operations of any kind are always messy, like the inside of a chicken plant. The slaughtering and eviscerating are pretty messy, but fried chicken on the other end is pretty delicious. So too is habitat restoration.

This different style of forestry exemplifies changes in Henry's 45 years. The big woods look more like the old days: scattered pines and hardwoods with a grassy cover on the ground. Plants and animals thrive and the rarer ones have a chance to survive. Environmental groups once ready to appeal all projects tend to support pine-bluestem work, including timber harvest and burning that are part of the program.

It's quite a change and quite a sight, especially when wildflowers are in bloom and there

are young woodpeckers in the pineywoods.

Bird song

A virtual forest fills my living room: hoots of great horned owls at 12:00, like I'm out in the national forest at midnight. Songs of the state bird of Arkansas--the mockingbird--ring out at 1:00. The clever folks who developed this clock correctly noticed that tens of millions of Americans have taken to bird watching--and bird listening--in their recreation hours.

The more than 300 species of birds that occur in Arkansas are distributed across the landscape according to their ecological needs. That is, the association of birds with particular habitats is a useful indicator of environmental conditions. You're not likely to find a roadrunner midst a dense, dark forest, but you can expect one in open farmlands suitable to their ground-running habits. You won't find a summer tanager in a Walmart parking lot, but they are common in Arkansas' mature forests.

With a bit of effort, it's possible to learn quite a few bird songs. You can go out and count them as part of a scientific survey, just by hearing the songs. Each year, for example, I participate in two Breeding Bird Surveys (BBS), part of a much larger program conducted since the late 1960s throughout North America. Only their calls and songs identify most of the birds documented in the BBS. The database is now large enough to be useful in figuring out how, in various ways, the environment is changing.

Interest in the endangered red-cockaded woodpecker and its habitat requirements on the Ouachita National Forest have lead to various studies that depend to some extent on knowing bird songs. For example, we have joined with graduate students and faculty from Oklahoma State University to assess how management for the woodpecker benefits other species of plants and animals.

Management for the woodpecker features forests with mature pines and hardwoods and open, park-like stands with grassy understories--all maintained in an open condition by prescribed burning. It turns out this once common and widespread habitat also benefits deer, turkey, and bobwhite quail--species popular with hunters. Quail studies depend upon some knowledge of the variety of calls and their meanings to the birds.



The Ouachita National Forest is also part of a program called the Southern Landbird Monitoring Strategy. Biologists are conducting bird surveys at fixed points in basically every type of habitat that exists in the forests of the southeastern United States. The goal is to discover all bird species present in these habitats. It should eventually be possible to assess habitat quality merely by hearing or seeing birds present or absent in particular habitats.

Of course interest in bird song goes way beyond the manufacture of weird clocks and biologists. Musicians like the early 20th century composer Amy Beach wrote wonderful piano pieces based upon the intricacies of bird song. Beach was so taken by the flute-like quality of hermit thrushes that she had her piano hauled outdoors so that she could translate the inspiration directly to her music.

To get a feel for this, I picked up a CD titled, "Under the stars." This is a collection of Amy Beach played by Joanne Polk. The magical songs directly inspire several of the pieces. It's not difficult to imagine the composer's delight at hermit thrushes while listening to Joanne Polk play these pieces.

Modern people typically live at distance from wild creatures. Tapes or CDs of bird song offer a virtual way to study bird song. But the best way is seeing the bird and hearing it singing at the same time--in its natural habitat. One can expect a few more insect bites via this method, but the learning probably sticks better, too.

A new marsh

In late summer and early fall of 1999, bulldozers formed soil into a 1,300-foot long low, shallow levee at the old Denton family fields seven miles east of Waldron in Scott County, Arkansas. With heavy winter rains, the six acres of former cropland and pasture in Cross Creek bottoms became a wetland.

Technically, the shallow pond is called a "moist soil unit" since much of the pond is either mud flats or mud covered with a few inches up to a maximum of a few feet of water. Overall, it roughly functions as a marsh. A large reservoir pond above the wetland stores rainwater and natural runoff that can be released as needed to keep shallow water in the area throughout the year.

Of course this is no natural marsh. But that won't make a lot of difference to wood ducks. Already it supports crawfish, minnows, several species of frogs and toads, and numerous kinds of aquatic bugs. Therefore, hungry great blue herons that visit the area will not care how the former cropland became a marsh.

The dozers that formed the long levee worked on public lands administered by the Forest Service. This new marsh habitat is part of Blue Moon Wildlife and Fisheries Demonstration Area.



There will be many beneficiaries of this project. Besides wood ducks and great blue herons, there will be many migratory birds like the mudflat-loving sandpipers.

Blue Moon is the name by which the Denton homestead place was formerly known. The 400 acres plus in the area was acquired from willing sellers in the late 1980s. After public acquisition, some of the area was replanted to shortleaf pine, but most was designated for varied wildlife-oriented projects. Three large and several smaller ponds have been constructed, all stocked with fish. Fruit and nut bearing trees have been planted. More than 100 acres of open fields have been maintained by both mowing and prescribed fire. A variety of boxes useful to birds, squirrels, and bats have been erected. Mature pine and hardwood stands in and adjacent Blue Moon have been thinned and burned to produce excellent wildlife habitat for turkey, deer, and bobwhite quail. Hunters visit the area during appropriate seasons. Students have conducted research projects that lead to college scholarships.

The marsh project will augment a now largely lost natural habitat in the region, shallow pools in open country. Prairies were once a common feature in western Arkansas. Between the ridges and down the larger river valleys were prairies celebrated by famous early explorers like the botanist Thomas Nuttall. He visited the Fort Smith-Pilot Mountain-Poteau River valley region in 1819. The locations of these historic landforms are evident today by the low rise of grassy, conical mounds in fields and woods. These can be seen in many places in western Arkansas.

This habitat was common throughout the central region of North America in presettlement days. It was a country of bison and migrating birds. Clay soils dominate these old prairies. In the past, low ground between mounds would retain water for a few weeks during rainy periods, such as in early spring. These temporary wetlands hosted a wide variety of organisms (crawfish, aquatic beetles, various types of flies, aquatic plants, etc.) that in turn supported hordes of migrating birds: ducks, geese, sandpipers, herons. Furbearers like raccoons also benefited.

As this vast region began to be settled and farmed, the land was ditched and drained. At least 50% of this habitat has been lost. Drained land works better for farming, but it loses much of its value for wildlife. Of the 49 species of sandpipers (ornithologists call them "shorebirds") that migrate through North America, 5 species have declined by 25% or more in the past 5 years; 16 others have declined in the range of 5-20%.

The USDA Forest Service is part of an international consortium of public and private groups working to reverse the declines. Ducks Unlimited is a partner in the present project, helping with design and financing. DU has been highly successful in its efforts to reverse long term declines in North American duck populations.

The Natural Resources Conservation Service contributed technical assistance for the project. Waldron High School students under leadership of ecologist Ron Goddard will in future years conduct studies of wildlife use of the moil soils unit. Students in the Department of Youth Services wilderness camp at Mansfield will help with seeding and production of interpretative signs.

The entire Blue Moon area is open to the public, but motorized vehicles are excluded. Birdwatching, nature study, and hiking are permitted at any time. Hunting and trapping are permitted during appropriate times of the year.

The six acres at Blue Moon fit into the idea that we should "think globally, act locally."

Witch hazel time

During a warm spell in mid December, and off and on since, witch hazel has been blooming in bouldery Ouachita Mountains stream bottomlands. Warm spells are punctuated by songs of "peter-peter, peter-peter," from the tufted titmouse. Spring is in the air, a welcome tonic of optimism.

Witch hazel shrubs are rooted in the rich bottomland soils along and within our streams. Long pliant branches arch gracefully over the water. Brilliant 4-petal rays include reds and yellows. The voice of water pouring over sandstone cobbles is scented by the perfumes of witch hazel flowers.

Witch hazel prefers streams where rocky bars are exposed and flooding isn't so prolonged as to literally destroy everything in the flood's path. Sand, gravel, and big cobbles are deposited in bars as flood levels drop. Here roots of witch hazels find superb habitat, rooting deeply.

The shrub's adaptation creek life is apparent if you attempt to break off a small branch with flowers. The branch doesn't break. It twists back and forth and can be bent completely over. Big floods usually just whip the shrubs back and forth. Unlike garden flowers, witch hazel resists being collected, even by floods. It persists in adversity's face.

Life in a floodplain and the quality of being flexible provide keys to its name. To pioneers, witch hazel leaves resembled those of a common plant used in early days for water divining ("water witch"). The word "witch" or "wych" is old English used to denote any pliant tree or shrub. We also associate witch hazel with healing properties, including use of bark, leaves, and twigs as an astringent and it can be applied to cuts and bruises. Witch hazel also keeps the creek itself healthy.

Witch hazel and other plants stabilize stream channels coursing through the Ouachita National Forest. Root structures that knit together the sand, dirt, and rocks of stream channels are worth uncounted millions of dollars in protection of water quality and maintenance of habitat for fish and other aquatic organisms. These values are recognized in regulations that restrict where and how streams can be crossed. Thousands of acres have been set aside and protected along perennial and intermittent streams to provide diversity in wildlife habitats and to reduce potential damage arising from logging operations.

Now at the end of February, crocuses and daffodils push up through old grass in town yards. In forested stream bottoms, witch hazel perfumes the air. Slowly, as colorful flowers on the shrubs come and go, new leaves appear. Threatened by spring flooding, roots push deeper into gravel bars and fertile soils along the banks.

Midst brown cobbles and old leaves, shoots of a new generation of witch hazel shrubs push upward toward the late-winter, early spring sun.

Symphony for songbirds

Picture a big open prairie at mid winter. It's windy cold, the field flat and dreary. Suddenly, tight flocks of small dark birds rise in unison from yellowish grass. The old prairie gives up

Lapland longspurs. A dry rattling or tinkling enlivens the scene. In chorus they sing *teedle-teedle...tweeu*. We're talking Arkansas, not Kansas or Oklahoma.

These sparrow-like birds nest on the tundra in far north Canada, then come south at mid-winter. They show up where patches of old tundra-like prairies haven't been converted to superstores and subdivisions. Bird watchers of the binocular variety have found these longspurs at various places in the state. Found them, that is, if you could take unforgiving wind blowing against your face as you screwed a numb eyeball to the tiny lens of a spotting telescope.

They come in the hardest of winter. Arkansas winter is part of their "sunny Florida beach." The average person learns about blue jays by absorption. This is not the case with longspurs. We share the planet with them, but *knowing* them is an acquired taste. But there is a lot of competition for our time these days.

Prairies are prime development areas, many now a cacophony of traffic jams, vibro-cars, expanding opportunities for shopping, sports, and worship. In a sense, longspurs have learned this at first hand. Longspurs can't eat native grass seeds on asphalt. It accounts for why you can find a deal on a pre-owned Honda, but not many flocks of longspurs.

These birds are not rare or threatened. These local habitat losses are an inconvenience to local birdwatchers, but taken as a whole, not a tragedy. In terms of this species, it appears that Chicken Little's sky isn't falling on account of success and growth. The sky is falling, at least somewhat, for another prairie bird, Bell's vireo. Prairies have become pastures all over the state. You can hear these vireos singing where there were scattered shrubs and thickets. Bill Baerg, who studied birds 70 years ago, once denoted this song as *ter-wee-a-wee-a-wee-a-wit*. It's quite an experience to find a bush blossomed-out with such vocalizations.

Unlike Lapland longspurs, Bell's vireo is not a particularly common bird anywhere in its range. Even though it isn't numerous, it's not listed as threatened or endangered. One of its relatives, the black-capped vireo, is endangered. Bell's vireo nests over a much wider range than black-capped vireo and as a result, concern for its future hasn't reached panic stage. However, recent data shows alarming decreases in Bell's vireo in both the central and eastern regions of North America, with population stability only in the west.

Given this, it doesn't seem likely that Bell's vireo will become endangered, but a lot of habitat is being lost to development everywhere.

Of course developers aren't just building megachurches, industrial farms, and supermalls. They're also building bird watchin' empires. The whole business of bird watchin' has attained an awesome respectability. "Respectable" = big bucks and birders in fairly new SUVs staying in nice motels while they attend well-organized birding festivals and snap lots of pictures with high-end cameras.

National surveys show that between 1982 and 1995, the number of us who participated in at least casual birding soared from 21.2 million to 54.1 million, with the greatest increases right here in Ole Dixie. In 1991, \$5.2 billion was spent on goods and services related to bird watching and bird feeding, including \$54.4 million in Arkansas. By 1995, birding had become the fastest growing recreational activity in the country, even ahead of hiking and skiing.

Here in Arkansas, birding has not yet replaced Razorback football or Southern Baptists, but folks are filling feeders with sunflower seeds and poking around with binoculars, trying to decide if that red bird out there is a summer tanager, cardinal, or maybe a far-straying pyrrhuloxia?

Along with growth in the birding bidness has come parallel growth in concern about the

future of birds, especially songbirds. For y'all who haven't yet taken flight, songbirds are your cardinals, bluebirds, actually any of several hundred species of birds in our region that sing. Many folks believe they are in drastic decline.

Folks who notice such things have been on panic's edge for years. Rachael Carson documented decimation of birds and widespread pollution in *Silent Spring* (1962). The tale of the fall and recent rise-from-near-death of bald eagles is familiar. These birds, and many others like ospreys and brown pelicans suffered well-documented declines due to widespread use of DDT and similar chemicals.

One of the most influential of these alarms was raised in the 1980s. John Terborgh, author of *Where have all the birds gone?* (1989) presented evidence from a variety of sources that as a group, the songbirds were going down the tubes. Many school children can tell you that passenger pigeons and ivory-billed woodpeckers have gone extinct, but how many can tell you that as human population growth has accelerated in recent millennia, 20% of bird species



in the world have also gone extinct? Everywhere he looked, he found that human impact on the landscape was translated into trouble for birds. One of these problems was fragmentation.

Habitats (forests, grasslands, bodies of water, etc.) once capable of supporting numerous species of plants and animals were getting chopped into smaller pieces. Human population growth and consequent development squeezed habitats, reducing them to pieces, undermining their ability to support a broad array of plants and animals.

Just for discussion, consider a mall. The more stores you put into a mall the more variety you have to attract more shopping from more people. For dedicated shoppers, a big mall with many shops is like a healthy forest or grassland with many plants and animals. The inverse is true, too. Take away Dillard's, Sears, Foot Locker, Eddie Bauer, Luby's, and the theatre. Still a lot left, right? But is it the same mall?

Terborgh's more recent thoughts in *Requiem for nature* (1999), expands the earlier theme. You will not need binoculars for this one. It's not a fun book to read.

Global climate change is potentially one of the issues here. The Christmas Bird Count contains a huge data set useful for understanding changes in populations of songbirds. The CBC, which is held annually in late December, involves groups of birders seeking out and counting all the birds within a circle 15 miles in diameter. These counts, which began 100 years ago, are held all over the country. Fayetteville resident and expert birder Mike Mlodinow took a localized approach to the subject.

He analyzed data from Fayetteville CBC 1985 to 1998. His hypothesis was that if there was really global warming, he could expect to find a significant presence of birds in the Fayetteville count that, in past cooler years, would have had to spend the winter further south to avoid the cold. He did find such a trend, with occurrences of phoebes, 4 wren species, ruby-crowned kinglets, blue-gray gnatcatchers, common yellowthroats, and LeConte's sparrows that supported his hypothesis.

He was careful to note that there could also be other explanations for these population changes. His report was published in the March 2000 issue of *Arkansas Birds*.

Here's another data set that bears on our songbirds. Every year in June, volunteers fan out across the U.S. and Canada, including Arkansas, to survey birds on approximately 3,000 routes, each 24.5 miles long. They have gone to the same places yearly since the 1960s. Data generated by this Breeding Bird Survey (BBS) provides new ways to look at the positive and negative trends in bird populations.

One scientific paper by Bruce Peterjohn and others considered BBS data for the period from 1966 to 1991. Specifically, they looked at data for Neotropical migrants, birds that, for example, nest in Arkansas and winter in South America. Data for 1966-1979 indicated that 34 species had increasing population trends, while 19 species exhibited declining trends. This pattern was reversed in the 1980-1991 period, suggesting things were worsening for the birds. For the entire period 1966-1991, significantly increasing species number 18, decreasing 23.

Maybe Chicken Little is right. Maybe the sky is falling.

Viewed from the perspective of the entire continent, ten species seemed to be increasing significantly, including upland sandpiper, house wren, solitary vireo, warbling vireo, red-eyed vireo, and blue grosbeak. Declines in others species were troubling. Chimney swift, eastern wood-pewee, lark sparrow and grasshopper sparrow significantly decreased across a broad range. Declines were noted among yellow-billed cuckoos, veery, wood thrush, prairie warbler, painted bunting, and Brewer's sparrow, to name a few.

A database so large, so varied, and over such a vast landscape also admits varied analysis. Another group of scientists headed by Frances James (formerly of Arkansas and a founder of Arkansas Audubon Society) focused on 26 species of warblers. They found six with significant declines: cerulean warbler, Canada warbler, yellow-breasted chat, golden-winged warbler, and American redstart. Eight species increased. Overall, it appeared that a few species were in serious trouble, but most were not.

Something that unites all of this is the reality that a vast number of factors in many and varied places are at work in both the increasing and declining trends. There must be scores of factors in thousands of places. It could be the misuse of pesticides on crops in Central America, logging in Oregon, conversion of prairies to croplands in South Dakota, widespread suppression of fires that once were key elements in structuring natural habitats.

It's necessary to resist the tendency to over generalize the problem, to resist throwing up our arms, Chicken Little-like, to proclaim "the sky is falling."

Though we hear a great deal about the songbirds, it may not actually be songbirds that are faced with the most intractable problems. Birds that can exist only in native grasslands, for example, appear more imperiled than birds that nest in forests. Arkansas once had much native grassland, but most of this habitat has been lost here as well as elsewhere.

I've participated in the Breeding Bird Survey (BBS) for the past decade or so. In the

Ozarks, I cover a survey in the Buffalo National River and Ozark National Forest area of Newton County. The Ouachitas route includes the Ouachita National Forest in Scott County.

During the past few years these surveys have become part of my job as a Forest Service biologist. Because Forest Service policies are frequently in the news, friends ask me about logging and its affects on birds. Pardon the pun, but there appear to be few “clear cut” answers. What follows are highlights.

Blue-gray gnatcatchers, a bird only slightly larger than a hummingbird, have been recorded along both routes every year. At Waldron, the numbers have varied from highs of 8-11 to lows of 1-3. After their Arkansas nesting season, these birds winter along the Gulf coast and further south. Why do the numbers fluctuate so much? Since these birds tend to be habitat generalists—using many types of woodlands, thickets, regenerating clearcuts—it’s not easy to see how logging as practiced on the Ouachita and Ozark NFs, for example, could have negative affects on the population. The thin, high-pitched calls used to identify them are not audible except at close range. People with partial hearing loss can’t hear them. One hears only the closest ones if there is any breeze. There must be many other factors, too.

Scarlet tanager and summer tanager are both recorded on these surveys. They whistle in roughly similar ways, but differ in habitat choice. Summer tanager is common in just about all of the mature forest areas of the Ouachita NF, including shortleaf pine and hardwood, whereas scarlet clearly prefers the big hardwoods on the higher ridges. Between 1967 and 1981, surveyors on the Waldron BBS recorded 3-20 summer tanagers yearly, but a total of only 4 scarlets during the entire 14 years! Surveyors since 1982 have tended to find fairly equal numbers of both tanagers. How does one explain this radical difference? Logging? Forest Service policy? Something in Mexico or Costa Rica? Or what?

Surveyors on the Waldron route 1967-1981 probably didn’t distinguish the similar whistles and lumped all calls heard as summer tanagers. Therefore, the apparent rarity of scarlet tanager seems a result of well-intentioned observer error.

The situation with wood thrushes—a species that every study has indicated as declining—is different. Between 1967 and 1979, wood thrushes were heard annually on both the Buffalo and Waldron BBS routes. At Waldron, the numbers ranged from 1-7 (average 3.3), but only a single bird has been recorded in the past 19 years! The Buffalo survey averaged about 7 each year throughout the period—no significant change.

Work on wood thrush populations has shown that they are sensitive to the fragmentation that can follow some types of forest clearing. The decline in wood thrush populations along the Waldron route coincided with an increased intensity of logging in the 1970s and 1980s. Blocks of mature pine forest (usually 40-80 acres) were replaced by clearcuts. This may have made the area unsuitable for this mature forest species. Then the clearcuts began to regenerate.

The regenerating clearcuts became valuable habitat for other declining species, including yellow-breasted chats and prairie warblers. Whereas, virtually no prairie warblers were found along this route prior to the early 1980s, thereafter they have average 3.3 per year, almost exactly mirroring wood thrushes in the early years. Like I said, the answers to songbird decline aren’t clear cut.

In the early 1990s, the Forest Service helped organize Partners in Flight, an international effort to address concerns about birds. In the southeastern US (including the Ouachitas and Ozarks), the Forest Service has undertaken an ambitious southern land bird monitoring program

that looks at birds species by species and habitat by habitat. Even these efforts are unlikely to meet the agency's harshest critics, but these data are already helping guide a new generation of planning and forest management.

My Buffalo BBS starts in the high plateau farmland at Compton, north of Ponca, and extends in the river valley through Boxley before turning up Cave Mountain and ending along the Upper Buffalo Wilderness not far from the famous hawkbill crag. This spectacular country is graced by one of the loveliest vocalizations in nature: the flute-like song of wood thrushes echoing from forested slopes above the village of Ponca. It is also a joy to hear quick calls of American redstarts along Ponca Creek near its junction with the Buffalo.

If you can tear yourself away from the concert at Ponca, take the gravel road that leaves the Buffalo valley near old Boxley Church, and head up, up, up the steep road that passes Bat Cave. The tall trees here support what appears to be a robust community of cerulean warblers whose continental populations show a sharply declining trend. It's usually quiet here, and the singing males aren't hard to hear, or for that matter, to see.

The BBS in Scott County starts on a gravel Forest Service road a few miles east of highway 71 and north of Waldron. This is shortleaf pine country, with hardwood forest limited primarily to bottomlands. The BBS courses pine clad ridges, Sugar Creek bottoms, and finally climbs up to Kingdoodle Knob, Hogan Mountain, and the Dry Creek Wilderness. Much of this is older forest with numerous Neotropical migrants like blue-gray gnatcatchers and scarlet tanagers, but some of this forest is much younger.

There are stands of trees that were clearcut in the late 1970s and early 1980s. The regenerating stands of trees in these old clearcuts now provide habitat for two warblers with declining trends: prairie warbler and yellow-breasted chat. Both of these birds require this younger vegetation. Their songs fill the June air, joined here and there by the fine whistles of bobwhite quail.

Arkansas is a fine place for a bird watcher, a fine place to ruminate over this whole songbird issue. You can look and listen anywhere. Enjoy the symphony.

A really big snake, *Lampropeltis calligaster*

In July I was working at the foot of Walker Mountain on a black bear survey. Each year in late summer Forest Service personnel hang sardine baits along 10-mile routes to help Arkansas Game and Fish determine how our bear populations are doing. For biologists, this is routine stuff. To manage wildlife resources, we need local data on all kinds of plants and animals.

Here in Scott County, old state highway 28 winds back through historic communities like Cauthron and Hon. At the Hon intersection I collected some more data. A really big snake was hung from the stop sign. I've seen the heads of monster catfish there and a coyote hanging from a nearby fence post, but never before a snake. It looked like a five footer from the truck. I assumed it was a velvet tail diamondback. These big rattlers have been religiously persecuted over the years and now are rare in the Arkansas mountains except in a few places unfrequented by people.

I pulled the truck over for a closer look. As I walked up, I realized it wasn't a rattler. My next impression was a copperhead. Not one of those common, dingy copperheads. A really big copperhead. A dog-biting, child-endangering serpent. The King of the Copperheads! It was hung

from the stop sign post with weedeater line, much like a catfish head. At that moment, I was wishing for a camera.

Forest Service biologist Warren Montague at Waldron has a four drawer file cabinet stuffed full of data. He has the goods on beavers, bears, bass, various kinds of birds, and - maybe you've already guessed - big snakes. For 20 years, he's clipped from papers occasional photos of folks posing with dead snakes as long as a basketball player is tall. These photos are very much like those taken of my uncle with his 50-pound catfish from Tenkiller and maybe your aunt with her 16-point buck. They smile at success and the dead creatures look awesome--especially when a person must hold arms *up* to get the tail out of the dirt.

I didn't have a camera, so unless some one of you took the picture already, it's not likely to make news. As things turned out, it wouldn't be much of a story when compared to the 8-foot rattlers that, in past years, were sometimes killed. However, there is some news value in what happened out there.

Imagine my surprise when I got out of the truck and "up close and personal" with the serpent. As I had already surmised, this was no rattler. It wasn't even the King of the Copperheads. The person who killed it probably assumed the readily apparent mass of rust colored markings on its back were those of a copperhead. Perhaps they had been weedeating in the backyard when--suddenly--here was a huge snake!

However, these blotches were not in the shape of an old-fashioned hourglass, as in copperheads, but were roundish. I'd seen that round pattern before. Several different kinds of snakes exhibit the rattlesnake-looking or copperhead-looking pattern.

I saw a bucket full of them two years ago, brought in our office by folks who assumed they were hatchling copperheads, but who didn't want to kill them. Turns out they were actually young black rat snakes, which look totally different than the adults. The young are generally grayish with blotchy patterns of dark brown or rust. Adult rat snakes tend to blacken with age. In this country, they are called chicken snakes or black snakes.

The creature hanging from the stop sign was not a rattler, copperhead, or black snake. It was a prairie king snake (scientific name, *Lampropeltis calligaster*). Like rat snakes and many other species of snakes, these kingsnakes do rapidly vibrate their tails when frightened. They will strike if cornered. Otherwise, they spend their days out of our sight eating mice, lizards, and other small snakes, which they kill by constriction. They are not venomous in any way.

It is easy to imagine the death of this serpent caused some rejoicing among its usual prey. The King is dead! The King is dead! It didn't get that big just scaring folks with its brown blotches--it must have cleaned up a bunch of rodents and snakes over the years.

***Amphicarpa bracteata*, the hog peanut**

Amphicarpa bracteata is not a household name. Nor probably is its common name: "hog peanut." It is a proud member of the family of plants known to botanists as the Leguminosae, and to the rest of us, as legumes--or peas.

The fact that we don't instantly recognize *Amphicarpa bracteata* isn't all that important. Just think a minute about all of the plants we see on farms, unkempt yards, roadsides, and out in the forest itself. How many can we name with even a common name? The venerable old hog

peanut is in fact a common resident of western Arkansas.

Flora of Missouri by Julian Steyermark states that Native Americans commonly used hog peanut fruits. “Cooked and seasoned with salt, pepper, and buttered or creamed, they are said to resemble garden peas. The usual time for gathering these is in late fall and early spring. White-footed and meadow mice (voles) commonly store these underground fruits in their nests and homes. The plants are browsed by white-tailed deer.”

Hog peanuts, and a host of other plants, are part of a research report now playing a role in management of the Ouachita National Forest. Beginning in the mid-1990s, students and faculty from Oklahoma State University carried out research projects in western Arkansas that demonstrate how logging, mid-story reduction, and prescribed burning affect plants and animals. Because of its status as an endangered species, red-cockaded woodpeckers have been one focus of this research. In particular, researchers have asked how managing a large area for the open, park-like stands of shortleaf pines and various species of hardwoods affects other plants and animals?

This research demonstrated that preferred browse for white-tailed deer was greatly enhanced by the same forestry techniques used for red-cockaded woodpecker management. Wild turkeys and bobwhite quail appear to also benefit from these techniques.

Hog peanuts came up in a 1994 report by Ron Masters and Chris Wilson: “Effects of midstory vegetation removal and fire on breeding birds and plant community composition in red-cockaded woodpecker clusters.” During 1992-3, Masters, Wilson, and others meticulously counted and identified all plants that occurred in randomly chosen plots in a variety of habitats varying from untreated controls (areas that had not been logged since early in the 1900s) to treatment areas that had been variously logged, small trees removed from the midstory, and prescribed burning.

Shady, vegetation-choked controls had the fewest species of plants overall. The areas that had treatments resulting in the forest appearing open and park-like had the most plant diversity. The primary difference between the treatments and controls is available sunlight.

Hog peanuts are just one of at least several dozen plant species that do not flourish in the dense shade of habitats that have been protected from fire. In a sense, they became locally “rare” because of the loss of sunlight. Their seeds remain in the soil and reappear when the forest becomes more open.

In earlier days, when wildfires were a common feature of Ouachita forests, hog peanuts and other species would have had plenty of sunlight in areas prone to burn. Hogs from pioneer-era settlements must have rooted out many a peanut. Such areas would also have featured stands of shortleaf pine--and red-cockaded woodpeckers.

Crossbills

On a sunny day in December 2000, Keith Piles and I sat on the tailgate for lunch in an abandoned deer hunter camp on Buffalo Road, south of Waldron, Arkansas, in the Ouachita National Forest. Suddenly overhead we heard the sharp kip-kip-kip-kip call of several birds flying from a big, cone-covered shortleaf pine where we parked. Lots of birds call overhead in flight, but in western Arkansas pine country, only one species gives this call: red crossbills.

Male red crossbills exhibit a general rosy color with darker wings. The “drab” color of females, as in many other birds, allows them to blend into the background. But it isn’t feathers or

flight calls that capture our attention. Rather, it's the novel bill (or beak), which is crossed, scissors-like. This allows the bird to pry open pinecones, making seed extraction easier. With the exception of the related white-winged crossbill, it is our only bird that naturally evolved this bill type. They are the specialists in foraging on seeds from many species of coniferous trees, including spruce, pines, Douglas fir, and hemlock. All of these trees have different sizes and shapes of cones. This has had a critical impact on red crossbills.

University of Arkansas graduate students who've conducted research in the Ouachita National Forest—Rob Doster in the early '90s and Jay Withgott in the late '90s-- found red crossbills on several occasions in the Waldron area. The annual Breeding Bird Survey conducted in Scott County (a joint effort of the Forest Service and the Fish & Wildlife Service) reported two small flocks during the 1990s. All this shows that red-crossbills, a species usually associated with forests in the Rocky Mountain west and north into Canada and southern Alaska, also visit (and may sometimes nest) in shortleaf pine forests of western Arkansas.

Admittedly, red crossbills may not be a burning topic of interest in Walmart parking lots or even the ivy-crusted halls of the state's colleges, but they are of considerable interest among ecologists and bird watchers. This interest is stirred for one obvious reason: it's a long ways from the spruce forests of Canada to Arkansas. Crossbills are a rare thing here.

The Birds of Arkansas Discussion List (ARBIRD-L) hums when crossbills appear at backyard bird feeders, or when folks suddenly hear them, as we did last December. But there is also another, more ecological, reason for this interest. This involves the crossed bill itself.

Folks who've studied red crossbills report subtle but critical distinctions in body size and bill shape related to the size and shape of cones upon which they feed. Simply put, the whole population of red crossbills is divided into subgroups with distinctive "tools." Their bills, body size, and calls have a variety of distinctive features related to the high diversity of conifer cone sizes. Each group within the species has a specific bill depth associated with the conifer species most important to them. As bill depth increases, so does the need for additional flight muscle mass, which results in red crossbills varying in size from 4.5 to 6.5 inches in length.

The Arkansan with the most knowledge of this is Bill Holimon of the Arkansas Natural Heritage Commission. Before coming to ANHC, he studied with Craig Benkman, a leading crossbill expert. Most of the details related above came from Holimon. I gather that this information is merely the tip of the iceberg, so to speak.

Obviously, there is a big, fascinating story associated with just the calls of those birds we heard during lunch last December. It's a part of the Ouachita National Forest most of us never think about. Mr. Holimon is a key source of information about this. In the Poteau Ranger District office, we have some additional research material, if any of you students out there are interested. Mr. Holiman will talk to you about crossbills, too.

End-of-the-world

A tornado struck the Ouachita Mountains on May 8, 1882, wiping out a section of what is today the Ouachita National Forest. The event is celebrated in the name Hurricane Grove along highway 270, just west of Mt Ida in Montgomery County. The path of the storm was about one-half mile wide by approximately 14 miles long through a stand of virgin shortleaf pine. It must have

seemed like the end-of-the-world predicted in Revelations.

I don't know how many western Arkansas readers subscribe to the theory that the-end-of-time is near. Floods, huge fires, devastating droughts, mass murders and other headline producing events do seem to fit the terminal doom of Old Testament prophesy.



During the big tornado of 1882, many thousands of old trees went down in the blinking of an eye. Then, with a little drying time, there must have been a big wildfire-sparked by lightning that has left many scars on tall pines in the Ouachitas. Tornado and probable wildfire surely left a scene of truly Biblical proportions: smoldering stumps, standing tree skeletons, scorched rocks. Back then, someone may have seen the-end-of-time in such events.

From a biologist's perspective, these events revealed not the near

approach of the-end-of-time, but rather the beginnings of a new forest. What returned in those roughly seven square miles of damaged and blackened landscape was a young forest--what today's silviculturists would term an even-aged pine stand. It was called even-aged because the seeds that produced the new trees all basically germinated at the same time, in the burst of sunlight allowed to the forest floor by tornado and fire.

Botanists from that time would have noticed spreading masses of purple coneflowers. Bird watchers would have heard the ringing calls of Bachman's sparrows. The plant growth stimulated by sunlight and nutrients would have been highly attractive to bobwhite quail, deer, turkey, and black bears. More than a century later we can see the tornado and fires as critical events in seemingly endless cycles of forest renewal. Even with massive destruction, it doesn't seem to fit with the-end-of-time.

It is my suspicion that many contemporary events of mass destruction--from the Yellowstone fires of the 1980s to the sad school shootings of the 1990s--mark starting points of renewal. So far as I know, unambiguous references to the year 2000 don't appear in the Bible or other holy texts of world religions. The hope for, and faith in, renewal does appear in some form in most religious texts.

The path toward renewal was pretty clear in 1882. A forest expert who visited the area three decades later saw a healthy, vigorous forest, just as visitors in the Yellowstone see today. The trees and the wildlife had returned.

Just like the ancient scribes who created the Bible, I agree that the world as we know it will come to an end. But I make no predictions. This is for God to know, rather than people. Today we have many opinions as to the causes of troubling events and many differing opinions about solutions. We are not sure yet just how to renew ourselves as a society, but we will, just like forests do.

The "children" of that old forest near Mt Ida now stand tall and healthy on the Womble Ranger District.

Forests-of-the-future

Rain or shine, warm or cold, February and early March kicks off the tree-planting season on the Ouachita National Forest. Tree-wise, the Ouachitas are certainly in the big leagues. Baby Ouachita shortleaf pine trees bagged hundreds per bundle arrive in 18-wheelers at the Poteau Ranger District work center in Waldron. Into the dark coolers go this forest-of-the-future, ready for the tree planters. Soon young pines join many species of hardwoods covering rugged mountains in western Arkansas.

Future forests of a different kind are also being planted. Rainy weather in late February brings out an amphibian Top 40. Frogs of many kinds begin serious courting along streams and ponds, road ruts, and low, wet places in the forest. One knows this because the singing is vibrant: courtship and singing amount to the same thing. Frog song is everywhere, promises of coming things.

A half-acre wildlife pond up on a ridge in the forest hosts 5-6 up to a dozen different kinds of amphibians, including frogs, toads, and salamanders. Fanciers of frog songs can purchase CDs like "Sounds of North American Frogs: the biological significance of voices in frogs" from Folkways. Good descriptions of frog songs are available in the Peterson series written by Roger Conant, *Field guide to reptiles and amphibians*.

Of course you don't need books or records to get some ideas about the forest's future. It's your National Forest. You can head out on a warm evening and just listen.

The distinctive sound of spring is a ringing PEET! PEET! PEET! -- song of a tiny vernal chorister, the spring peeper, which is approximately one inch long with an X on its back. Another common song is the rolling "preep" of chorus frogs, similar to the effect achieved by running your finger along the small teeth of a comb. And soon, too, comes "long, deep, rattling snores interspersed with chuckling grunts" from leopard frogs, also planning for forests-of-the-future.

Tree planters and frogs aren't the only ones keeping busy. Out in open areas of the forest, like old farm places and clearcuts, there are plump male woodcocks performing aerial ballets for females watching from the forest edge.

At twilight and again at dawn, males fly from the woods to open patches within the surrounding vegetation. From the ground he repeatedly gives loud calls that sound like PEENT! Then he jumps into the air, wings making a curious whirring sound as he rises higher and higher, perhaps up to 300 feet, and then descends with a sweet cherping, falling like a leaf toward the dancing ground.

Wildflowers on cool north slopes of hills dominated by hardwood trees also join in this season of preparation for future forests. Buttercups, toothworts, trout lilies, bloodroot and others must flower and prepare seed in the early spring sun that reaches the forest floor prior to the leafing out of hardwood trees. After leaf-out, these areas become too shady.

The scene out in the forest these days is amazing: tree planters planting, peepers peeping, woodcocks flying, wildflowers pushing up through last season's leaves and needles. It's the future and it seems headed our way in a hurry!

Shortleaf pines and loblolly pines

The Christmas 2000 ice storm will linger long in our memories. Sleety, icy fingers clutched pine and hardwood forests deep in the Ouachita Mountains.

It was special delivery from the North Pole. An Arctic Express roared into western Arkansas turning it into an ice cube. Cars didn't start and the supposedly lucky few that did slid in ditches. Ice-encircled tree limbs snapped, crushing ice-encircled power lines. Larger towns were without power for days. Communities tucked in hills and hollows were powerless for weeks. It was the right time to own sleds, chainsaw, and wood-burning stove.

In some places ice-encrusted snow remained three weeks. Nonmigratory birds like Carolina wrens perished because they could find no insects and no open water. A few survived around natural springs, which remained open with a water temperature relatively stable around 55 degrees. Ground feeding birds like meadowlarks, red-winged blackbirds, and horned larks followed cows to feed lots, probing for food and moisture in cow pies. Migratory birds like robins and bluebirds abandoned northern Arkansas and their usual winter roosts in cedar thickets for warmer climates south of the mountains.

At eight pounds per gallon, frozen water hugely burdens trees. Leaves provide a perfect platform for ice and snow. Their collective weight breaks limbs. Hardwoods like oaks and dogwoods drop leaves in fall, well before ice and snow, thereby avoiding catastrophe. Or usually they do, that is.

In western Arkansas buildups of ice and snow on pines can be staggering. Unlike hardwoods, an Arctic Express finds pines with full complements of needles. As a result, pines have devised clever defenses. Broad oak leaves provide fine surfaces for snow and ice, but depending upon their lengths, needles offer minimal surfaces.

Sporting needles 8-18 inches long, longleaf pines occur in warm places like South Carolina, Florida and Louisiana where winters are mild and where instead of having to battle ice storm, the needles can stay busy absorbing sunshine. Shorter needled types, including the native shortleaf pines of the Ozarks and Ouachitas, occur in more northerly areas periodically targeted by the Arctic Express.

Other kinds of pines have needle lengths somewhere between these two. One kind native to the lowlands of southern Arkansas is loblolly pine. At 5-9 inches in length, loblolly needles are noticeably longer than those of shortleaf, at 3-5 inches. This difference in needle length seems to have important implications for forest management in the Ouachita National Forest, where only shortleaf pine is native.

Foresters have long recognized that loblollies are fast growing. As in the case of longleaf pine, needle lengths on the loblolly pines allow the tree to absorb more sun energy as compared to the shortleaf, which is notoriously slow growing. The fast growth of loblollies makes them commercially attractive, especially in the production of pulpwood. As a result, there has been interest in planting loblolly pines in areas once dominated by shortleaf pines.

In the Ouachita National Forest, the decision was made to stick with shortleaf pine. The reasons are naturally sound. Foresters have noticed that when loblolly is planted in the shortleaf

country, the fast-growing loblolly plantations suffer comparatively heavy damage from buildups of ice and snow. Shortleaf, by comparison, is weather hardy. Ice and snow usually slide quickly and efficiently from the short needles with the slightest warmth and breeze.

Shortleaf pines that survive our mountain winters eventually produce high quality yellow pine lumber. Perhaps the Arctic Express forms a natural boundary between the loblolly pines of the southern lowlands, and the shortleaf pines of the Arkansas uplands.

The Christmas 2000 storm was so intense that every type of tree was damaged, but in most years the ice will take its toll primarily from the species not adapted to life in the mountains.

An unsuspected forest

We tend to think of the Forest Service—and our public lands in western Arkansas generally—in terms of hunting, logging, and hiking. Forest Service personnel are also involved in many other ways in communities like Logan and Scott counties with large amounts of public land.



Not all these services directly involve forest management.

For example, Frances Rothwein, wildlife biologist at Booneville (Cold Springs Ranger District) has for years organized wildlife programs for local Scout groups. In her work she has an opportunity to find turtles, lizards, snakes, etc. that invariably fascinate the Scouts. Scout

groups also come into the Waldron office (Poteau Ranger District). These young folks are invariably attracted to Pearl, a female southern flying squirrel, which has lived at the office for 5 years. She was a juvenile when she was found by a logger, and raised to adulthood by Forest Service personnel. Her cage resembles a woodland habitat, including the natural tree cavity where she sleeps during the day.

When a recent group of 20 Scouts crowded around her cage, only one of the 20 had ever

seen a flying squirrel. This would cause a person to think she is something of a rarity, but this is far from the case. In the course of climbing trees used by red-cockaded woodpeckers (an endangered species), I've probably seen a thousand flying squirrels myself. The Scouts haven't spent much time in the forest at night, when flying squirrels are active. None of the Scouts do what Frances and other wildlife personnel in this area do as part of their jobs: look inside cavities (or holes) in older trees.

Flying squirrels illustrate a part of the unsuspected National Forest. And now consider bats. Sure, we have all seen bats in the outdoors here, but do we realize there are dozens of species of bats here? David Saugey, a wildlife biologist on the Jessieville Ranger District near Hot Springs, has made a career of studying the amazing diversity of bats in the Ouachitas. His programs, including exhibits of live bats, have broadened the knowledge of groups like the Arkansas Audubon Society summer camp held annually at Camp Clearfork.

There's plenty more in this unsuspected forest. A research project conducted on three ranger districts in western Arkansas (Poteau, Cold Springs, and Mena) demonstrated the presence of numerous plant species so unusual—and so unsuspected—they generally lack common names. The research looked at effects of restoring forests of the sort that were common in western Arkansas in pioneer days.

When the forests were restored to open, park-like conditions, additional sunlight reaching the forest floor stimulated growth by more than a score of plant species whose growth had been suppressed for decades by the extremely shady conditions produced by the suppression of natural fire. There were, and are, good reasons for controlling wildfires, but prescribed (or controlled) fire is the best and most effective tool for supporting natural development of forests, including plants, birds, mammals, etc.

In so many ways, it's an unsuspected forest. It's not easy to imagine that raging fires help shape green masses of mature shortleaf pines and various hardwood species. We don't necessarily suspect that flying squirrels glide among trees at night. Or that these same forests are home to many species of bats and for flowering plants for which we have no familiar names.

Turtles crossing

The first turtle I saw this spring was spinning around upside down in the middle of highway I-540. A car had hit it, or really just glanced it. A guy in a black Ford Ranger suddenly pulled off the highway, sprung out the door, trotted back toward the turtle, scooped it up, then set it down carefully in the grass, well off the highway.

It was the last week in April, when there had been a nice warm front. Suddenly, there were turtles on the highway all the way from Fayetteville to Waldron. Turtles must have been on the move all across the more than two million acres of National Forest in the Ozarks and in the Ouachitas. These were the high-domed box turtles folks in western Arkansas call terrapins. They'd been in the mud and leaf mold since last fall, so the first turtles all had mud and bits of leaves still attached to their shells. You could see them out there on the highway, legs out and colorful heads-up, surveying the spring sunshine.



What with all the bad news constantly in the paper, a person can't but help notice and appreciate the simple act of kindness in moving that turtle. I've also seen many cars and even 18-wheelers slide over just a little to give these creatures a fighting chance in their highway crossings. However, since that last week in April I've also seen many smashed turtles.

Turtles are ancient and highly successful life forms. When I see them in

all their many species and sizes, I get the feeling that I'm experiencing the lost world of dinosaurs. Their ancient life styles are a key to understanding why so many are killed on highways. The exploring habit is instinctual, a way of life way long before highways. They were here first. The act of not-running-over-them is a way of recognizing that they do, in fact, have the right-of-way.

The poet and essayist Loren Eiseley once wrote about the simple act of throwing starfish back into the sea. He'd been walking on the beach one night when he noticed that a strong tide was stranding thousands of these familiar creatures on the beach, an almost certain death. Eiseley soon found himself pulled out of his casual walk and put to hard work gathering up starfish and throwing them back into the water. How like the man in the black Ford with the turtle!

Eiseley, who worked as a scientist, knew that from a biological perspective, what he was doing made no sense, at least not conventionally speaking. If "nature" used wave actions to pitch starfish on the beach, maybe "nature" intended them to die. Similarly, our modern society must have its highways. We are busy going places. Isn't it true that slow moving turtles must adapt themselves to our ways, or die?

Eiseley reasoned that it was also "nature" that gave him his fine mind. He further reasoned that it was a "higher nature" (akin to a religious feeling) that gave him the ability to empathize with imperiled starfish. This "higher nature" was also part of our "nature."

Speaking as a biologist, I understand why people might not think it counts for much to save a starfish, or even a terrapin. After all, what are a few thousand starfish among billions? What are a

few hundred terrapins among the many thousands? But at the same time I can't help but think that the 18-wheeler who at 65 MPH moved his big rig over two feet to miss a terrapin had hold of a truth fundamental that we busy folks are in danger of forgetting every day: there will be room for all of us on the planet-
-or in the long run, they'll be room for none of us.

I don't mean to imply that the driver was a card-carrying nature lover. But it may be true that a person doesn't have to be a "nature lover" or a biologist to recognize a "higher" form of right-of-way; that is, our own salvation may lay in simple acts and a state of mind that values the needs of others, including others very different from us. The simple act of letting a turtle cross may be an act on the road to salvation. It is for me, anyway.



These essays are dedicated to the belief that, metaphorically speaking, the whole world is a turtle crossing.